111374

AMENDMENT TO THE RECORD OF DECISION

Nepera Chemical Company Superfund Site
Town of Hamptonburgh, Orange County, New York

United States Environmental Protection Agency
Region II
New York, New York
July 2011

500570

DECLARATION FOR THE AMENDMENT TO THE RECORD OF DECISION

SITE NAME AND LOCATION

Nepera Chemical Company Superfund Site
Hamptonburgh, Orange County, New York

Superfund Site Identification Number: NY000511451

STATEMENT OF BASIS AND PURPOSE

This Amendment to the 2007 Record of Decision (ROD Amendment) documents the U.S. Environmental Protection Agency's selection of a modified remedy for the source area soils (as previously selected in the 2007 Record of Decision (2007 ROD)) for the Nepera Chemical Company Superfund Site (Site), chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Section 9601-9675, and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. This decision document explains the factual and legal basis for selecting a modified (amended) remedy to address the source area soils. All other components of the 2007 ROD, including treatment of contaminated groundwater at the Site, remain unchanged. This ROD Amendment, as well as items identified in the attached index (see Appendix III), comprise the Administrative Record upon which the selected remedy is based.

The New York State Department of Environmental Conservation (NYSDEC) was consulted on the proposed amended remedy in accordance with CERCLA Section 121(f), 42 U.S.C. Section 9621(f), and it concurs with this amended remedy (see Appendix IV).

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in this ROD Amendment, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE AMENDED REMEDY

The amended remedy addresses the source area soils. The source area soils are contaminated soils consistent with the locations of former industrial lagoons used to

dispose of industrial wastewater. The amended remedy includes the following major components:

- excavation of on-Site soils;
- transportation of contaminated soils (e.g., soils exceeding soil cleanup objectives for unrestricted use) to an appropriate off-Site facility (or facilities);
- treatment and/or disposal of transported, contaminated soils at an appropriate off-Site facility (or facilities);
- post-excavation sampling to verify achievement of soil cleanup objectives;
- backfilling of excavated areas with clean soil meeting the requirements of 6NYCRR Subpart 375-6;

The effectiveness of the amended remedy will be determined based upon the attainment of specific performance standards and cleanup goals for soils.

The major components of the already selected groundwater remedy, which were selected in the 2007 ROD and are not being modified, include:

- Bioremediation of contaminated Site-related groundwater through the enhancement of the indigenous microbial population by introducing oxygenating compounds (e.g., oxygen releasing compounds) into targeted areas of the groundwater aquifer. Bioremediation (oxygenating compounds) technology would be applied as an initial enhancement within the excavated area of the former lagoons;
- Subsequent application(s) of oxygenating compounds (e.g., oxygen releasing compounds), if necessary, to address ongoing contamination in the groundwater;
- A long-term groundwater monitoring program will be implemented to verify that the concentrations and the extent of the groundwater contaminants are declining, and to evaluate the effectiveness of the remedy. This program will also include the continued sampling of the Town of Maybrook Public Wells and those private wells in the vicinity of the Site which are currently monitored; and
- Institutional controls, which will include an environmental easement/restrictive covenant filed in the property records of Orange County, restricting the use of groundwater at the Site as a source of potable or process water unless (or until) groundwater quality standards are met.

Additional information pertaining to the groundwater remedy can be found in the 2007 ROD and the Administrative Record supporting that decision.

The environmental benefits of the amended remedy may be enhanced by utilizing technologies and practices that are sustainable in accordance with Region 2's Clean and Green policy[1].

DECLARATION OF STATUTORY DETERMINATIONS

The amended remedy (hereinafter also referred to as the selected remedy), which amends the remedy for soils selected in the 2007 ROD, meets the requirements for remedial actions set forth in CERCLA Section 121, 42 U.S.C. Section 9621, because it: 1) is protective of human health and the environment; 2) meets a level or standard of control of the hazardous substances, pollutants, and contaminants which at least attains the legally applicable or relevant and appropriate requirements under federal and state laws; 3) is cost-effective; and 4) utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable. In keeping with the statutory preference for treatment that reduces toxicity, mobility, or volume of contaminated media as a principal element of the remedy, the contaminated soil will be treated in accordance with the amended remedy.

Data from the source-area investigation shows that the former industrial lagoons are acting as a source of groundwater contamination. These lagoons, or "source areas", are a significant reservoir for the migration of contamination to groundwater. The source areas will be addressed under the selected remedy in this ROD Amendment.

This amended remedy, upon completion, will not leave hazardous substances, pollutants, or contaminants remaining on the Site above levels that would otherwise prohibit unlimited use and unrestricted exposure. However, the groundwater remedial action (selected in the 2007 ROD) will require five or more years to complete. As such, a policy review will be conducted within five years after initiation of remedial action to ensure that the groundwater remedy is, or will be, protective of human health and the environment.

ROD DATA CERTIFICATION CHECKLIST

The ROD Amendment contains the remedy selection information noted below. More details may be found in the Administrative Record file for this ROD Amendment.

- Contaminants of concern and their respective concentrations (see ROD Amendment, page 10 and Appendix I, Figures 5 and 6);
- Baseline risk represented by the contaminants of concern (see ROD Amendment, pages 8-9);
- Cleanup levels established for contaminants of concern and the basis for these

[1] See http://epa.gov/region2/superfund/green_remediation.

levels (see ROD Amendment, page 10 and Appendix I, Table 1);

- Manner of addressing source materials constituting principal threats (see ROD Amendment, page iii and page 21);
- Current and reasonably-anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD (see ROD Amendment, pages 7-8);
- Potential land and groundwater use that will be available at the Site as a result of the selected remedy (see ROD Amendment, pages 24-25);
- Estimated capital, annual operation and maintenance, and present-worth costs; discount rate; and the number of years over which the remedy cost estimates are projected (see ROD Amendment, pages 15, 20, and 26 and Appendix II, Table 2); and
- Key factors used in selecting the remedy (*i.e.*, how the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision)(see ROD Amendment, pages 21-22).

AUTHORIZING SIGNATURE

John S. Frisco
for Walter E. Mugdan, Director
Emergency and Remedial Response Division

7/22/11
Date

AMENDMENT TO THE RECORD OF DECISION FACT SHEET
EPA REGION II

Site

Site name:	Nepera Chemical Company Superfund Site
Site location:	Town of Hamptonburgh, Orange County, New York
Listed on the NPL:	June 1, 1986

Record of Decision

Date signed:	July 15, 2011
Selected remedy:	Contaminated soils in the source area (former lagoon area) will be excavated and transported to an off-site facility for treatment and/or disposal. All of the other components of the 2007 remedy unrelated to addressing the contaminated soil, including the treatment of groundwater with oxygenating compounds, remain unchanged.
Capital cost:	$3 million
Operation, maintenance, and monitoring cost:	$25,000
Present-worth cost:	$3,026,900
Lead	EPA
Primary Contact:	Mark Dannenberg, Remedial Project Manager, (212) 637-4251
Secondary Contact:	Salvatore Badalamenti, Chief, Central New York Remediation Section, (212) 637-3314
Main PRPs	Nepera Corporation, Cambrex Corp., Pfizer, Inc.

Waste

Waste type:	Organics (Volatile and semi-volatile organic compounds, including pyridine-related compounds)
Waste origin:	On-Site waste disposal activities (namely, chemical processing wastewater from the Nepera, Inc. facility in Harriman, New York)
Contaminated media:	Soil and groundwater

DECISION SUMMARY

Nepera Chemical Company Superfund Site
Town of Hamptonburgh, Orange County, New York

United States Environmental Protection Agency
Region II
New York, New York
July 2011

TABLE OF CONTENTS

ATTACHMENTS

SITE NAME, LOCATION, AND DESCRIPTION

The Nepera Chemical Company Site[1] (Site) includes a 29-acre property located on County Highway 4 in Hamptonburgh, Orange County, New York (hereinafter, the Nepera Property), and all contamination emanating from the Nepera Property (see Appendix I, Figures 1 and 2). The Site property is bounded on the north by Orange County Highway 4, Beaverdam Brook to the west, the Otter Kill to the south, and an undeveloped tract of land to the east.

The Nepera Property is owned by Nepera, Inc. Wastewaters from chemical production processes conducted at the Nepera plant facility located in Harriman, New York, were trucked to the Site and discharged into lagoons on the Nepera Property. The lagoons, comprising an area of approximately five acres, were constructed within the Nepera Property.

The Town of Hamptonburgh is located in the northern part of Orange County, New York, in the Poughkeepsie-Newburgh metropolitan area. Its population was 4,686, based on the 2000 census. The latitude of the Town of Hamptonburgh is 41.450N and the longitude is 74.253W.

Approximately 6,500 people live within three miles of the Nepera Property. The area where the Site is located is zoned residential/agricultural. Three residences exist in the immediate vicinity of the Site. These residences are located approximately 250 feet, 175 feet and 450 feet to the west, north and northeast of the Nepera Property boundary, respectively. These residences rely on private supply wells for their drinking water. The vicinity near the Nepera Property is residential and agricultural in nature. The public water supply wells for the Village of Maybrook are located approximately 800 feet to the east-northeast of the Nepera Property.

The Site is situated in the Valley and Ridge province of the Appalachian Region in Orange County, New York. In general, the topography of the area is typified by relatively low-lying ridges and valleys. The Nepera Site has low-lying, rolling hill topography. Two hills, and a portion of a third, occupy the Site with a maximum local relief of approximately 40 feet. Most of the Site is forested. The Site is located within a 4.5-square mile watershed consisting of Beaverdam Brook and its tributaries, which discharge to the Otter Kill located approximately 500 feet to the south of the Nepera Property. The geologic units at the Site are divided into two primary units, the overburden (comprised of topsoil, fill, and gravel) and the bedrock (comprised predominantly of shale). Ground surface topography is generally bedrock controlled in that the ground surface generally follows the bedrock surface topography. The overburden thickness at the Site is also related to bedrock topography in that it is generally thinner (or absent) over bedrock ridges, while greater

---

[1] The Site's Superfund Site Identification Number is NY000511451. The U.S. Environmental Protection Agency (EPA) is the lead agency; the New York State Department of Environmental Conservation (NYSDEC) is the support agency.

overburden thicknesses have been deposited in bedrock depressions and valleys. The overburden ranges in thickness from 0 to 20 feet in the vicinity of the former lagoons.

The former lagoon area, which was stripped of vegetation while in use, is now covered with grasses, wild flowers, and mixed brush. There are two aquifers that exist beneath the Site, the overburden aquifer and the bedrock aquifer. The overburden aquifer is the surficial unit which overlies the bedrock aquifer. The bedrock aquifer is the primary source for public water in the area. No significant layers of impeding clays were observed between the two aquifers within the study area. An east-to-west trending groundwater divide is present in the bedrock aquifer underlying (and transecting) the lagoon area. As such, groundwater flow has a northerly and a southerly component radiating from this divide.

Both aquifers have been impacted by Site-related contamination. The unconsolidated deposits that form the overburden are generally thin (e.g., 5 to 20 feet). The overburden overlies the harder and denser bedrock, which is comprised of compressed shale and sandstone. The shale bedrock has a high degree of fracturing and the bedrock aquifer provides a significant portion of the groundwater for domestic uses in the area.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The Nepera Chemical Company was a producer of bulk pharmaceutical chemicals, hydrogels, and pyridine-based industrial chemical intermediate compounds at its facility, located in Harriman, New York, approximately 25 miles away from the Site.

The Nepera Property was purchased by the Nepera Chemical Company in 1952. The Nepera Chemical Company was purchased by Warner Lambert Corporation in 1956 and reincorporated as Nepera, Inc. From 1953 through 1967, Nepera constructed and used lagoons at the Site (see Appendix I, Figure 3) for the discharge of industrial wastewater generated at its plant in Harriman. No wastewater disposal has taken place at the Site since December 1967. All of the lagoons were back-filled with clean soil by 1974.

Beginning in 1967, numerous investigations were conducted by various consultants to Nepera, Inc. to determine the extent of contamination at the Site. Based on the results of these investigations, NYSDEC placed the Site on the New York Registry of Inactive Hazardous Waste Disposal Sites. On August 17, 1984, the State of New York entered into a Consent Decree with Nepera to conduct a remedial investigation to determine the nature and extent of contamination at the Site.

On June 1, 1986, EPA placed the Site on the National Priorities List (NPL) of sites promulgated under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA). EPA subsequently designated the New York State Department of Environmental Conservation (NYSDEC) as the lead regulatory

agency for overseeing the implementation of a remedial investigation (RI)[2] and feasibility study (FS)[3], also referred to as the RI/FS, at the Site.

Beginning in 1988, under an NYSDEC-issued order, Nepera, Inc. hired a contractor to conduct an investigation to determine the nature and extent of the contamination at and emanating from the Site. The investigation of groundwater was expanded in 1993 and again in 2001, with the installation of additional groundwater monitoring wells. Subsequent groundwater monitoring was conducted in 2001 and 2002. Extensive additional soil sampling activities were conducted in 2002 and a wetland delineation survey was conducted in 2003. The phased approach to the RI was iterative in nature, where the results of each task were used to focus the scope of each subsequent task.

During the several phases of the RI, a total of 38 groundwater monitoring wells were installed in the study area (see Appendix I, Figure 3). The first draft RI Report was submitted in March, 1996. NYSDEC and EPA determined that further work was necessary to define the type and extent of soil contamination at the Site and to determine the downgradient extent of the groundwater contamination plume which emanated from the Site. In March, 2005, an updated draft RI Report was submitted to NYSDEC and EPA. This document was further revised and an approved Final RI Report was submitted on June 16, 2006. An approved Final FS Report was submitted on June 26, 2007. The EPA was designated as the lead agency for the Site at the conclusion of the RI/FS process in 2007.

A Record of Decision was issued on September 28, 2007 (2007 ROD), calling for, among other things, excavation of the soil in the source area (former lagoon area), the design and construction of an on-Site biocell to contain the excavated soil, the installation of a soil vapor extraction (SVE) system within the biocell, and operation of the SVE and the biocell systems to remediate contaminated soil. In addition, the 2007 ROD included a groundwater remedy, institutional controls, and long-term groundwater monitoring.

EPA and the Potentially Responsible Parties (PRPs) signed a Consent Decree to carry out the remedial design (RD), construction of the selected remedy, and to implement the Remedial Action (RA); the Consent Decree was entered in U.S. District Court in October 2008.

Additional activities were performed during the RD. Specifically, major RD activities included: on-Site soil borings, soil sampling, surveying activities, and recalculation of the volume estimates of the contaminated soil within the former source area. The results of these activities led to a reappraisal of the nature and extent of the contaminated soils.

---

2 The purpose of the RI was to determine the nature and extent of the contamination at and emanating from the Site and to evaluate the human health and ecological risks.

3 The purpose of the FS was to identify and evaluate remedial alternatives to address this contamination.

The results of the RD are summarized in the "SUMMARY OF SITE CHARACTERISTICS" Section in this document. More detailed information on the activities performed during the Remedial Design are presented in the *Remedial Design Report, Nepera Chemical Company Site, March 2011 (*2011 RD Report), which is in the Administrative Record.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Plan for the modified source-area soils remedy for the Site was released to the public for comment on May 20, 2011. This document, along with the 2011 Remedial Design Report and the rest of the documents supporting the proposed amended remedy, were made available to the public at information repositories maintained at the Town of Hamptonburgh Town Hall in Campbell Hall, New York and the EPA Region II Office in New York City. The notice of availability for the above-referenced documents was published in the *Times Herald-Record* on May 20, 2011. The public comment period ran from May 20, 2011 to June 20, 2011. On June 15, 2011, EPA conducted a public meeting at the Town of Hamptonburgh Town Hall to inform local officials and interested citizens about the Superfund process, to present the Proposed Plan for the Site, and to respond to questions and comments from the approximately 50 attendees. Responses to the questions and comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (see Appendix V).

SCOPE AND ROLE OF THE OPERABLE UNIT

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), at 40 CFR Section 300.5, defines an operable unit as a discrete action that comprises an incremental step toward comprehensively addressing Site problems. A discrete portion of a remedial response eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. The cleanup of the Nepera Chemical Company Site is not divided into separate operable units. Instead, the entire cleanup of the Site is evaluated holistically. However, the Site is being addressed with separate remedial activities for groundwater and soils; these remedial activities will be performed in concert with each other. This ROD Amendment modifies the soils remedy only. All other aspects of the 2007 ROD remain unchanged.

The primary objective of this action (the ROD Amendment) is to remediate the contaminated soils, and, thereby, remove any direct contact threat posed by soils and remove the sources of further groundwater contamination at the Site. This action will ultimately support restoration of groundwater quality beneath and downgradient of the source areas and minimize any potential future health and environmental impacts from contaminated groundwater.

SUMMARY OF SITE CHARACTERISTICS

The data collected during the RI and other sampling efforts provided EPA with specifics related to Site characteristics, as well as information to perform a Risk Assessment. RI-related sampling of groundwater, surface and subsurface soil, and sediment on and around the Site was conducted in several phases from 1988 to 2004. In addition, groundwater continues to be sampled on an annual basis since 2004. Furthermore, additional soil sampling was performed in 2010, during the Remedial Design phase.

This ROD Amendment addresses source area soils associated with the former industrial lagoons, the characteristics of which are summarized in this section. This section of the ROD Amendment provides an overview of the Site's geology and hydrogeology; the sampling strategy used at the Site; the conceptual Site model; and the nature and extent of contamination at the Site. Further detailed information about the Site's characteristics can be found in the RI Report.

Geology/Hydrogeology

The Site is situated in the valley and ridge province of the Appalachian Region in Orange County, New York. In general, the topography of the area is typified by relatively low-lying ridges and valleys. There are two aquifers that exist beneath the Site, the overburden aquifer and the bedrock aquifer. Both aquifers have been impacted by Site-related contamination. The unconsolidated deposits that form the overburden are generally thin (e.g., 5 to 20 feet). The overburden overlies the harder, denser bedrock consisting of compressed shale and sandstone. The shale bedrock has a high degree of fracturing and the bedrock aquifer provides a significant portion of the groundwater for domestic uses in the area.

Cultural Resources

A Cultural Resources Survey was performed for the Site and indicated that there were neither any significant National Register of Historic Places or National Register of Historic Places-eligible properties nor any likely prehistoric resources within the project boundaries. As such, the regulatory requirements relating to the identification and protection of historic properties/places have been addressed and no additional archaeological investigations are considered necessary at the Site.

Nature and Extent of Contamination

Activities performed as part of the RI included: on-site soil borings, soil sampling, monitoring well drilling and installation, groundwater sampling, and residential well sampling. These activities were performed by the potentially responsible parties (PRPs) with EPA and NYSDEC oversight. Site-related contamination was found in soil and groundwater. The results of the RI and more recent activities are summarized below.

Soil: RI soil sampling activities were conducted in phases. Sampling performed in 1991 and 1996 identified contamination in the lagoon area and determined the lagoon area to be the primary source of the contaminants in the groundwater (see Appendix I, Figures 5 and 6). The primary contaminants identified during soil sampling activities include benzene (maximum concentration of 13 milligrams per kilogram (mg/kg)), chlorobenzene (maximum concentration of 12 mg/kg), ethylbenzene (maximum concentration of 22 mg/kg), toluene (maximum concentration of 52 mg/kg), xylenes (maximum concentration of 300 mg/kg) and pyridine-related compounds (maximum concentration of 74 mg/kg of 2-amino pyridine). All of these contaminants are deemed to be contaminants of concern (COCs) for the Site. In addition, several samples revealed elevated levels of metals, including mercury and manganese. An additional 120 soil samples were collected from the lagoon area in 2003 to evaluate levels of metals. Soil samples were also collected from locations not impacted by the Site to determine Site-specific background levels for metals. Analytical data from the 2003 sampling activities indicated that the concentration levels of metals in the lagoon area were comparable to background concentrations and, as such, metals are not considered to be COCs. The presence of mercury in earlier samples (from 1991 and 1995) was of additional concern as the form of mercury (e.g., organo-mercury or inorganic mercury) can significantly change its toxicity. As such, additional analyses were performed on selected samples collected in 2003 to determine the form (or species) of mercury present in Site soils. These analyses determined that over 99% of the mercury present in Site soils is in the form of inorganic mercury, which is significantly less toxic than organo-mercury.

Additional activities were performed during the RD. Specifically, major RD activities included: on-Site soil borings, soil sampling, surveying activities, and recalculation of the volume estimates of the contaminated soil within the former source area.

Additional sampling was conducted in late 2010 to identify pyridine-related compounds that, in previous analytical studies, were tentatively identified. One pyridine-related tentatively identified compound (TIC) was positively identified, namely 2,4-bipyridine. This compound was added to the list of COCs for the Site, and a remediation goal was established for 2,4-bipyridine (see Appendix II, Table 1).

Surveying activities along with a thorough analysis of test pitting and boring information was performed. This work led to a better defined contamination source area. The projected volume of contaminated soils at the Site was recalculated. In addition, a waste characterization of the contaminated soils was conducted. Much of the soil is now expected to be classified as non-hazardous under the Resource Conservation and Recovery Act (RCRA). As such, the capital cost for disposal will be significantly less than projected in the FS. In addition, Nepera identified three Treatment, Storage, and Disposal (TSD) facilities within close proximity of the Site willing to accept the waste. These facilities are much closer than previously projected in the FS, so there is a shorter distance to transport the contaminated soil, which is in accordance with Region 2's Clean and Green policy.

Groundwater: The groundwater monitoring program included installation of groundwater monitoring wells, sampling of groundwater monitoring wells located at (and bordering) the Site and analyses of these samples for organic and inorganic compounds. These efforts were comprised of several separate field mobilizations conducted between 1995 and 2003. The investigation was conducted in an iterative manner, where the results of each task were used to develop the scope of each subsequent task. The results of these activities were used to identify the COCs in both aquifers, and to determine the extent of the groundwater contamination in both the overburden and bedrock aquifers.

As with the contaminated soil, the primary contaminants identified in groundwater include benzene, chlorobenzene, ethylbenzene, toluene, xylenes and pyridine-related compounds. These contaminants were detected above drinking water maximum contaminant levels (MCLs) in the wells located within the property boundary. As this ROD Amendment does not change the groundwater remedy selected in the 2007 ROD, a more detailed description of activities and presentation of groundwater data can be found in the 2007 ROD and the Administrative Record supporting that document.

Residences in the vicinity of the Site rely on private wells for their potable water supply. As a precautionary measure, to ensure that these wells are not impacted by the Site, private wells in the immediate vicinity of the Nepera property have been, and continue to be, routinely sampled for Site-related contaminants. With the exception of minor levels of Site-related contaminants detected below drinking water standards (e.g., MCLs) in May 2002 and September 2003, sampling data indicate non-detectable levels of Site-related contaminants in private wells. Also, because of their close proximity to the Site (approximately 800 feet), the public wells located on County Highway 4, which are used to supply drinking water to customers served by the Village of Maybrook, are monitored on a quarterly basis for Site-related contaminants and must comply with the New York State Department of Health drinking water standards. Site-related contaminants have not been detected in the Village of Maybrook Public Wells.

Contaminant Fate and Transport

Migration of contaminants at the Site occurs from contaminated soils to the groundwater. Migration of dissolved contaminants also occurs within the groundwater aquifers. The site-related volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) emanate from source area soils (the former lagoon area) which, itself, still act as an ongoing source of groundwater contamination and migration to both the overburden and bedrock aquifers. Groundwater contamination is at a maximum beneath the source area and has generally been confined within the Nepera Property boundary. Figure 3 (in Appendix I) depicts the current conceptual Site model[2].

---

[2] This conceptual site model illustrates contaminant sources, and potential human and ecological receptors.

CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

The Site is in an area used for residential and/or agricultural purposes. The zoning of the Site (residential/agricultural) is not expected to change in the near future.

The groundwater at the Site is classified by NYSDEC as under the Water Class "GA", which is groundwater suitable as a source of drinking water. As such, there is a future potential beneficial use of groundwater at the Site as a drinking water source. Residences in the vicinity of the Site rely on private wells for their potable water supply. In addition, public water supply wells of the Village of Maybrook are located approximately 800 feet east-northeast of the property boundary.

SUMMARY OF SITE RISKS

Human Health Risk Assessment

As part of the RI/FS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health effects caused by the release of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land uses. A baseline risk assessment was conducted as part of the 2007 RI/FS report and was discussed in the 2007 ROD. It focused on contaminants in the subsurface soil and the groundwater which were likely to pose significant risks to human health and the environment. The risk assessment for this Site, entitled *Human Health Baseline Risk Assessment for the Nepera Chemical Company Site, Orange County, New York*, the 2007 RI/FS report, and the 2007 ROD are available in the Administrative Record which supports the selection of that remedy. The risk assessment provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action.

The original risk assessment considered ingestion, inhalation, and dermal contact with groundwater; ingestion and dermal contact with surface soil and sediment; and inhalation of ambient air for the exposure of hypothetical residents. As no remedial activities have been performed since the original risk assessment, the findings and determinations of the risk assessment remain the same. The potential Site-related human health risks related to soils and groundwater at the Site that were identified in the 2007 ROD have not changed. The conclusion set forth in the human health risk assessment, which is part of the 2007 RI/FS report and was discussed in the 2007 ROD, was that hypothetical future use of the groundwater at the Site would pose an unacceptable risk to human health. Furthermore, the on-Site soils act as a continuous source of contamination to the groundwater, yielding a risk from exposure or consumption of groundwater. The human health risk assessment tables (Tables A through F) are presented in Appendix II.

Ecological Risk Assessment

A baseline ecological risk assessment (BERA) was prepared to identify the potential environmental risks associated with surface water, groundwater, sediment, and soil. This document is also available in the Administrative Record for the 2007 ROD. The results of the BERA suggested that there are contaminants in groundwater, soils, and sediment, but they are not present at levels posing significant risks to ecological receptors. The potential for risk to ecological receptors exposed to Site-related contaminants was limited to isolated locations, primarily in Lagoon 6, and the risk associated with this area used the conservative assumption that the ecological receptors (e.g., soil invertebrates, mammalian insectivores, and carnivores) spend 100% of their lives in the area of Lagoon 6. The contaminants that were identified in the BERA (outside of Lagoon 6) were determined not to pose a potential for adverse ecological effects because they were common elements of soil that were not related to Site operations; they were detected at concentrations lower than background levels; they were infrequently detected; or they were detected at concentrations indicating that the hazard quotients (HQs) were only slightly above 1 with no adverse impacts to exposed receptors expected. The HQ is simply the ratio of the exposure estimate to an "effects concentration" considered to represent a "safe" environmental concentration or dose. Hazard quotients with values less than 1.0 are considered indicative of acceptable risk. A detailed presentation of these data can be found in the RI Report.

Summary of Human Health Risks

The greatest potential future carcinogenic risk attributable to the Site is associated with the ingestion of groundwater. The potential cancer risk is based on current levels of groundwater contaminants. If no action is taken with respect to the source areas, the continued release of contaminants into Site groundwater could result in a greater potential cancer risk at some point in the future if groundwater were to be used for potable purposes. Additionally, significant noncarcinogenic effects from the potential future ingestion of Site groundwater by area residents have also been established in the risk assessment. Furthermore, the risk assessment established a potential cancer risk and the potential for noncarcinogenic effects to a hypothetical future construction worker exposed to soils.

Basis for Action

Based upon the quantitative human-health risk assessment, EPA has determined that the response action selected in this ROD Amendment is necessary to protect the public health or welfare or the environment from actual releases of hazardous substances in the environment. The response action is warranted because:

1. Exposure to contaminated soil poses non-carcinogenic risks to human health;

2. The contaminated soil continues to be a source of groundwater contamination. As such, a remedial action is warranted to reduce contamination in the soil to levels below cleanup objectives;

3. Groundwater COCs are present in concentrations both above MCLs and that pose a significant potential risk from direct exposure to potentially exposed populations. As such, a remedial action is warranted to restore the contaminated groundwater for future use. The remedial action for contaminated groundwater was selected in the 2007 ROD and is unchanged by this ROD Amendment.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered guidance, and Site-specific risk-based levels.

The Remedial Action Objectives (RAOs) identified for the Site are to:

1. prevent exposure of human receptors to contaminated soils and contaminated groundwater;

2. minimize migration of contaminants from soils to groundwater;

3. ensure that hazardous constituents within the soil and meet acceptable levels consistent with reasonably anticipated future use; and

4. minimize potential human contact with waste constituents.

Implementing active remedies in the source area and in the groundwater aquifers (through implementing this ROD Amendment and the 2007 ROD) will address the risks associated with the Site-related contaminants. Specifically, implementation of the soil remedy prescribed in this ROD Amendment is expected to reduce the concentration of contaminants in soils to levels below soil cleanup objectives and, thereby, eliminate or minimize migration of contaminants from soils to groundwater. The cleanup levels for the soil COCs and their bases are presented in the following table.

Cleanup Levels for Soils	
Contaminant	**Cleanup Levels for Soils (ug/kg)**
Benzene	60 [1]
Chlorobenzene	1,100 [1]
Ethylbenzene	1,000 [1]
Toluene	700 [1]
Xylenes	260 [1]
2-amino pyridine	400 [2]
Pyridine	400 [2]
Alpha picoline	575 [2]
Acetone	50 [1]
Aniline	1,510 [2]
2,4-bipyridine [3]	400 [2]

[1] The values shown are from *NYSDEC Subpart 375: Remedial Program Soil Cleanup Objectives.*
[2] The values shown were derived by NYSDEC based on the *Division Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, Division of Hazardous Waste Remediation, January 24, 1994.*
[3] The parameter was determined to be present in Site soils as a result of soil sampling activities performed in 2010.

BASIS FOR ROD AMENDMENT

Originally Selected Soil Remedy

The original soil remedy, as presented in the 2007 ROD, was described as follows:

- Excavation of Contaminated Soils: Site soils that exceed NYSDEC soil cleanup objectives within the former lagoons will be excavated and placed into a biocell to be situated at the Site;
- Treatment of Soils in the Biocell: Specifically, the biocell will operate as a dual-technology system utilizing SVE and biological degradation within an engineered below-grade biocell. The soils would be treated within the biocell by installing perforated pipes within multiple layers of the biocell. The perforated pipes would be connected to a blower unit to draw air through the piles; contaminants would be volatilized into this air. The air would be treated, if necessary, using carbon adsorption, prior to being recirculated or exhausted to the atmosphere. In addition, nutrients would be added to the treatment layers as required to enhance biological degradation. In general, the biocell would be operated in two primary modes: SVE mode (high air flow rate); and bioremediation mode (low air flow rate). During the SVE mode, the system would be operated at higher air flow rates which would be selected to optimize the removal of the VOCs constituents using SVE. After the removal rate of the VOCs decreases to an asymptotic or nominal rate, the system would be switched over to the bioremediation mode. During the bioremediation mode, the system would be operated at an optimized air flow rate selected to sustain the aerobic biodegradation of the remaining VOCs and SVOCs. Excavated soils would be treated to reach target cleanup levels; and

- Backfilling of Excavated Areas: The excavated areas of the Site, which are not utilized in the construction of the biocell, will be backfilled to grade, using clean fill meeting NYSDEC soil cleanup objectives.

Basis for Amended Soil Remedy

Based on data collected during the remedial design process performed as a result of the 2007 ROD, it was determined that the presumed RCRA characteristics and estimated volume of contaminated materials and resultant projected costs represent a fundamental change to those assumptions relied upon when selecting the original remedy. Specifically, a waste characterization of the contaminated soils was conducted. Much of the soil is now expected to be classified as non-hazardous. As such, the capital cost for disposal will be significantly less than projected in the FS. In addition, sampling and surveying activities performed in 2010 provided EPA with a more accurate characterization of the extent of contamination at the Site. The calculation of the volume of contaminated soils is presented below.

The former lagoons are within an area approximately five acres in size, but the total area of the actual six lagoons is smaller. The total area of contaminated soils (i.e., the six lagoons) is estimated to be 128,850 square feet (approximately three acres). The volume calculations for contaminated soil are based on the actual surface area of each lagoon, the average depth of the overburden within each lagoon (down to bedrock), the thickness of a distinct black-stained layer observed during the completion of test pits, and the amount of the clean fill that was put into the lagoons when they were closed (in 1968 and 1974).

- The volume of the clean backfill in the lagoon area is conservatively estimated to be 11,000 cubic yards. This is based on a total surface area of the actual lagoons of 75,000 square feet and a depth of four feet. Sampling will be performed to validate this assumption during remedy implementation.
- The volume of the soil extending from the top of the stained soils, which have typically been contaminated, down to the top of competent bedrock is conservatively estimated to be 24,000 cubic yards. Furthermore, it is conservatively estimated that approximately 50% of the soil below the 4-foot backfill material is stained. As such, approximately 12,000 cubic yards of the 24,000 cubic yards are assumed to be stained and 12,000 cubic yards are assumed to be non-stained. For calculation purposes, one-third of this "non-stained" material (4,000 cubic yards) is assumed to be contaminated at levels which exceed the soil cleanup objectives.
- Therefore, the total volume of contaminated material is estimated to be 16,000 cubic yards. The projected volume for off-site treatment or disposal is 16,000 cubic yards (which is approximately 21,600 tons).
- The previous estimate for the total volume of contaminated soil, which was used in the 2007 ROD, was 24,086 cubic yards.

Based on the updated information, the revised calculation for the projected volume of contaminated soils that will be transported from the Site for treatment and/or disposal is approximately 33% less (16,000 cubic yards compared to 24,000 cubic yards) than the previous calculation used in the September 28, 2007 ROD.

In addition, the costs associated with the alternative were also recalculated. The capital costs associated with the previous calculation used in the 2007 ROD for contaminated soils were presented in a range. Specifically, the capital cost ranged from $5,736,000 to $11,208,000. Based on the information collected during the RD phase of the project, the capital cost associated with this remedy for soils has been revised (updated) since the FS Report and the 2007 ROD. The revised/updated calculation for capital cost is $3,000,000. This represents a significant difference from the previous estimate (approximately 50% less than the previous calculation for the low-end of the range). A comparison of the cost data for the remedy selected in the 2007 ROD verses the remedy selected in this ROD Amendment is reported in the following table.

Cost Comparison for Two Different Estimates for the Excavation and Disposal of Contaminated Soils

COST	2007 ROD ESTIMATES[1]	CURRENT 2011 ROD AMENDMENT ESTIMATES	PERCENTAGE DIFFERENCE BETWEEN 2007 AND 2011 ESTIMATES
Capital Cost	$5,736,000	$3,000,000	- 48%
O & M Cost	$22,000	$25,000	+ 12%
Present Worth Cost	$5,759,600	3,026,900	- 47%
Construction Time	1 year	1 year	Not applicable

[1] The amount used here is actually the lowest cost amount projected; if the highest projected amount ($11,208,000) were to be used, the change in cost would have been a 73% reduction in capital cost.

SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA Section 121(b)(1), 42 U.S.C. §9621(b)(1), mandates that remedial actions must be protective of human health and the environment, be cost-effective, comply with ARARs, and utilize permanent solutions, alternative treatment technologies, and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA Section121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants that at least attains federal and state ARARs, unless a waiver can be justified pursuant to CERCLA Section121(d)(4), 42 U.S.C. §9621(d)(4).

Detailed descriptions of the remedial alternatives for addressing the contamination associated with the Site can be found in the FS report and in the 2007 ROD. During the RD, waste characterization, volume estimates, and cost information were refined; these refinements are reflected in the alternatives described below.

The Proposed Plan for the Amendment to the Record of Decision presented a summary of three soil remediation alternatives (including a "No-Action" alternative, as required by the NCP). The groundwater remedy remains unchanged from the 2007 ROD, and is, therefore, not addressed in this ROD Amendment. In accordance with CERCLA, this document presents a detailed Nine Criteria Analysis of the original remedy, the proposed amendment alternative, and the "No-Action" alternative.

SOIL REMEDIAL ALTERNATIVES

The two active soil remedial alternatives, namely, the original remedy and the proposed amendment presented below, would both include the response activities set forth in the following four paragraphs, including institutional controls. The institutional controls are required components of the 2007 ROD and remain unchanged. An environmental easement/restrictive covenant would be filed in the property records of Orange County. The easement/covenant would, at a minimum, require: (a) restricting new construction at the Site unless an evaluation of the potential for vapor intrusion is conducted and mitigation, if necessary, is performed in compliance with an EPA-approved site management plan (SMP); (b) restricting the use of groundwater on the Property as a source of potable or process water unless or until groundwater quality standards are met; and (c) the owner/operator to complete and submit periodic certifications that the institutional and engineering controls are in place.

The SMP is a required component of the 2007 ROD and remains unchanged. The SMP would provide for the proper management of all Site remedy components post-construction, such as institutional controls, and shall also include: (a) monitoring of Site groundwater to ensure that, following the soil excavation, the groundwater quality continues to improve and contaminant levels are reduced to levels below Federal and State standards; (b) identification of any use restrictions on the Site; (c) necessary provisions for implementation of the requirements of the above easement/covenant; and (d) provision for any operation and maintenance required of the components of the remedy.

Physical controls, such as regular maintenance of the perimeter fence, would be implemented to restrict Site access, for as long as necessary, and thereby prevent the potential exposure to chemicals present in the soils in the vicinity of the former lagoons.

This remedial action, upon completion, will not leave hazardous substances, pollutants, or contaminants remaining on the Site above levels that allow for unlimited use and unrestricted exposure, but it will require five or more years to complete. As

such, a policy review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment. If justified by the review, additional response actions may be required.

Finally, there is a requirement that those private wells in the vicinity of the Site and the Town of Maybrook Public Water Supply wells, all currently being monitored in relation to this Site, will continue to be monitored on an ongoing basis. The frequency of the residential well sampling will be periodically reevaluated.

Soil Remedial Alternatives

Alternative 1 - No Action

Capital Cost: $0

Annual Cost: $0

Present-Worth Cost: $0

Construction Time: Not Applicable

The "No Action" alternative is considered in accordance with NCP requirements and provides a baseline for comparison with other alternatives. If this alternative were implemented, the current status of the Site would remain unchanged. Institutional controls would not be implemented to restrict future Site development or use. Engineering controls would not be implemented to prevent Site access or exposure to Site contaminants. Although existing security fencing at the Site would remain, it would not be monitored or maintained under this alternative.

Alternative 2 – Excavation and Off-Site Disposal (Proposed Amendment)

Capital Cost: $3,000,000

Annual Cost: $25,000

Present-Worth Cost: $3,026,900

Construction Time: 1 year

Alternative 2 involves the excavation of soils within the former lagoons containing COCs at concentrations exceeding NYSDEC Soil Cleanup Objectives (SCOs) for unrestricted land use. The excavated soils would be disposed of off-Site at a permitted TSD facility. Prior to off-Site land disposal, contaminated soils would be required to comply with RCRA land disposal requirements. Based upon sampling performed during the RD, it is estimated that 16,000 cubic yards will need to be transported for disposal.

The Capital Cost associated with Alternative 2 has been revised/updated since the 2007 FS Report. Sampling performed during the RA will define how much of the contaminated soil would be classified as hazardous waste under RCRA, which may alter, somewhat, the cost to handle and dispose of that material.

Alternative 2 would include the following major components:

- excavation of on-Site soils;
- transportation of contaminated soils (e.g., soils exceeding soil cleanup objectives) to appropriate off-Site facility (or facilities);
- treatment and/or disposal of transported, contaminated soils at appropriate off-Site facility(ies);
- post excavation sampling to verify achievement of soil cleanup objectives;
- backfilling of excavated areas with clean soil meeting the requirements of 6NYCRR Subpart 375-6.

Alternative 3 – Excavation and On-Site SVE and Biocell

Capital Cost: $2,388,000

Annual Cost: $406,000

Present-Worth Cost: $3,232,200

Construction Time: 2 years

This alternative would involve the excavation of the soils within the former lagoons and treatment of the soils with concentrations of COCs exceeding the NYSDEC SCOs for unrestricted land use utilizing SVE and biological degradation within an on-Site engineered below-grade biocell. Excavated soils would be treated to reach unrestricted land use SCOs.

The soils would be treated within the biocell by installing perforated pipes within multiple layers of the biocell. The perforated pipes would be connected to a blower unit to draw air through the piles; contaminants would be volatilized into this air. The air would be treated, if necessary, using carbon adsorption, prior to being recirculated or exhausted to the atmosphere. Nutrients would be added to the treatment layers as required to enhance biological degradation.

In general, the biocell would be operated in two primary modes: SVE mode (high air flow rate) and bioremediation mode (low air flow rate).

During the SVE mode, the system would be operated at higher air flow rates which would be selected to optimize the removal of the VOCs constituents using SVE. After the removal rate of the VOCs decreases to an asymptotic or nominal rate, the system would

be switched over to the bioremediation mode. During the bioremediation mode, the system would be operated at an optimized air flow rate selected to sustain the aerobic biodegradation of the remaining VOCs and semi-volatile organic compounds.

COMPARATIVE ANALYSIS OF ALTERNATIVES

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria, namely, overall protection of human health and the environment, compliance with ARARs, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, cost, and state and community acceptance.

The evaluation criteria are described below.

- Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

- Compliance with ARARs addresses whether or not a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and requirements or provide grounds for invoking a waiver.

- Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, which a remedy may employ.

- Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- Cost includes estimated capital and operation and maintenance (O&M) costs, and net present-worth costs.

- State acceptance indicates if, based on its review of the Site-related documents and 2011 Proposed Plan, the state concurs with the preferred remedy at the present time.

- Community acceptance refers to the public's general response to the alternatives described in the 2011 Proposed Plan.

A comparative analysis of these alternatives based upon the evaluation criteria noted above follows.

Overall Protection of Human Health and the Environment

If no action were to be implemented, Alternative 1 would not provide any control of exposure to contaminated soils, would not reduce risk to human health posed by contaminated soils, and would not be protective of groundwater. Alternative 2 would be protective of human health and the environment since all contaminated soils would be removed from the Site. Alternative 3 would also be protective of human health and the environment since all contaminated soils would be excavated and treated within a closed treatment system. Direct contact risks for both Alternatives 2 and 3 would be significantly reduced as contaminants in the soils would be treated or removed. In addition, Alternatives 2 and 3 would significantly reduce or eliminate potential impacts to groundwater.

Compliance with ARARs

If no action were to be implemented, Alternative 1 would not achieve ARARs and to be considered criteria (TBCs).

Alternatives 2 and 3 would both meet unrestricted use NYS Part 375 SCOs. However, Alternative 2 would meet the SCOs within 3 or 4 months, whereas Alternative 3 would most likely not meet these SCOs for 3 or more years.

Since Alternatives 2 and 3 would involve the excavation of contaminated soils, they would require compliance with fugitive dust and VOC emission requirements. In addition, Alternative 2 and to a lesser extent Alternative 3 (if carbon were used), would be subject to Federal and state regulations related to the transportation and off-site treatment/disposal of wastes.

Long-Term Effectiveness and Permanence

Alternatives 1 would not reduce risk in the long term, since the contaminants would not be controlled, treated or removed. Alternative 2 would provide a high degree of long-term

effectiveness and permanence, because the impacted soils would be permanently removed from the Site. Alternative 3 is expected to provide a similar level of long-term effectiveness and permanence, although there is a chance that it could be difficult to attain cleanup levels for some of the more recalcitrant contaminants. Alternatives 2 and 3 both involve long-term groundwater monitoring requirements.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternatives 1 and 2 do not use any soil treatment technologies on the Site to reduce the toxicity, mobility or volume of contaminants through treatment. However, under Alternative 2, contaminated soils may undergo thermal treatment off-site at the TSD facility (if necessary based on compliance with RCRA land disposal requirements), which would reduce the toxicity, mobility or volume of contaminants through treatment. Alternative 3 involves treatment that would effectively reduce the toxicity, mobility, or volume of contaminants on the Site.

Short-Term Effectiveness

There are no short-term impacts for the No Action alternative (Alternative 1). Under Alternatives 2 and 3, some particulate emissions may result during soil handling, excavation and/or removal. Dust control and soil erosion and sedimentation controls would reduce the short-term impacts. Safety techniques including alarmed perimeter and excavation area air monitoring equipment and fencing would be used to minimize exposure risks. Alternative 2 requires the transportation of the contaminated soils to an off-site location, which would result in more truck traffic entering and leaving the Site. It is estimated that there would be no more than 20 truck trips per day. This impact would be minimized as it is subject to New York State and federal regulations related to the transportation and off-site treatment/disposal of wastes; trucks would be instructed to stay on roads designated as truck routes, and the transportation plan will be shared with the Town of Hamptonburgh.

While both Alternatives 2 and 3 present some risk to on-Site workers through dermal contact and/or inhalation of groundwater, treatment reagents/residuals, dust, soil, or soil vapor, these exposures can be minimized by utilizing proper protective equipment.

For Alternatives 2 and 3, the vehicle traffic associated with the amended remedial action (such as for transport of contaminated soils and cleanfill) would impact the local roadway system and nearby residents for a short-term duration through increased congestion and noise level.

Under Alternatives 2 and 3, disturbance of the land during construction could affect the surface water hydrology of the Site. There is a potential for increased stormwater runoff and erosion during excavation and construction activities that could be properly managed to prevent excessive water and sediment loading to adjacent wetlands.

Alternatives 2 and 3 would generate treatment residues which would have to be appropriately handled. Alternative 1 would not generate such residues. Any treatment residuals would have to be appropriately handled (*e.g.,* off-Site treatment/disposal).

Because no further action would be performed under Alternative 1, there would be no implementation time. It is estimated that it would take a few months to complete Alternative 2 and 1 year to construct the remedy for Alternative 3.

It is estimated that Alternative 2 would achieve cleanup goals for soils in approximately 3 to 4 months. It is estimated that Alternative 3 would achieve cleanup goals for soils in 3 to 5 years. Therefore, while the potential exposure to workers or nuisance to the public can be managed or addressed in Alternatives 2 and 3, these exposures and nuisances will be for a considerably shorter duration under Alternative 2.

Implementability

Except for Alternative 1 which requires no action whatsoever, Alternative 2 would be the simplest to implement. Alternative 2 uses well established technologies for digging and transporting contaminated soils. Furthermore, Alternative 2 does not require construction activities or ongoing O&M issues pertaining to treatment of the soils on Site. Alternative 3 does require construction activities and ongoing O&M issues pertaining to treatment of the soils on-Site. Furthermore, it may be difficult to attain cleanup levels for some of the more recalcitrant contaminants using the technologies associated with Alternative 3. It is not precisely known how long the on-Site biocell associated with Alternative 3 would need to be operated; specifically, the biocell may need to be operated additional years to achieve the remediation goals for the pyridine compounds. Long-term groundwater monitoring would be required under both Alternatives 2 and 3 to assess the effectiveness of the soils remedy in reducing the affect on the groundwater contamination.

Cost of Soil Remedy Alternatives

The present-worth costs for Alternatives 1 through 3 are calculated using a discount rate of 7 percent; a 1-year time interval was used for Alternatives 1 and 2, and a 3- year time interval for Alternative 3. The estimated capital, annual O&M, and present-worth costs for each of the alternatives are presented in the following table.

Cost Comparison of Soil Remedy Alternatives

Alternative	Capital Cost	Annual O&M	Present Worth
1	$0	$0	$0
2	$3,000,000	$25,000	$3,026,900
3	$2,388,000	$406,000	$3,232,200

State Acceptance

NYSDEC concurs with the selected remedy; a letter of concurrence is attached (see Appendix IV).

Community Acceptance

Comments received during the public comment period indicate that the public generally supports the selected remedy. These comments are summarized and addressed in the Responsiveness Summary, which is attached as Appendix V to this document.

PRINCIPAL THREAT WASTE

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430 (a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for the migration of contamination to groundwater, surface water, or air, or act as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of alternatives, using the remedy selection criteria which are described above. The manner in which principal threats are addressed provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

Although treatment will be applied to the VOC-contaminated soil and groundwater, there are no principal threats at the Site. The identified contamination is in the groundwater and on-Site soils; no evidence was found during the remedial investigation that nonaqueous phase liquids are present within the aquifers. Soil sample results indicate that while source materials are present, they are not considered to be highly toxic or highly mobile and could be contained. Therefore, no principal threat wastes are present at the Site.

SELECTED REMEDY

Summary of the Rationale for the Selected Remedy

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives, and public comments, EPA, in conjunction with NYSDEC, has determined that Alternative 2 (Excavation and Off-Site Treatment/Disposal of Contaminated Soils) best satisfies the requirements of CERCLA Section 121, 42 U.S.C. §9621, and provides

the best balance of tradeoffs among the remedial alternatives with respect to the NCP's nine evaluation criteria, 40 CFR § 300.430(e)(9).

EPA believes that Alternative 2 is the most cost-effective option for the contaminated soils given the evaluation criteria and reasonably anticipated future land use. Alternative 2 is protective of human health and the environment, would provide a permanent solution, and would achieve soil cleanup objectives for the Site-related COCs in the shortest amount of time and in the most cost-effective manner. Therefore, EPA and NYSDEC believe that Alternative 2 would effectuate the soil cleanup while providing the best balance of tradeoffs with respect to the evaluating criteria.

Alternative 1 was not selected because it calls for no action and would not be protective of human health and the environment. Similarly, Alternative 3 is not selected because it is more expensive than Alternative 2, will take several years longer to realize cleanup objectives, and there is a possibility that it will be difficult to attain cleanup levels.

Alternative 2 will result in the removal of the source of groundwater contamination which will work, in conjunction with the groundwater action at the Site, to attain the performance standards for groundwater.

Alternative 2 would be protective of human health and the environment, provide long-term effectiveness, achieve ARARs in a reasonable time frame, and be cost-effective among alternatives with respect to the evaluation criteria.

Therefore, EPA and NYSDEC believe that the combination of Alternative 2 and the current groundwater remedy would successfully remediate the contaminated soils and expedite the remediation of contaminated groundwater at the Site, respectively, while providing the best balance of tradeoffs among the alternatives with respect to the evaluation criteria. Furthermore, the selected remedy relating to soils would utilize permanent solutions and treatment technologies to the maximum extent practicable.

Description of the Selected Remedy

The selected amended remedy to address the source areas represents an amendment to the soil portion of the 2007 ROD and includes the following components[4]:

1) excavation of contaminated soils throughout the former lagoon area where contaminants in soils exceed NYSDEC Soil Cleanup Objectives for unrestricted use;
2) transport of contaminated soils that exceed the SCOs to a permitted TSD facility;
3) post-excavation confirmatory sampling; and
4) backfilling the excavated areas with clean fill.

[4] See Figure 6 for illustration of the selected soil remedy.

The groundwater remedy previously selected in the 2007 ROD remains unchanged with regard to all but the soils component of that remedy (e.g., no change to the long-term groundwater monitoring).

The amended remedy effectively removes the sources of contamination in the soils, thereby eliminating further impacts to groundwater. Post-excavation sampling shall be performed to verify achievement of SCOs. Clean fill would be used to backfill all excavated areas. Alternative 2 will be performed in concert with the groundwater remedy previously selected in the 2007 ROD, which requires that the excavated area will be treated with oxygenating or oxygen-releasing compounds to create an aerobic environment and, thereby, stimulate biodegradation within the area of elevated groundwater contamination. After the initial treatment, additional applications of the oxygenating compounds may be necessary. During the initial phase, additional overburden and bedrock groundwater monitoring wells will be installed and incorporated into a SMP which will include a groundwater monitoring program. This monitoring program will be performed to monitor the effects of the soils and groundwater remedies on both the overburden and bedrock aquifers to reduce contaminant levels to below Federal and State standards. Institutional controls, *i.e.*, groundwater well restrictions, will be put in place at the Site.

Institutional controls (which were required by, and remain unchanged from, the 2007 ROD) will be enacted at the Site, which include the development of an environmental easement/restrictive covenant to be filed in the property records of Orange County that include groundwater use restrictions at the Site. Furthermore, new construction at the Site will be restricted unless an evaluation of the potential for vapor intrusion is conducted and mitigation, if necessary, is performed.

The amended remedy involves the removal of contaminated soils from the Site, which are above health-based levels. If justified by post-excavation sampling or from future reviews, additional remedial actions may be implemented at the Site.

The environmental benefits of the amended remedy should be enhanced by implementation of technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green policy[5]. This will include green remediation technologies and practices.

In general, five-year reviews are required whenever a remedial action results in hazardous substances, pollutants, or contaminants remaining on site. The five-year review requirement in CERCLA §121(c) is triggered when remaining on-site hazardous substances, pollutants, or contaminants are above levels that allow for "unlimited use and unrestricted exposure." This remedial action, upon completion, will not leave hazardous substances, pollutants, or contaminants remaining on the Site above levels that allow for unlimited use and unrestricted exposure. However, the groundwater

[5] See http://epa.gov/region2/superfund/green_remediation.

remedial action (selected in the 2007 ROD) will require five or more years to complete. As such, a policy review will be conducted within five years after initiation of remedial action to ensure that the groundwater remedy is, or will be, protective of human health and the environment. If justified by the review, additional response actions may be implemented.

Summary of the Estimated Remedy Costs

The estimated capital, annual O&M, and total present-worth costs (using the federal standard 7% discount rate) for the amended remedy are $3.0 million, $25,000, and $3,026,900, respectively (see Appendix II, Table 2).

These cost estimates are based on the best available information regarding the anticipated scope of the selected remedy. Changes in the cost elements are likely to occur as a result of new information and data collected during the implementation of the remedy.

Expected Outcomes of the Selected Amended Remedy

The results of the human health risk assessment indicated that there are unacceptable hazards from potential exposure to groundwater through ingestion and inhalation and to soils through contact and ingestion.

All groundwater at the Site is classified as GA, which is groundwater suitable as a source of drinking water. There is a future potential beneficial use of groundwater at the Site as a drinking water source.

The groundwater remedy selected in the 2007 ROD will:

- Prevent or minimize potential, current, and future human exposures including inhalation of vapors and ingestion of groundwater contaminated with VOCs and SVOCs;
- Ultimately restore the Site-contaminated portions of the groundwater aquifer to levels which meet NYS Groundwater and Drinking Water Quality Standards once the entire Site remediation is accomplished.

The amended soil remedy selected in this ROD Amendment will:

- Prevent exposure of human receptors to contaminated soils;
- Remediate contaminated soils and achieve soil cleanup objectives;
- Minimize migration of contaminants from soils to groundwater.

Furthermore, by implementing this soil remedy, the time needed to achieve soil cleanup objectives will be reduced by at least three years. This is expected to also decrease the time needed to achieve groundwater cleanup objectives. It is estimated that it will take 4 months to achieve soil cleanup objectives under this ROD Amendment and 10 years to achieve the groundwater cleanup objectives under the 2007 ROD groundwater remedy.

AMENDMENT OF 2007 RECORD OF DECISION

As discussed above, additional activities performed during RD (after the 2007 ROD was issued) indicate a substantial modification of the conceptual Site model. Specifically, surveying activities along with a thorough analysis of test pitting and boring information led to a better defined contamination source area. The projected volume of contaminated soils at the Site was recalculated. In addition, a waste characterization of the contaminated soils was conducted which led to the determination that much of the contaminated soil is now expected to be classified as non-hazardous under RCRA. As such, the capital cost for disposal is expected to be significantly less than as projected in the FS and relied upon in the 2007 ROD.

STATUTORY DETERMINATIONS

Under CERCLA Section 121 and the NCP, the lead agency must select remedies that are protective of human health and the environment, comply with ARARs (unless a statutory waiver is justified), are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants at a Site. For the reasons discussed below, EPA has determined that the selected amended remedy meets these statutory requirements.

Protection of Human Health and the Environment

The results of the risk assessment indicate that, if no action is taken, the Site will pose an unacceptable increased future cancer risk and an unacceptable non-cancer hazard risk to human health for the hypothetical future use of the soil and groundwater at the Site. The amended remedy and the 2007 ROD groundwater remedy will together prove to be protective of human health and the environment in that they will address the source contamination and will restore groundwater quality beneath and downgradient of the source area over the long term. Combined with institutional controls, the amended remedy in this ROD Amendment and the 2007 ROD groundwater remedy will provide protectiveness of human health and the environment over both the short and long term.

Compliance with ARARs and Other Environmental Criteria

A summary of the ARARs and "Other Criteria, Advisories, or Guidance TBCs" which will be complied with during implementation of the amended remedy and the 2007 ROD groundwater remedy, is presented below.

- Clean Air Act, National Ambient Air Quality Standards (40 CFR 50)
- Groundwater Quality Regulations (6 NYCRR Parts 700-705)
- National Primary Drinking Water Standards (MCLs and non-zero maximum contaminant level goals) (40 CFR 141)
- NYSDEC Subpart 375: Remedial Program Soil Cleanup Objectives
- National Environmental Policy Act (40 CFR 1500 to 1508)
- National Emissions Standards for Hazardous Air Pollutants (40 CFR Parts 51, 52, 60, and 61)
- New York State Department of Health Drinking Water Standards (10 NYCRR Part 5)
- New York State Regulations for Prevention and Control of Air Contamination and Air Pollution (6 NYCRR Part 200)
- New York State Drinking Water Standards (NYCRR Part 5)
- New York State Air Cleanup Criteria, January 1990
- New York State Department of Environmental Conservation Guidelines for the Control of Toxic Ambient Air Contaminants, DAR-1, November 12, 1997
- New York Air Quality Standards (6 NYCRR Part 257)
- New York State Department of Environmental Conservation, Technical and Operational Guidance Series 1.1.1, November 1991
- Safe Drinking Water Act Proposed MCLs and nonzero MCL Goals
- Resource Conservation and Recovery Act, Land Disposal Requirements (applicable LDR treatment standards at 40 CFR Section 268.40 or 268.48)
- all applicable RCRA regulations

Cost-Effectiveness

A cost-effective remedy is one whose costs are proportional to its overall effectiveness (NCP Section 300.430(f)(1)(ii)(D)). Overall effectiveness is based on the evaluations of: long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness. Based on the comparison of overall effectiveness (discussed above) to cost, the amended remedy for soil meets the statutory requirement that Superfund remedies be cost-effective in that it is similar in cost to the previously selected remedy and it will achieve the remediation goals in a much smaller time frame.

Each of the alternatives underwent a detailed cost analysis. In that analysis, capital and annual O&M costs were estimated and used to develop present-worth costs. In the present-worth cost analysis, annual O&M costs were calculated for the estimated life of each alternative using a 7% discount rate. The estimated present-worth cost of the selected remedy is $3,026,900.

While both action alternatives will effectively achieve the soil cleanup objectives and provide the same degree of protection of human receptors, the selected alternative will result in achieving the soil cleanup objectives in a much shorter time frame. It is also expected that the amended soil remedy will help to achieve the restoration of water quality in the aquifer much more quickly than the other originally selected soils remedy. Therefore, EPA believes that the amended remedy is the most cost effective.

Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

The amended remedy provides the best balance of tradeoffs among the alternatives with respect to the balancing criteria set forth in NCP Section 300.430(f)(1)(i)(B), such that it represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site. In addition, the selected remedy provides the greatest protection of human health and the environment, provides the greatest long-term effectiveness, is able to achieve the ARARs more quickly, or as quickly, than the other alternatives, and is cost-effective. The amended remedy will provide a permanent remedy to reduce the toxicity, mobility, and volume of the contaminants in the source area and the groundwater.

Preference for Treatment as a Principal Element

The statutory preference for remedies that employ treatment as a principal element is satisfied under the amended remedy for soil and under the 2007 ROD remedy for groundwater in that the source area and the contaminated groundwater will be treated, and treatment will be used to reduce the toxicity, mobility, and volume of contamination and achieve cleanup levels.

Five-Year Review Requirements

In general, five-year reviews are required whenever a remedial action results in hazardous substances, pollutants, or contaminants remaining on site. The five-year review requirement in CERCLA §121(c) is triggered when remaining on-site hazardous substances, pollutants, or contaminants are above levels that allow for "unlimited use and unrestricted exposure." This remedial action, upon completion, will not leave hazardous substances, pollutants, or contaminants remaining on the Site above levels that allow for unlimited use and unrestricted exposure. However, the groundwater remedial action (selected in the 2007 ROD) will require five or more years to complete. As such, a policy review will be conducted within five years after initiation of remedial action to ensure that the groundwater remedy is, or will be, protective of human health and the environment.

DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan, released for public comment on May 20, 2011, identified Alternative 2, excavation and off-site treatment of contaminated soil, as the preferred source-area

and soil remedy. Based upon its review of the written and oral comments submitted during the public comment period, EPA has determined that no significant changes to the remedy, as originally identified in the Proposed Plan, are necessary or appropriate.

APPENDICES

APPENDIX I

FIGURES

FIGURE 1 - SITE LOCATION MAP

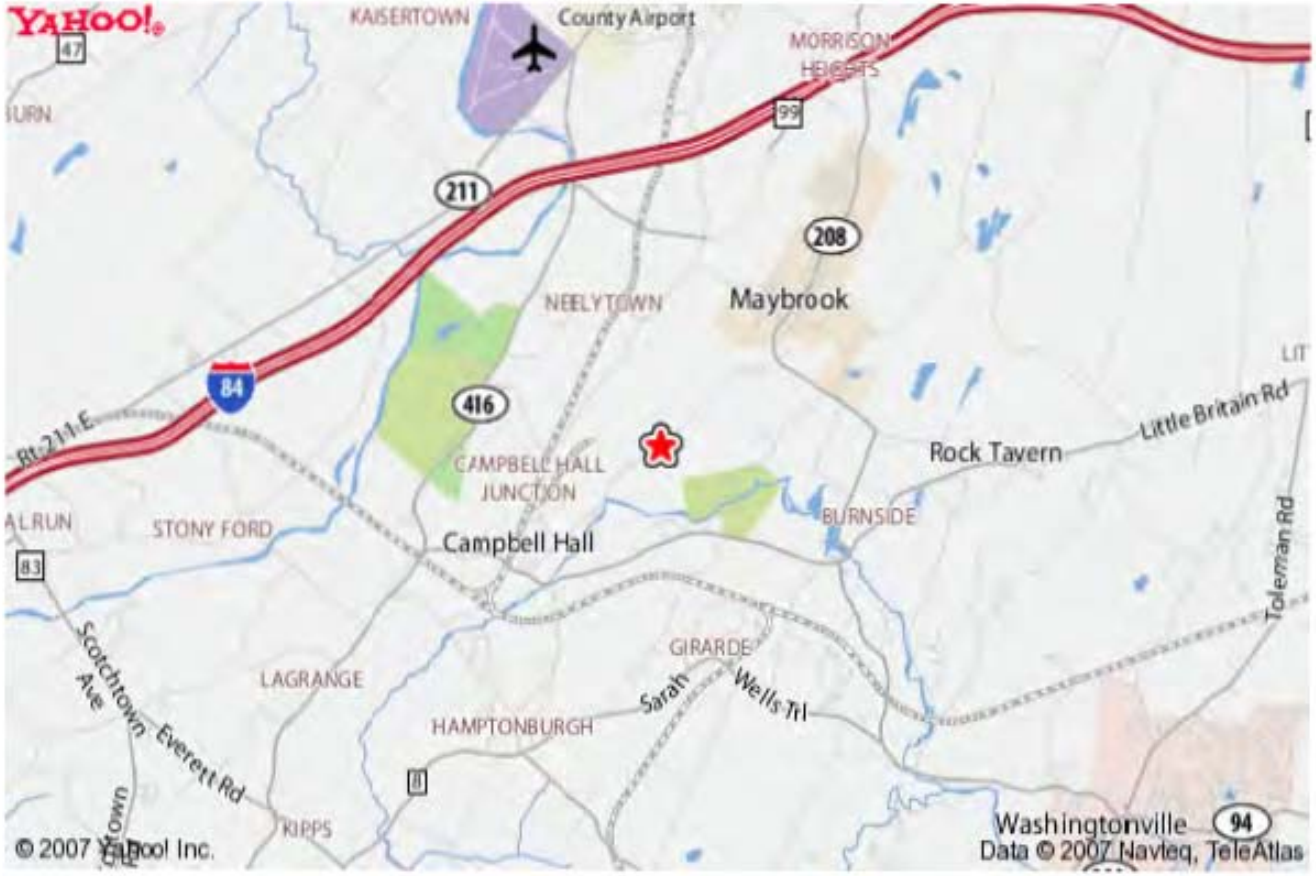
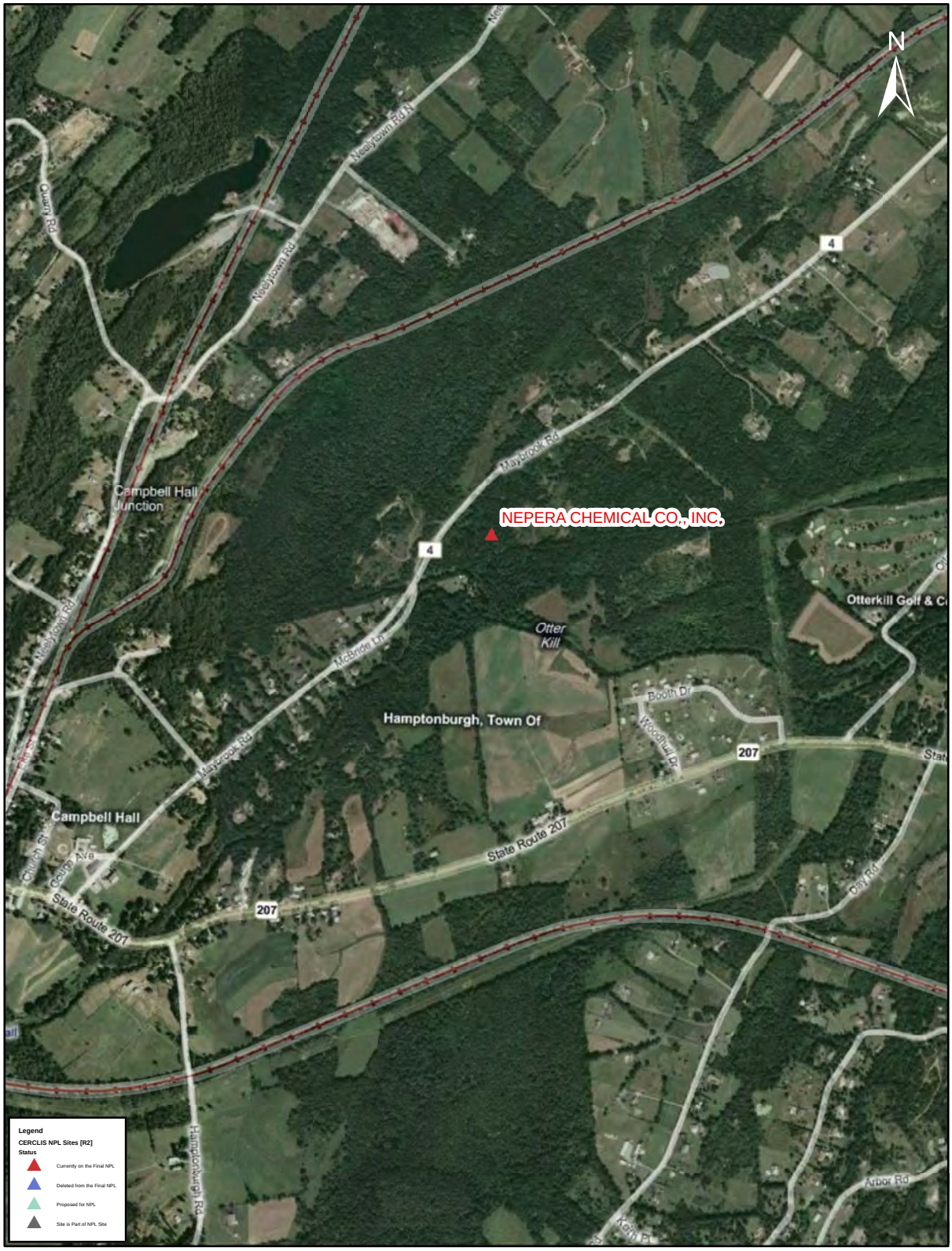


FIGURE 2 - SITE LOCATION AERIAL VIEW

Nepera Site, Hamptonburgh, NY 12801



EPA

US EPA Region 2
Map Created 6/1/2011

500610

FIGURE 3 - SITE ILLUSTRATION

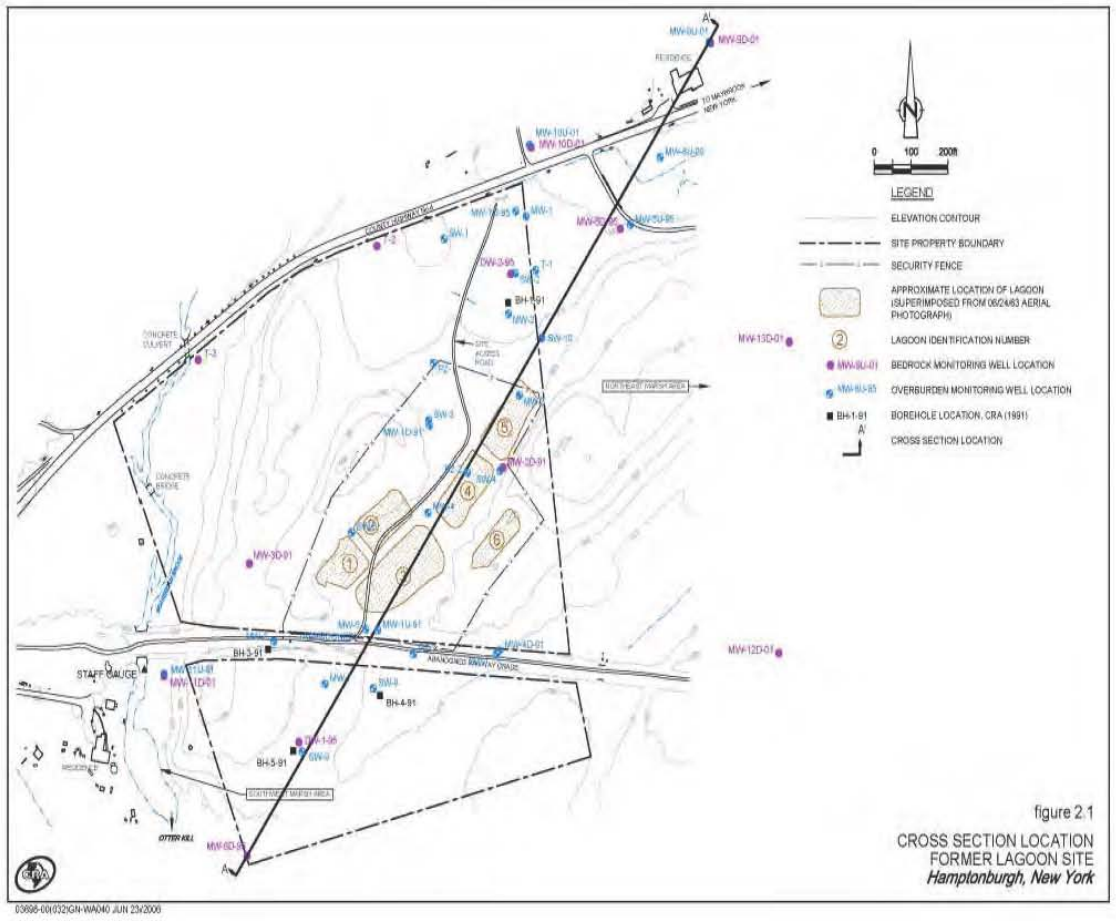


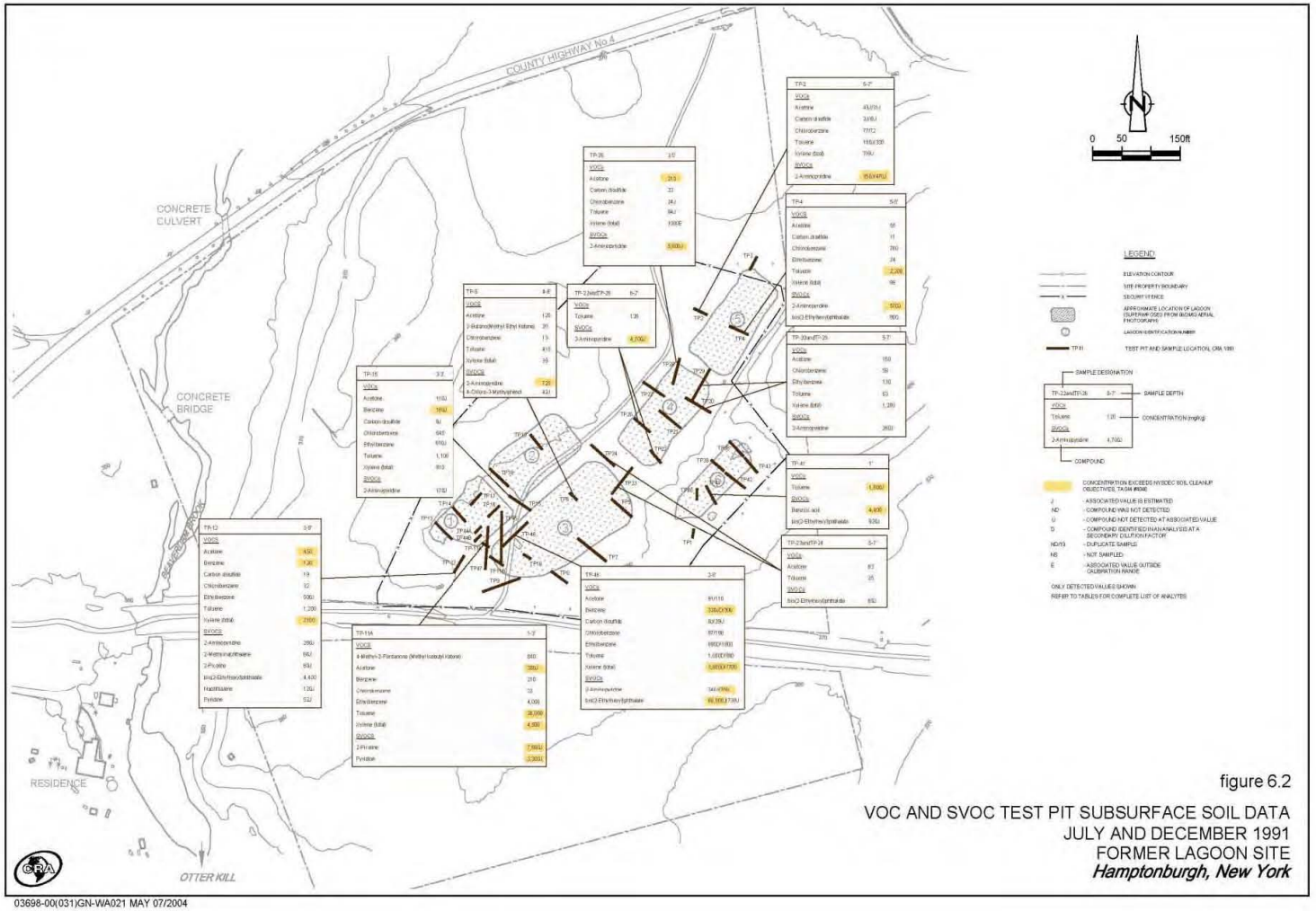
FIGURE 4
AERIAL PHOTOGRAPH OF SITE (1963)

figure 3.12

1963 AERIAL PHOTOGRAPH
FORMER LAGOON SITE
Hamptonburgh, New York

03698-00(031)GN-WA062 OCT 28/2005

Figure 5 - Subsurface Soil Data from the Former Lagoon Area (1991)



03698-00(031)GN-WA021 MAY 07/2004

Figure 6 – Subsurface Soil Data From Former Lagoon Area (1996)

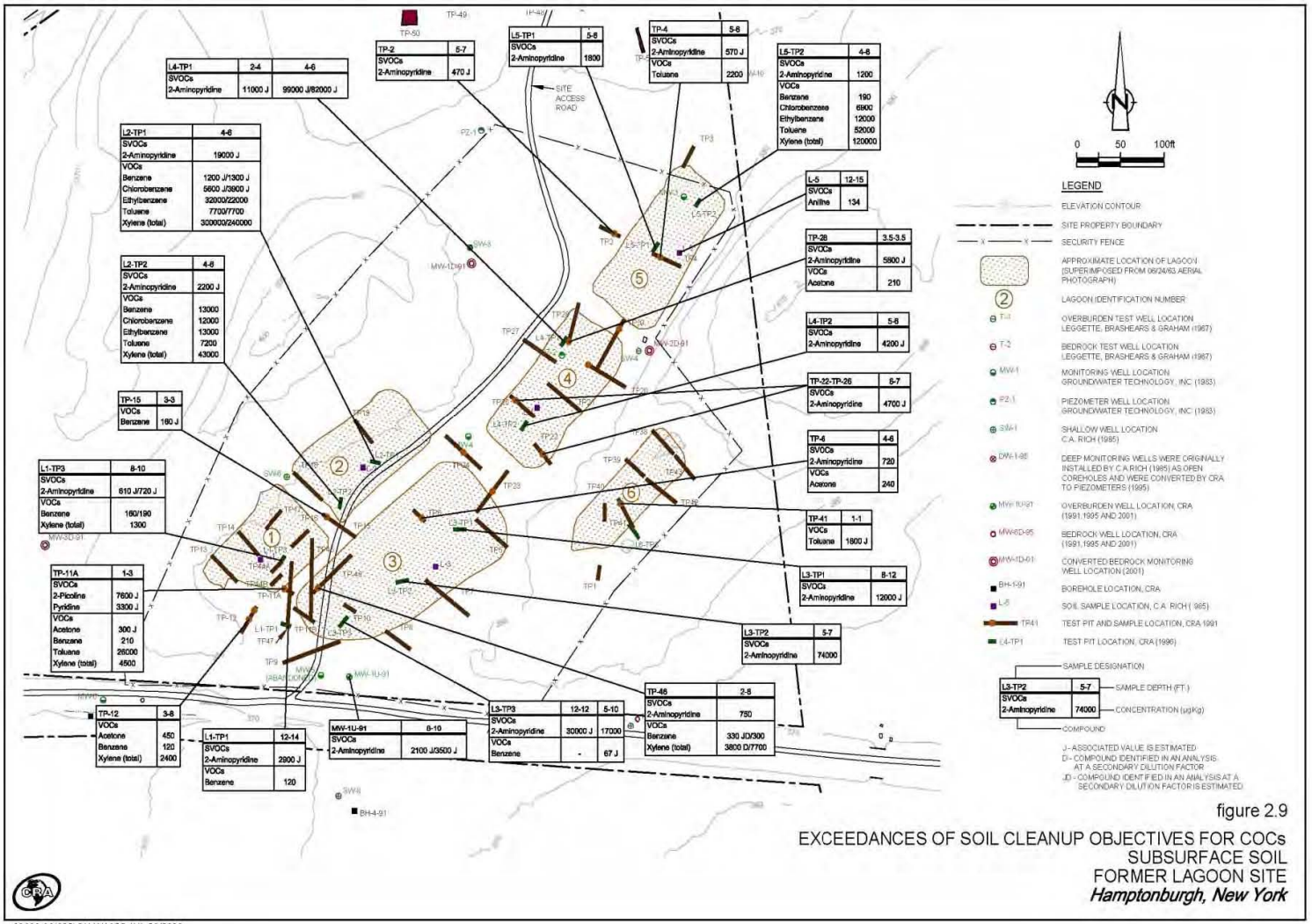


FIGURE 7 - EXCAVATION LAYOUT

NOT FOR CONSTRUCTION

100 YEAR FLOOD BOUNDARY

EXCAVATE SWALE FOR SURFACE WATER DRAINAGE (SEE DETAIL SHT. 17)

PROVIDE INTERIM PERIMETER SECURITY FENCING COMPLETELY AROUND WORK SITE

EXISTING SECURITY FENCE

PROPOSED EXCAVATED SOILS PROCESSING AND STORAGE AREA

COUNTY HIGHWAY 4

GATE

EXISTING GRAVEL DRIVE

EXISTING CULVERT PIPE

DETENTION BASIN

ACCESS ROAD

BIOCELL

REMOVE AND DISPOSE OF EXISTING FENCE AS REQUIRED (TYP.)

REMOVE AND DISPOSE OF EXISTING FENCE AND CONCRETE SLAB

EXISTING MONITORING WELL WITHIN WORK LIMITS (SEE NOTE 8HT. 4)

PROVIDE INTERIM PERIMETER SECURITY FENCING COMPLETELY AROUND WORK SITE

EXCAVATE SWALE FOR SURFACE WATER DRAINAGE (SEE DETAIL SHT. 17)

REMOVE AND DISPOSE OF EXISTING FENCE AS REQUIRED (TYP.)

PROPERTY BOUNDARY (TYP.)

PROPERTY BOUNDARY (TYP.)

LEGEND

- EXISTING GROUND CONTOUR
- SITE PROPERTY BOUNDARY
- PREVIOUS LOCATION OF LAGOON (SUPERIMPOSED) FROM 09/04/1985 AERIAL PHOTOGRAPH)
- 380 PROPOSED INTERIM GRADING CONTOUR
- A A' CROSS SECTION LOCATION
- APPROXIMATE LIMITS OF STAINED SOIL EXCAVATION (SEE NOTE)
- ADDITIONAL EXCAVATION AREA FOR BIOCELL, DETENTION BASIN, AND MISCELLANEOUS SITE GRADING
- AREA OF PROPOSED SOIL STAGING AND STOCKPILES
- MW-2 EXISTING MONITORING WELL
- SW-4 EXISTING MONITORING WELL TO BE DECOMMISSIONED (SEE NOTE 8HT. 4)

NOTE:
APPROXIMATE LIMITS OF STAINED SOIL EXCAVATION DETERMINED FROM SOIL BORING / TEST PIT INFORMATION. ACTUAL LIMITS TO DETERMINED BY CONFORMATION SAMPLING

PLAN

0' 25' 50' 100'

DRN BY:	—	1 INCH	VERIFY SCALE IF PLAN SHEET IS RESIZED			
DES BY:	—					
CHK BY:	—					
APP BY:	—	REV	DESCRIPTION	DRN	CHK	DATE (M/D/Y)

AECOM
Technical Services Northeast, Inc.
40 British American Blvd.
Latham, New York 12110
T 518.951.2200 F 518.951.2300
WWW.AECOM.COM

NEPERA CHEMICAL SUPERFUND SITE
DRAFT FINAL REMEDIAL DESIGN
WORK PLAN

EXCAVATION LAYOUT

PROJECT START DATE (M / Y)	NOVEMBER 2010
PROJECT NO.	108558
FILENAME	NEPERA_RDWP-DESIGN-1.dwg
SHEET NO.	5
DRAWING NO.	5

500616

APPENDIX II

TABLES

Table 1: Cleanup Levels for Soils	
Contaminant	**Cleanup Levels for Soils (ug/kg)**
Benzene	60 [1]
Chlorobenzene	1,100 [1]
Ethylbenzene	1,000 [1]
Toluene	700 [1]
Xylenes	260 [1]
2-amino pyridine	400 [2]
Pyridine	400 [2]
Alpha picoline	575 [2]
Acetone	50 [1]
Aniline	1,510 [2]
2,4-bipyridine [3]	400 [2]

[1] The values shown are from *NYSDEC Subpart 375: Remedial Program Soil Cleanup Objectives.*

[2] The values shown were derived by NYSDEC based on the *Division Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, Division of Hazardous Waste Remediation, January 24, 1994.*

[3] The parameter was determined to be present in Site soils as a result of soil sampling activities performed in 2010.

Table 2: Cost Estimate for the Selected Remedy (Excavation and Disposal of Contaminated Soils)	
COST	2011 ROD AMENDMENT ESTIMATES
Capital Cost	$3,000,000
O & M Cost	$25,000
Present Worth Cost[1]	3,026,900
Construction Time	1 year

[1] The estimated capital, annual O&M, and total present-worth costs were calculated for the estimated life of each alternative using a 7% discount rate.

TABLE A

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Tap Water[1]	Benzene	0.60	1100	µg/L	18/32	330	µg/L	95% UCL-NP
	Xylenes	1.0	520	µg/L	9/32	270	µg/L	95% UCL-NP
	Aniline	9	16	µg/L	2/2	16	µg/L	Max
	2-Aminopyridine	1.0	520	µg/L	12/32	189	µg/L	95% UCL-NP

95% UCL-NP: 95% Upper Confidence Limit for Nonparametric Data

Max: Maximum Detected Concentration

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Soil	Benzene	2	13000	µg/Kg	15/55	4440	µg/Kg	95% UCL-NP
	Toluene	1	52000	µg/Kg	25/55	10000	µg/Kg	95% UCL-NP
	Chlorobenzene	2	12000	µg/Kg	20/55	1000	µg/Kg	95% UCL-NP
	Xylenes	2	300000	µg/Kg	24/55	69000	µg/Kg	95% UCL-NP
	2-Aminopyridine	150	99000	µg/Kg	24/55	23400	µg/Kg	95% UCL-NP

95% UCL-NP: 95% Upper Confidence Limit for Nonparametric Data

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

This table presents the chemicals of concern (COCs) and exposure point concentrations (EPCs) for each of the COCs detected in soil and groundwater (i.e., the concentration that will be used to estimate the exposure and risk from each COC in soil and groundwater). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the EPC and how it was derived.

TABLE B

SELECTION OF EXPOSURE PATHWAYS

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current	Groundwater	Groundwater	Tap Water	Residents	Child & Adult	Dermal/ Ingestion	Off-Site	Quant	Potential exposure to groundwater by offiste residents.
		Air	Water Vapors at Showerhead	Residents	Child & Adult	Inhalation	Off-Site	Quant	Potential exposure to groundwater by offiste residents.
	Site Surface Soil	Surface Soil	Surface Soil	Trespassers	Adoles.	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site surface soils by trespasser.
	Lagoon 6 Surface Soil	Surface Soil	Surface Soil	Trespassers	Adoles.	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site surface soils by trespasser.
	Beaverdam Brook/ Otter Kill Surface Water	Surface Water	Surface Water	Trespassers	Adoles.	Dermal	On-Site	Quant	Potential exposure to surface water in Beaverdam Brook and/or Otter Kill by trespassers.
	Southwest Marsh Sediment	Sediment	Sediment	Trespassers	Adoles.	Dermal/ Ingestion	On-Site	Quant	Potential exposure to sediments in the Southwest Marsh Area by trespassers.
Current/ Future	Northeast Marsh Sediment	Sediment	Sediment	Occasional Visitors/ Hikers	Adoles.	Dermal/ Ingestion	Off-Site	Quant	Potential exposure to sediments in the Northeast Marsh Area by hikers.
	Northeast Marsh Surface Water	Surface Water	Surface Water	Occasional Visitors/ Hikers	Adoles.	Dermal/ Ingestion	Off-Site	Quant	Potential exposure to surface water in the Northeast Marsh Area by hikers.
	Otter Kill Creek Surface Water	Fish	Fish	Recreat. Anglers	Child & Adult	Ingestion	On/ Off-Site	Quant	Potential exposure to fish in Otter Kill Creek by recreational anglers.
Future	Groundwater	Groundwater	Tap Water	Residents	Child & Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to groundwater by future on-site residents.
		Air	Water Vapors at Showerhead	Residents	Child & Adult	Inhalation	On-Site	Quant	Potential exposure to groundwater by offiste residents.
		Groundwater	Groundwater	Construct. Workers	Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to groundwater by construction workers during ground intrusive activities.
		Ambient Air	Ambient Air	Construct. Workers	Adult	Inhalation	On-Site	Quant	Potential exposure to ambient air by construction workers during ground intrusion activities.

Site Surface Soil	Surface Soil	Surface Soil	Park Users	Child & Adult	Dermal/ Ingestion	On-site	Quant	Potential exposure to site surface soils by park users.
Lagoon 6 Surface Soil	Surface Soil	Surface Soil	Park Users	Child & Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site surface soils by park users.
Site Surface Soil	Surface Soil	Surface Soil	Residents	Child & Adult	Dermal/ Ingestion	On-site	Quant	Potential exposure to site surface soils by residents.
Lagoon 6 Surface Soil	Surface Soil	Surface Soil	Residents	Child & Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site surface soils by residents.
Site Surface Soil	Surface Soil	Surface Soil	Park Mainten. Workers	Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site surface soils by park maintenance workers.
Lagoon 6 Surface Soil	Surface Soil	Surface Soil	Park Mainten. Workers	Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site surface soils by park maintenance workers.
Site Soils	Soil	Soil	Construct. Workers	Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site soils by construction workers during ground intrusive activities.
	Ambient Air	Ambient Air	Construct. Workers	Adult	Inhalation	On-Site	Quant	Potential exposure to ambient air by construction workers during ground intrusive activities.
Lagoon 6 Soils	Soil	Soil	Construct. Workers	Adult	Dermal/ Ingestion	On-Site	Quant	Potential exposure to site soils by construction workers during ground intrusive activities.
	Ambient Air	Ambient Air	Construct. Workers	Adult	Inhalation	On-Site	Quant	Potential exposure to ambient air by construction workers during ground intrusive activities.
Southwest Marsh Area Sediment	Sediment	Sediment	Recreat. Users	Child & Adult	Dermal	On-Site	Quant	Potential exposure to sediment in the Southwest Marsh Area by recreational users.
Beaverdam Brook Surface Water	Surface Water	Surface Water	Recreat. Users	Child & Adult	Dermal	On-Site	Quant	Potential exposure to surface water in the Beaverdam Brook by recreational users.
Otter Kill Surface Water	Surface Water	Surface Water	Recreat. Users	Child & Adult	Dermal	On-Site	Quant	Potential exposure to surface water in the Otter Kill by recreational users.

Quant = Quantitative risk analysis performed.

Summary of Selection of Exposure Pathways

The table describes the exposure pathways associated with the groundwater that were evaluated for the risk assessment, and the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are included.

TABLE C

Non-Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorp. Efficiency (Dermal)	Adjusted RfD (Dermal)	Adj. Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates of RfD:
Benzene	Chronic	4.0E-3	mg/kg-day	100%	4.0E-3	mg/kg-day	Blood	300	IRIS	11/10/04
Toluene	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	Liver	1000	IRIS	11/10/04
Xylenes	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	Body Weight	1000	IRIS	11/10/04
Aniline	Chronic	7.0E-03	mg/kg-day	NA	7.0E-03	mg/kg-day	Spleen	3000	R3 RBC	10/08/04
Chlorobenzene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1000	IRIS	11/10/04
2-Aminopyridine	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Liver	10000	HEAST	07/01/97

Pathway: Inhalation

Chemical of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Inhalation RfD	Inhalation RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates:
Benzene	Chronic	3.0E-02	mg/m3	8.6E-03	mg/kg-day	Blood	1000	IRIS	11/10/04
Toluene	Chronic	4.0E-01	mg/m3	1.14E-01	mg/kg-day	Liver	300	IRIS	11/10/04
Xylenes	Chronic	1.0E-01	mg/m3	3.0E-02	mg/kg-day	CNS	300	IRIS	11/10/04
Aniline	Chronic	NA	mg/m3	2.86E-04	mg/kg-day	Spleen	NA	R3 RBC	10/08/04
Chlorobenzene	Chronic	6.0E-02	mg/m3	1.7E-02	mg/kg-day	Liver	NA	R3 RBC	10/08/04
2-Aminopyridine	Chronic	NA	mg/m3	NA	mg/kg-day			NA	11/10/04

Key

NA: No information available
IRIS: Integrated Risk Information System, U.S. EPA
NCEA: National Center for Environmental Assessment
HEAST: Health Effects Assessment Summary Tables
R3 RBC: EPA Region 3 Risk-Based Concentration Table
CNS: Central Nervous System

Summary of Toxicity Assessment

This table provides non-carcinogenic risk information which is relevant to the contaminants of concern in soil and groundwater. When available, the chronic toxicity data have been used to develop oral reference doses (RfDs) and inhalation reference doses (RfDi).

TABLE D

Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral Cancer Slope Factor	Units	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Benzene	5.5E-02	$(mg/kg/day)^{-1}$	5.5E-02	$(mg/kg/day)^{-1}$	A	IRIS	11/10/04
Toluene	NA	$(mg/kg/day)^{-1}$	NA	$(mg/kg/day)^{-1}$	D	IRIS	11/10/04
Xylenes	NA	$(mg/kg/day)^{-1}$	NA	$(mg/kg/day)^{-1}$	D	IRIS	11/10/04
Aniline	5.7E-03	$(mg/kg/day)^{-1}$	5.7E-03	$(mg/kg/day)^{-1}$	B2	IRIS	11/10/04
Chlorobenzene	NA	$(mg/kg/day)^{-1}$	NA	$(mg/kg/day)^{-1}$	D	IRIS	11/10/04
2-Aminopyridine	NA	$(mg/kg/day)^{-1}$	NA	$(mg/kg/day)^{-1}$	D	IRIS	11/10/04

Pathway: Inhalation

Chemical of Concern	Unit Risk	Units	Inhalation Slope Factor	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Benzene	7.8E-06	$(mg/m^3)^{-1}$	2.7E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	11/10/04
Toluene	NA	$(mg/m^3)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	D	IRIS	11/10/04
Xylenes	NA	$(mg/m^3)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	D	IRIS	11/10/04
Aniline	NA	$(mg/m^3)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	D	IRIS	11/10/04
Chlorobenzene	NA	$(mg/m^3)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	D	IRIS	11/10/04
2-Aminopyridine	NA	$(mg/m^3)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	D	IRIS	11/10/04

Key:

IRIS: Integrated Risk Information System. U.S. EPA
NA: No information available

EPA Weight of Evidence:

A - Human carcinogen
B1 - Probable Human Carcinogen-Indicates that limited human data are available
B2 - Probable Human Carcinogen-Indicates sufficient evidence in animals associated with the site and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E- Evidence of noncarcinogenicity

Summary of Toxicity Assessment

This table provides carcinogenic risk information which is relevant to the contaminants of concern in soil and groundwater. Toxicity data are provided for both the oral and inhalation routes of exposure.

TABLE E

Risk Characterization Summary - Noncarcinogens

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child & Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Ground-water	Ground-water	Tap Water	Benzene	Blood	5	16	0.8	21
			Xylenes	CNS	0.08	4	0.05	4
			Aniline	Spleen	0.1	23	0.003	23
			2-Aminopyridine	Liver	570	--	6	570
							Groundwater Hazard Index Total [1] =	620
							Total Liver HI =	570
							Total Spleen HI =	23
							Total Blood HI =	21
							Total Central Nervous System HI =	4

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soils	Soils	Benzene	Blood	0.001	42	--	42
			Toluene	Liver	--	7	--	7
			Chlorobenzene	Liver	--	5	--	5
			Xylenes	Body Weight	--	61	--	61
			2-Aminopyridine	Liver	1.3	--	0.2	2
							Soils Hazard Index Total [1] =	120
							Total Liver HI =	14
							Total Body Weight HI =	61
							Total Blood HI =	42

The HI represents the summed HQs for all chemicals of potential concern at the site, not just those chemicals requiring remedial action which are shown here.

Summary of Risk Characterization - Non-Carcinogens

The table presents hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) for all routes of exposure. The Risk Assessment Guidance for Superfund states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse non-cancer effects.

TABLE F

Risk Characterization Summary - Carcinogens

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child & Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Benzene	3E-04	7E-04	1E-05	1E-03
						Total Risk =	1E-03

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soils	Soils	Benzene	4E-09	1E-04	--	1E-04
						Total Risk =	1E-04

Summary of Risk Characterization - Carcinogens

The table presents cancer risks for each route of exposure and for all routes of exposure combined. As stated in the National Contingency Plan, the acceptable risk range for site-related exposure is 10^{-6} to 10^{-4}.

APPENDIX III

ADMINISTRATIVE RECORD INDEX

NEPERA CHEMICAL CO., INC.
ADMINISTRATIVE RECORD FILE UPDATE #3
INDEX OF DOCUMENTS

5.0 RECORD OF DECISION

5.2 Amendment to the Record of Decision

P. 500259 - 500324
Doc. ID# 110855
Report: Final Quality Assurance Project Plan, Nepera Superfund Site, Revision 1.1, prepared by AECOM Environment, prepared for Maybrook and Harriman Environmental Trust, submitted to U.S. Environmental Protection Agency, Region 2, January 2010.

P. 500325 - 500516
Doc. ID# 110856
Report: Final Design Report, Nepera Superfund Site, Draft, prepared by AECOM Environment, prepared for Maybrook and Harriman Environmental Trust, submitted to U.S. Environmental Protection Agency, Region 2, November 2010.

P. 500517 - 500529
Doc. ID# 110857
Report: Remedial Design Report, Sampling and Analysis Plan, Draft, prepared by AECOM Environment, prepared for Maybrook and Harriman Environmental Trust, submitted to U.S. Environmental Protection Agency, Region 2, December 2010.

P. 500530 - 500532
Doc. ID# 110858
Letter to Mr. Seth Levine, P.E., Senior Director-Regulatory Affairs, Cambrex Corporation, from Mr. Mark Dannenberg, Remedial Project Manager, U.S. Environmental Protection Agency, Region 2, re: Final Design Report (dated November 2010), Nepera (Maybrook) Site, Town of Hamptonburgh, New York, February 11, 2011.

P. 500533 - 500537
Doc. ID# 110864
Attachment to Letter to Mr. Seth Levine, P.E., re: Specific Comments on The Final Design Report, The Final Design Report Drawings and Specifications, The Site Management Plan, and The Quality Assurance Project Plan, Nepera Chemical Superfund Site, February 11, 2011.

P. 500538 - Report: Nepera Chemical Company Superfund Site,
500548 Township of Hamptonburgh, Orange County, New York,
Superfund Identification Number: NY000511451,
Proposed Record of Decision Amendment, prepared on
Doc. ID# 110859 Behalf of the Maybrook and Harriman Environmental
Trust, March 2011.

P. 500549 - Letter to Mr. Seth Levine, P.E., Senior Director-
500551 Regulatory Affairs, Cambrex Corporation, from
Mr. Mark Dannenberg, Remedial Project Manager,
U.S. Environmental Protection Agency, Region 2,
Doc. ID# 110860 re: Request to Amend the Record of Decision to a
Remedy with Offsite Treatment/Disposal of
Contaminated Soils - Nepera (Maybrook) Site, Town
of Hamptonburgh, New York, April 1, 2011.

P. 500552 - Letter to Mr. Mark Dannenberg, Remedial Project
500555 Manager, U.S. Environmental Protection Agency,
Region 2, from Mr. Gary J. DiPippo, P.E., Manager,
Hydrogeology and Remediation, Cornerstone
Doc. ID# 110861 Engineering and Land Surveying, PLLC, re: Nepera
Chemical Company Superfund Site, Orange County,
Town of Hamptonburgh, NY, Response to USEPA
April 1, 2011 Comments, April 6, 2011.

P. 500556 - Letter to Mr. Walter Mugdan, Director, Emergency
500556 and Remedial Response Division, U.S. Environmental
Protection Agency, Region 2, from Mr. Dale A.
Desnoyers, Director, Division of Environmental
Doc. ID# 110863 Remediation, New York State Department of
Environmental Conservation, re: Superfund Proposed
Plan for ROD Amendment, Nepera, Inc., Maybrook
Site, Site No. 336010, Town of Hamptonburgh,
Orange County, May 17, 2011.

P. 500557 - Report: Superfund Proposed Plan, Nepera Chemical
500569 Company, Inc. Superfund Site, Hamptonburgh,
Orange County, New York, prepared by U.S.
Environmental Protection Agency, Region 2,
Doc. ID# 110862 May 19, 2011.

APPENDIX IV

STATE LETTER OF CONCURRENCE

New York State Department of Environmental Conservation
Division of Environmental Remediation
Office of the Director, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **Fax:** (518) 402-9020
Website: www.dec.ny.gov

Joe Martens
Commissioner

Mr. Walter Mugdan
Director
Emergency and Remedial Response Division
USEPA Region II
290 Broadway
New York, NY 10007-1866

July 13, 2011

RE: Record of Decision Amendment
Nepera Inc – Maybrook Site, Site No. 336010
Town of Hamptonburgh, Orange County

Dear Mr. Mugdan:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the July 2011 Amendment to the Record of Decision (ROD) for the Nepera Inc. - Maybrook site in Hamptonburgh, Orange County. Based on that review, I understand that the components of the amended remedy involve: 1) excavation of contaminated soils throughout the former lagoon area where contaminants in the soils exceed the Department's Soil Cleanup Objectives (SCOs) for unrestricted use, 2) transport of contaminated soils that exceed the SCOs to a permitted Treatment, Storage, and Disposal facility, 3) backfilling the excavated areas with fill meeting the unrestricted SCOs, 4) treatment of contaminated groundwater, and 5) development and implementation of a site management plan to include long-term groundwater monitoring and engineering and institutional controls, in the form of an environmental easement, incorporating periodic reviews and certifications.

Based on this information, I concur with the amendment to the remedy and believe it is protective of human health and the environment. If you have any questions, please contact Mr. George Heitzman at (518) 402-9662.

Sincerely,

Dale A. Desnoyers, Director
Division of Environmental Remediation

ec: M. Dannenberg, USEPA
S. Badalamenti, USEPA
S. Bates, NYSDOH
K. Anders, NYSDOH
C. Bethoney, NYSDOH
A. Parretta, NYSDOH
R. Schick
M. Ryan
E. Moore
G. Heitzman
J. Verrigni

APPENDIX V

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

Nepera Chemical Company, Inc, Superfund Site

INTRODUCTION

A responsiveness summary is required by regulations promulgated under the Superfund statute. It provides a summary of citizens' comments and concerns received during the public comment period, as well as the responses of the United States Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC) to those comments and concerns. All comments summarized in this document have been considered in EPA and NYSDEC's final decision involving selection of a remedy for the Nepera Chemical Company, Inc. Superfund Site (Site).

SUMMARY OF COMMUNITY RELATIONS ACTIVITES

As lead agency for the Site, EPA has ensured that Site-related reports have been made available for public review at information repositories at the USEPA Region II Superfund Records Center, 290 Broadway, New York, NY, and at the Hamptonburgh Town Hall, 18 Bull Road, Campbell Hall, New York.

The Proposed Remedial Action Plan (or Proposed Plan) was prepared by EPA, with consultation by NYSDEC, and finalized on May 20, 2011. A notice of the Proposed Plan and public comment period was published in the Times Herald-Record on May 20, 2011 consistent with the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) §300.430(f)(3)(i)(A), and a summary of the Proposed Plan was mailed to all persons on the Site mailing list. On May 20, 2011, the EPA released for public comment the Proposed Plan for the Nepera Chemical Company, Inc. Superfund Site (Site). The Proposed Plan was made available for review at the information repositories for the Site. The public comment period began May 20, 2011 and ended on June 20, 2011. During the public comment period, EPA held a public meeting on June 15, 2011 to discuss the Proposed Plan and received comments on it. In addition, EPA received written comments on the Proposed Plan during the public comment period. This document summarizes the comments submitted by the public and EPA's responses.

PUBLIC COMMENTS AND EPA'S RESPONSES

Comment 1: How much wastes were disposed of from the Harriman Plant to the lagoon site in a weekly period?

Response 1: The lagoons were used from 1953 to 1967 for the disposal of wastewater generated at the Nepera, Inc. facility located in Harriman, New York. Wastewater from the facility's chemical processing operations was transported to the Hamptonburgh Site and disposed of in six lagoons constructed on the site. Approximately 50,000 gallons/week of wastewater were disposed of in the lagoons from 1953 to 1967.

Comment 2: What is the area where the soil contamination has occurred?

Response 2: The soil contamination is predominantly restricted to the original area of the constructed lagoons, which is less than 5 acres.

Comment 3: For how long will monitoring be performed after the remedies are implemented?

Response 3: Soil sampling would be performed throughout the remedy implementation process until soil cleanup objectives are achieved. Once soil cleanup objectives are achieved, no further soil sampling would be required. Groundwater monitoring will be performed until it can be shown that the aquifers are returned to drinking water quality or EPA determines that monitoring should no longer be required. It is estimated that groundwater monitoring will continue for ten years to ensure that drinking water standards are met.

Comment 4: What are the long-term plans for this property?

Response 4: EPA does not determine land-use or zoning requirements for Site properties, that is a local governmental function. The property is currently zoned for residential/agricultural use. As a result, EPA determined that a residential use was a reasonably anticipated future use for the Site property. The cleanup objectives were developed on the basis of a residential use of the property, which typically results in the most stringent cleanup levels. The property owner, Nepera, Inc., ultimately would determine the long-term property usage consistent with local land-use and zoning requirements.

Comment 5: How far away from the Site are the private wells that are being monitored for Site-related contaminants?

Response 5: Four private wells have been monitored. Two of the private wells are approximately 175 feet and 200 feet from the northern property boundary; one well is 250 feet from the west-southwest property boundary; one well is several hundred feet from the northwest property boundary.

Comment 6: Is there a program that will test my well for the contaminants known to exist at the Site?

Response 6: There is an ongoing program, which is being performed by the potentially responsible parties (PRPs) to monitor private wells in the immediate vicinity of the Site. The monitoring program continues to reflect that these private wells have not been impacted by Site-related contamination and that there is currently no need to expand the program to include additional private wells.

Comment 7: What assurances are there that the water on my property will not become contaminated?

Response 7: One of the objectives of the remediation is to restore the aquifer to drinking water quality. The contamination has existed at this Site for several decades. Both the overburden and bedrock aquifers have been impacted. Groundwater monitoring data reflects that the groundwater contaminant plume has remained predominantly on the Site property and is not expanding. Implementation of the soil remedy will remove the source of ongoing groundwater contamination and expedite the restoration of the groundwater to drinking water standards. Implementation of the groundwater remedy selected in the 2007 Record of Decision will further reduce the levels of contaminants in both aquifers. Groundwater samples will continue to be collected at monitoring wells on the Site and from private wells in the immediate vicinity of the Nepera Property to ensure that no private wells are impacted by Site-related contaminants and to monitor the effectiveness of the remedy.

Comment 8: How can we be sure that the municipal wells owned by the Village of Maybrook, or private wells in the Town of Hamptonburgh, will not be affected by contamination at the Site?

Response 8: The Village of Maybrook has public water supply wells located near the Site. These wells are analyzed on a quarterly basis for Site-related contaminants, none of which have ever been detected. In the event that monitoring should indicate that the Village of Maybrook public water supply wells have been impacted by the Site-related contaminants above health-based levels, a contingency plan exists, from the 2007 Record of Decision, that would provide for a wellhead treatment for the Village of Maybrook wells on an interim basis pending further consideration of groundwater treatment alternatives to meet groundwater treatment standards. In addition, a groundwater monitoring program will continue to be performed to evaluate the

effectiveness of the selected remedy and to ensure that no private wells are impacted by Site-related contaminants.

Comment 9: Regarding the Maybrook public water wells, isn't there a "T" located somewhere closer to the lagoons for the ability to hook-up Hamptonburgh or Campbell Hall to the Maybrook water supply?

Response 9: The EPA does not have detailed information pertaining to the location or supply capacity of the water distribution line(s) serviced by the Town of Maybrook Department of Public Works. They should be contacted for further information regarding this question.

Comment 10: A resident recommended installing a 360 cap over the area, and grading the area to promote runoff. This would limit infiltration of precipitation into the contaminated soil.

Response 10: These measures were evaluated in the Feasibility Study and the Proposed Plan. EPA did not select the capping alternative because under this alternative, the contaminated soils would remain on-Site and would continue to come into contact and impact the relatively shallow overburden aquifer. The selected remedy will permanently remove contaminated soil from the Site, thereby removing the source of ongoing contamination of the underlying aquifers.

Comment 11: If the remedy involves excavating contaminated soil, what is the likelihood that the contaminants will become airborne? How can we be sure that the air quality near the surrounding homes will not be impacted?

Response 11: A community health and safety plan will be followed to ensure that the excavation activities do not cause the spread of contamination. Precautions will be taken to prevent contaminants from becoming airborne. These precautions may include wetting down the soil, and putting up curtains to prevent contaminants from spreading. In addition, the plan will require air monitoring devices be used at the perimeters of the work site and in the excavation area itself to ensure that contaminants are not leaving the work area. If monitoring reveals that specified levels have been exceeded, corrective measures will be implemented.

Comment 12: A concern was expressed regarding the high volume of traffic that would be created under the preferred remedy (excavation of contaminated soils for off-Site treatment/disposal).

Response 12: For a temporary duration, there will be some increase in truck traffic. It is anticipated that an average of roughly 20 truck trips will occur per day over the projected schedule for the work.

Comment 13: Page 9 of the Proposed Plan states "It is estimated that there would be no more than 20 truck trips per day."

Response 13: The 20 trips noted in the Proposed Plan roughly equates to the average over the projected schedule for the work. The PRPs have requested some flexibility on this estimate. The actual number of truck trips on any given day for an excavation and off-site treatment/disposal project is influenced by a number of factors such as weather conditions, truck availability, excavation production, and disposal facility acceptance rate. To account for these influences, flexibility is needed in the maximum number of truck trips per day. To achieve the project schedule, the flexibility for up to 40 truck trips per day on some days will be necessary.

Comment 14: What route would the trucks use to transport contaminated soils from the Site?

Response 14: The prepared transport plan will require trucks stay on roads designated as truck routes. The proposed truck route requires that the trucks go east on County Highway 4, and follow Route 207, through the Town of Maybrook, and enter onto Interstate 84. From there, the trucks will either travel west to Morrisville, PA, or get onto the NY Thruway and travel north to Fort Edward, NY.

Comment 15: What are the locations of the treatment, storage, and disposal facilities that have been identified that are willing to accept the contaminated soils for treatment/disposal?

Response 15: It is anticipated that the contaminated soils will be transported to two facilities: Clean Earth in Morrisville, Pennsylvania, and ESMI, near Fort Edward, New York.

Comment 16: Are there plans to treat the contaminated soil at the treatment, storage, and disposal facilities?

Response 16: Both of the treatment, storage, and disposal facilities (Clean Earth in Morrisville, Pennsylvania, and ESMI, near Fort Edward, New York) perform thermal treatment. It is expected that the contaminated soils will be treated thermally, as necessary, at one or both of these facilities.

Comment 17: Who is the contractor hired to do the remedial activities associated with this Site?

Response 17: The PRPs have hired WRS Compass to do the remedial activities associated with this Site.

Comment 18: If an accident were to occur with one of the trucks moving contaminated soils from the Site, would you notify or call the Orange County Hazardous Materials team?

Response 18: An Emergency Contingency Plan, which will include a list of emergency contacts, will be prepared. If anything were to happen, the plan would be followed and everybody on the list would be contacted. In addition, a transportation plan will be developed and transport would be conducted in conformance with appropriate transportation requirements for hauling materials.

Comment 19: What steps will be taken during excavation to prevent contamination washing from the excavation site into nearby Beaverdam Brook, Otter Kill, and the aquifers?

Response 19: The remedial action contractor will install berms, swales, and check dams to minimize water run-on and water run-off from active excavation areas. In addition, dewatering activities will be performed in the excavation during the remedial action.

Comment 20: The security fence around the property is in disrepair. Will that be repaired before any excavation is done on the property?

Response 20: The PRPs have been asked to inspect the perimeter fence and to expeditiously make any necessary repairs.

Comment 21: The rear gate (along the railway grade) on the security fence is frequently left open.

Response 21: The EPA is not aware of the gate being left open. Unless activities are being conducted on the Site, which the EPA should be alerted to, then the gate should be closed and locked. Per the fence inspection in response 17 above, locks and locking mechanisms will also be inspected.

Comment 22: A resident indicated he observed the Site for years and saw individuals in white suits at the Site at 2 o'clock in the morning.

Response 22: EPA has consulted with the PRPs and NYSDEC about this matter. While sampling crews have gone onto this Site in white tyvek suits during the daytime, none of the parties are aware of anyone going onto the Site during the night.

Nepera Chemical Superfund Site

Public Meeting
Wednesday, June 15, 2011 @ 7:00 PM
Campbell Hall – Town of Hamptonburgh, New York

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail	Organization
LISA BARTOLINI	279 WOODMONT ROAD MILFORD, CT 06460	bartolini.l@cleanharbors.com	CLEAN HARBORS ENV SERVICES
Juanita Valastro	318 Tower Ave Maybrook NY 12543	JValastro@hvc.rr.com	Homeowner
John Valastro	318 Tower Ave Maybrook NY 12543	" " "	Homeowner
Vince DeAngelis	18 Corrs Mills Rd Salisbury Mills		
Paul van Nieuwenburgh	6 Willow Lane Campbell Hall, NY 10916	Tisrosa@Frontiernet.net	Homeowner
Sean Morgan	38 Crew at drive Slate Hill NY	Seanm@conklininservices.com	CSC, Inc
MARY K ALTER	169 Maybrook Rd Campbell Hall NY 10916	mka46@frontiernet.net	Homeowner
RICHARD COCCHIARA	10 BIRCHWOOD CT WASHINGTONVILLE, NY 10992	RWCOCCH@US.IBM.COM	TOWN OF HAMPTONBURGH TOWN BOARD
Joe Dombeck	6 Knoell Rd Goshen, NY 10924		OAKHILL RIDGE LLC

500640

EPA

Nepera Chemical Superfund Site

Public Meeting
Wednesday, June 15, 2011 @ 7:00 PM
Campbell Hall – Town of Hamptonburgh, New York

(1)

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail	Organization
GINA BRADSHAW 6/275210	314 Tower Ave Maybrook NY 12543	gina.bradshaw@nyumc.org	trustee maybrook
[illegible] William [illegible]	107 Prospect Avenue Maybrook NY 12543	mayor[illegible]@frontiernet.net	Former Mayor
Dennis Leahy MAYOR	208 Abbey Ave Maybrook, NY 12543	DKLeahy2783@aol.com	Mayor Maybrook
Noreen Reynolds	811 Heard Ave, Maybrook	nreynolds5@hvc.rr.com	dep. vlg of Maybrook
JAMES BARNETT	111 SCHIPPS LANE, MAYBROOK		TRUSTEE MAYBROOK
Jack Sims	39 Lakewood Road	—	—
Joe Volkmer	117 Maybrook Road	jvolkmer@frontiernet.net	live next door
Gordon Thew	CAMPBELL HALL NY 10916 9 MCNAMARA DR	GThew + Frontier.com	—
Loretta Stevens	272 Maybrook Rd Campbell Hall NY 10916	loretta123@hvc.rr.com	neighbor
RUDY STEVENS	272 MAYBROOK RD CAMPBELL HALL	—	—
Patricia TANNER	26 McBride Ln C.H 10916		neighbor
Robert TANNER	26 McBride Ln C.H 10916		"

EPA

Nepera Chemical Superfund Site

Public Meeting

Wednesday, June 15, 2011 @ 7:00 PM

Campbell Hall – Town of Hamptonburgh, New York

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail	Organization
Jane + Art Trope	POB 119 4 Church St. CH 10916	janeandart99@hvc.rr.com	Residents
Jim Zgoda	258 Maybrook Rd CH 10916	DOCTORS @ OTTERKILL.COM	Resident
Duncan Beegan	P.O. Box 479 Washingtonville NY 10992		
Bob Jankowski	P.O. Box 443 Goshen NY 10924		Town Supervisor
Nancy Carey	PO Box 99 Campbell Hall NY 10916		Citizen
Doris + Art Dunn	254 Maybrook Rd Campbell Hall	dadunn@frontiernet.net	Citizens
Matt Allman	86 Cresant Dr.	mra2130@columbia.edu	writer/journalist Albany
JOHN LOWN JR.	108 OAK ST MAYBROOK NY 12543	J.LOWN@HOTMAIL.COM	MAYBROOK RESIDENT
Paul Thom	15 Lenape Pl. Middletown NY 10940	pthom@HVC RR.com	County Resident

Nepera Chemical Superfund Site
Public Meeting
Wednesday, June 15, 2011 @ 7:00 PM
Campbell Hall – Town of Hamptonburgh, New York

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail	Organization
Laurie A. Hughes	121 Prospect Ave Maybrook 12543		
Joe Dembeck	2674 RD 207 Campbell Hall, NY		
Robert Pritchard	813 Tower Ave, Maybrook	RPritch107@AOL.com	Maybrook Planning
Greg Willems	230 St Rt 416 Montgomery NY 12549		Hamptonburgh
Stephanie [illegible]	24 [illegible] Rd Campbell Hall	[illegible]@frontiernet.net	
Joel Markowitz	POB 363 Goshen 10924	quidnunc@sprynet.com quidnunc@sprynet.com	
Kelly Naughton	40 Matthews St. Goshen NY 10924	Knaughton@[illegible]	Burke, Miele + Golden
Barbara Wong	630 Glen Ave Westfield NJ 07090		
John McNally	41 Thompkins 14 Road Newark, NJ 07114	mcnally.John E cleanharbors.com	CH
RICHARD MUIR	4 PIERSON RD CAMPBELL HALL NY.		
KATHLEEN MUIR	4 PIERSON RD CAMPBELL HALL, N.Y.		

500643

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
- -x

NEPERA CHEMICAL COMPANY, INC. SUPERFUND SITE

PUBLIC MEETING

- -x

Hamptonburgh Town Hall
18 Bull Road
Campbell Hall, New York

June 15, 2010
7:00 p.m.

A P P E A R A N C E S:

CECILIA ECHOLS,
Community Involvement Coordinator

MARK DANENBERG,
Remedial Project Manager

SALVATORE BADALAMENTI,
Section Chief,
Eastern New York Remediation Section

HENRY GUZMAN,
Assistant Regional Counsel

Proceedings

MS. ECHOLS: Good evening. We're ready to begin.

Hello, everyone. I'm Cecilia Echols, and I'm the Community Involvement Coordinator for the Nepera Chemical Superfund Site, which is located in your community.

The purpose of tonight's meeting is to discuss the proposed plan of action. Some of you may have received this document at home already, and I hope that everyone was able to take a copy from the table there.

We are addressing the soil contamination at the site. And I am going to introduce everyone else to you.

We have Mark Dannenberg. He is the Regional Project Manager for this site.

We have Henry Guzman. He is the Assistant Regional Counsel.

Proceedings

And Sal Badalamenti, he is the Chief of the Eastern New York Remediation Section.

The public comment period for this proposed plan began on May 20 and it ends on June 20. If you ever want to see any documents related to the site, there is an information repository here at the Town Hall as well as one in New York City.

I hope everyone signed in so you can receive future mailings about the site, along with hearing the decision once the Regional administrator signs off on what was proposed today. And the community input and your concerns and questions will all be gathered in a responsiveness summary, and it will be a public document.

We seek your input. We have not made a decision, but we are proposing a decision and we want

Proceedings

to hear from the community.

We have a stenographer here. So, if you would just wait until the presentation is over, then we'll open for questions and answers.

There was also a public notice placed in The Times Herald --

MR. DANNENBERG: The Times Herald Record, yes.

MS. ECHOLS: -- The Times Herald Record back in May.

On that note, we'll open for Mark to begin the presentation.

MR. GUZMAN: Can you lower the lights?

MR. DANNENBERG: Welcome, everybody. I appreciate your interest and your comments about this site.

We're here to present a proposal that, as Cecelia said, we put in The Times Herald Record to

have a change of the remedy -- or, more to the point, a change in one component of the remedy -- dealing with the contaminated soil.

So, I will be going through roughly about a twenty-minute presentation, I'll touch on a little bit of the background of the site, and present our recommended proposal. Then, as Cecelia said, we'll open up the floor for questions and try to answer everything as best we can.

This should work. Okay, I'll do it manually.

(Laughter)

MR. DANNENBERG: Cecelia made the introductions. So, we're here from the EPA to present, again, background and our preferred remedy for the site.

A little bit of background. The Comprehensive Environmental Response Liability Act -- that's a

mouthful, but we often refer to it as CERCLA -- it's more commonly known as Superfund.

Superfund was created to fund the clean up of abandoned hazardous waste sites and also to respond to hazardous waste emergencies.

There's a preference within Superfund to have the responsible parties for the site do the work and pay for the cleanup.

This is the Superfund remedial process itself. The first step, we identify the site; we then have a ranking system, and, if it ranks high enough, we place it on what's called the National Priorities List for hazardous sites; once it's placed on that site, we conduct an involved investigation, we collect a lot of soil samples, groundwater samples, we analyze the data, and

then we step into the feasibility stage where we consider alternatives to remediate the site.

By the way, I wanted to project it behind me. I hope everybody can see the screen over here all right.

So, we set up a list of possible alternatives to clean up the site, we compare these alternatives, and we decide, based on numerous criteria, what seems to be the best proposal.

Then we put that proposal in a proposed remedial action, which is the proposed plan, which represents the EPA's preferred remedy.

We then put it out to the public. We get comments if -- then we move forward, we actually issue a Record of Decision, where the remedy or remedies for the

site are actually selected. And then we step into the actual design of the remedy and perform the cleanup.

Again, the proposed plan presents a background of the site. It also talks about the most current things and activities that are occurring at the site, and we prepare the remedial alternatives and we present the preferred response action.

We also invite the public to comment. The public comment period for this site began on May 20 and extends through to June 20, 2011. At that point, we'll make a final determination on the action that should be taken at the site and move forward with the actual cleanup.

We'll issue in this case a Record of Decision Amendment. A Record of Decision was issued back

in 2007 for this site, in September of 2007, where we selected a remedy for the contaminated soil and a remedy for the groundwater.

In this case, if we move forward with the change of remedy, which, again, for this site has to do with the contaminated soil component only, then we'll select that. And we'll also include all comments and questions that we got during the public comment period and the EPA's response to all of these comments.

I included a site map. I thought everybody is probably somewhat familiar with where this site is. I'm sorry, I don't have a laser pointer. I guess between that and my remote I'm pretty low-tech today.

This is the site, and it's County Highway 4 that goes right

in front of it. Here is the Town of Maybrook, down here is Campbell Hall, where we sit right now at the Town of Hamptonburgh Town Hall. And you can see Highway 84 up there also.

This is pretty much the exact same illustration but it's an aerial view. Again, Nepera is marked by that red triangle, the Town of Maybrook is up in the right-hand corner, and Campbell Hall is close to the bottom left corner.

Little background of the site itself. The Nepera Chemical Company operated a facility in Harriman, New York, where they produced chemicals most often used to produce other than chemicals.

From 1953 to 1967, they trucked the wastewater that was produced at this facility to Hamptonburgh and disposed of it at

Proceedings

this Superfund site. They disposed of it by discharging it into one of six lagoons. The lagoons were constructed incrementally as needed.

In 1967, this operation ceased. They no longer disposed of wastewater at the site. Three of the lagoons were backfilled with clean soil in 1968, and a few years later, in 1974, the remaining three lagoons were also backfilled with clean soil.

MR. SCHIMPF: Mr. Dannenberg?

MR. DANNENBERG: Yes.

MR. SCHIMPF: Just a point, if I may.

How many gallons were traversed into that area from Harriman to Campbell Hall, the lagoon site, in a weekly period?

Is it fifty thousand gallons a week or day?

Proceedings

Because I've read different variations of that.

MR. DANNENBERG: I would have to look that up for you.

Sorry, could you --

MR. SCHIMPF: I'm William Schimpf, Former Mayor of Village of Maybrook.

We've met before.

MR. DANNENBERG: We have met before, about four and a half years ago.

MR. SCHIMPF: Yes. I was a lot younger.

MR. DANNENBERG: So was I.

(Laughter)

MR. DANNENBERG: That is something I certainly have. I'm sorry, I don't have that information right at my fingertips. Fifty thousand gallons per sounds familiar to me, but I have to get back to you, per week or per day.

Proceedings

Certainly, it was a lot of wastewater over the course of fourteen years. Again, it's wastewater. It's not the product itself that's being discharged, it's the residual that's left in the wastewater.

But I can get back to you with the exact number.

MR. SCHIMPF: All right.

MR. DANNENBERG: This is an illustration of the site itself. County Highway 4 abuts the site on the top portion. The dotted line represents the site property. And these rectangles within the site are the six lagoons that were used to discharge the wastewater.

The blue on the bottom left-hand corner is Beaver Damn Brook, and that wraps around the site and empties into the Otter Kill.

The original -- during the original remedial investigation,

it was performed in several phases. We went out, we collected soil samples, we tried to get a better idea by collecting additional soil samples. We also did some drilling, installed a network of groundwater monitoring wells.

This followed in subsequent phases where we installed additional groundwater monitoring wells and we continued to sample all these groundwater monitoring wells to determine where the contamination was and whether or not it spread.

We found during the remedial investigation that the former lagoons are, indeed, contaminated. They were acting as a source of groundwater contamination and groundwater itself was also contaminated.

We found elevated levels of

organic compounds in the soil, in the lagoon area, and also in both aquifers.

When I refer to both aquifers, there's two aquifers at the site. There's the overburden aquifer which extends below the ground surface, down to the top of the bedrock, and then there's the bedrock aquifer, where the groundwater exists within fractures and fissures inside of the bedrock.

We also made the determination and we sampled for inorganics, predominantly metals. They were not found at elevated levels.

We also sampled in background locations, removed from the lagoons, to determine what was normal levels for this area. And inorganics were determined not to be contaminants of concern.

Proceedings

These are the contaminants that we did determine are of concern: Benzene, ethylbenzene, toluene, chlorobenzene, xylene, and pyridine compounds.

The EPA then does a risk assessment where we look at risks to human health and the environment. This is examined and evaluated based on the way that the site is right now, as if no cleanup was performed on it, what risk does the site pose?

These are the risks that we turned up. We determined that there are no current unacceptable risks to human health. We know the contamination is there, but nobody's being exposed to it.

There is an unacceptable risk to human health existing for possible future users. But here again, with future users, the risk assessment is based on no cleanup

being performed. So, if the site were developed, builders went in there and put in homes, they dig up the soil, laying the foundations, if they're digging up the soil, these future construction workers would be exposed to contaminated soil. That's a risk. So, that's really what we're looking at with these future risks.

There's also risk that drinking wells in the area would be impacted by contaminants migrating from the site and people would then be exposed.

We set up objectives, which are general goals that we want to do.

We want to prevent any exposure to the contaminated soil -- this is certainly for the public, it's also for the environment -- we want to ensure

the contaminated soils are cleaned up to acceptable levels; minimize any migration or movement of the contaminants from the source area itself, the contaminated lagoons, into the groundwater; and, ultimately to restore the groundwater to its beneficial use.

In this area, its beneficial use is drinking water.

The feasibility study is where we consider remedial actions that we could do. We compare them, analyze them, and we look at various criteria how one might stand above and be better than another.

Some of the criteria we use are protections of human health and the environment, being able to achieve ARARs, which ARARs is another one of those weird terms. It's an acronym. It stands for Applicable or Appropriate

Requirements or Relevant Requirements, Applicable or Appropriate Relevant Requirements.

What that basically means is that we look at various standards out there. The State might have site-related or local standards. In this case, the State does have soil cleanup numbers, and we have to achieve those soil cleanup numbers for the protection of groundwater.

It could be a chemical-specific number, such as the EPA has MCLs, or maximum contaminant levels, for drinking water standards, and those were established by the Safe Drinking Water Act, and those would be considered chemical-specific ARARs criteria.

These alternatives, again, are evaluated based on these criteria.

Proceedings

And then we got to the Record of Decision. We issued the Record of Decision in 2007 and went into the remedial design phase. This was done consistent with the remedy that was selected in the 2007 Record of Decision.

During the remedial design process, we went out and we collected additional soil samples to better ascertain exactly where they were located; in particular, the pyridine-related compounds.

Extensive surveying was also done on the property to delineate the area of the former lagoons and show where the excavation would have to occur. And we also better defined the area with the contamination itself in the soils.

The responsible parties submitted a remedial design report to the agency, we looked at it, and the EPA approved the remedial

design and this remedial design report. This, again, was based on what was recommended to do in the 2007 Record of Decision.

At the same time, towards the end of the remedial design phase, the EPA, New York State DEC, and the responsible parties -- the owners of the property -- began discussing the alternative remedy that we're presenting tonight.

This alternative remedy considers excavating all the contaminated soil and transporting the contaminated soil to an offsite facility for treatment and disposal.

These two primary alternatives. Again, the biocell was selected. That was the original remedy, where a biocell would be constructed and operated on site and the contaminants would

biodegrade with the biocell. And the newly proposed alternative, which, again, is transporting the contaminated soil to an offsite facility.

There were three alternatives in all that were put forward in the proposed plan that we issued to the public. I see a lot of you have a copy of it with you.

Alternative 1 is the no action alternative. The agency usually looks at a no action alternative.

Alternative 2 is excavation and transportation to an offsite facility for treatment and disposal.

And Alternative 3 is the previously selected remedy, excavation and construction and operation of an on-site biocell.

The no action alternative is

required. We use that as a baseline. If nothing were done, what are the risks involved; what are the potential present risks, what are the future risks?

There's no action whatsoever that's taken to prevent exposure to contaminated soil or to clean up the site, no institutional controls like deed restrictions would be put in place, and contaminants would remain right there on site.

Alternative 2 is excavation and offsite disposal. Here, again, we'd excavate all the contaminated soil, we would do post-excavation confirmatory sampling, which basically means as we're excavating, we get to the extremities of excavation, we would take samples from the sides; if we found there was additional contamination, we would excavate

further.

The excavated areas would be backfilled with clean soil to grade to basically restore the site, and the contaminated soil would be transported to a permanent -- to an offsite treatment and disposal facility.

And Alternative 3, which, again, is the remedy that was selected in the 2007 ROD, where the contaminated soil would be excavated basically using the exact same parameters and methods that we would do under Alternative 2, but in this case we would construct a biocell on site.

The biocell, again, it's like a biological reactor, where by manipulating nutrients, water levels, air or oxygen flow, we're promoting micro -- the little bugs inside the biocell to eat up the contaminants as a food source and

basically degrade those to innocuous compounds, carbon dioxide or water.

The remedy presented in the proposed plan does recommend a change in the remedy for soils. The groundwater component remains the same. The excavation activities, the management plan that would be employed, the long-term groundwater monitoring afterwards that could extend several years, these components remain the same as what was issued in the 2007 Record of Decision.

If this change of remedy is selected, we would issue a ROD Amendment, and that would become a public document, and we would move forward with the change of remedy.

For the most part, the two remedies for soil are very similar. The major difference, again, is that we would transport

the contaminated soil offsite instead of treating it in a biocell on site.

This is a similar figure to what I put up before. I just put it up to again show you where the lagoons are and to show you, you know, roughly what we would be looking at. We would be moving out from the perimeter of the lagoons and excavate everything, basically, within those areas.

There's two areas we're looking at. This is five of the six lagoons. This lagoon is isolated, and we would treat that as a separate area.

Yes, Dennis?

MAYOR LEAHY: In relation to that map, where are the Maybrook wells?

MR. DANNENBERG: The Maybrook wells are directly above me, across the street.

Proceedings

MAYOR LEAHY: Okay.

MR. DANNENBERG: Actually, on the previous slide that I showed that was similar to this, they're actually depicted, they're shown here.

But it would be from the top of this box, the corner of this box, I'd say maybe it would be 300, 350 feet east of County Highway 4 and across the street.

MS. BRADSHAW: Mark, can I ask a question?

MR. DANNENBERG: Yes, Gina.

MS. BRADSHAW: Not only to the Maybrook wells, isn't there a T located somewhere closer to the lagoon for when the Maybrook wells were designed years ago for future water use, if Hamptonburgh or Campbell Hall wanted to hook up, that there's a T somewhere buried underneath it?

MR. DANNENBERG: Well, I'm

Proceedings

almost done with the presentation, Gina, but to address it briefly, I don't know if there's a T there.

Perhaps there's someone from the Town of Maybrook here, from the Water Department, that might be able to answer that.

Otherwise, it's certainly something I could find out.

This is the recommended soil remedy, what we're recommending in the proposed plan. It was noticed in the newspaper and sent out to you on May 20.

We would do a little bit of initial characterization investigation, again, to map out the site to determine exactly where the lines that we expect to be excavating, where the contamination is located. We would then excavate the on-site soils. We'd be excavating all the soils, clean soils as well as

Proceedings

contaminated soils.

We would then do the post excavation samplings to verify that we've reached the end points of that contamination. And if we needed to excavate further, that's exactly what we would do.

We'd transport the contaminated soil to a treatment storage disposal facility that would be licensed to accept it, and we would follow that with backfillings of that area with clean soil and restoring the site.

Based on the EPA's evaluation, the recommended remedy is the preferred remedy for several reasons.

One, based on the characterization of the soil that we did during the remedial design phase, we made the determination that a large of amount of this contaminated soil would be

Proceedings

classified as nonhazardous waste. The cost associated with disposing of nonhazardous waste is significantly different than that of disposing of hazardous waste.

We also were able to identify several treatment storage and disposal facilities that are nearby, and this, too, makes the alternative itself more economically attractive.

UNIDENTIFIED SPEAKER: Where are those sites?

MR. DANNENBERG: One is in Morrisville, Pennsylvania, and the other is near Fort Edwards, New York.

Also, another advantage. When we looked at the biocell, we really don't know exactly how long we would have to operate the biocell before we achieved our cleanup objectives. We projected in the Record of Decision that we

Proceedings

would be operating for two or three years. It's possible if we didn't reach cleanup objectives we would have to operate for a couple years beyond that.

On the other hand, with the newly proposed remedy, we know exactly how long it's going to take, basically, to excavate the soil and to transport it offsite to a treatment storage facility.

Barring crazy weather conditions or so, we could be out there, and we expect we would be able to do it in three or four months.

Once it's completed, there would no longer be a significant source of groundwater contamination. The source of contaminated soil would be removed.

This is to show you the cost of the two remedies. Obviously,

Proceedings

Alternative 1, the no action remedy, costs zero. We would do nothing.

Alternative 2, again, is the excavation and offsite treatment and disposal. The capital cost associated with this is $3 million, which seems significantly more than the capital cost for Alternative 3, the on-site treatment, but the on-site treatment would involve operation and maintenance costs also.

So, they basically come out to be a little more than $3 million. They're similar in cost, these two remedies.

We spoke with New York State about it, and Alternative 2 is supported by both the EPA and New York State.

We posted the proposed plan on the EPA's website. And if we haven't already, we'll be posting

this slideshow also on this same website that's up there on the screen.

I've provided my own e-mail address, dannenberg.mark@epa.gov, and Cecilia's e-mail address, echols.cecilia@epa.gov. If you have any other questions, you can certainly send it to us by mail, by e-mail, or bring it up now.

That's really all for my presentation. I'd like to open up the room. I know a lot of people have questions.

MS. ECHOLS: Before you start with your questions, please state your name so we can have it for the record for the stenographer.

MR. BARNETT: Jim Barnett.

Question I have to ask, if you go with the second and had it all trucked out, when it was done, how would you notify the community

that this is now cleaned up?

Through the paper, or how would you do that?

MR. DANNENBERG: Well, we would certainly post it on our own website. We've been sharing information with the Town of Hamptonburgh, and the Town of Hamptonburgh has a repository here with information about --

MR. BARNETT: The Village of Maybrook obviously has a vested interest too.

MR. DANNENBERG: And I understand.

MR. BARNETT: And you have to find some way to make sure everybody's notified; tell your neighbors, use the paper, or whatever. It should be somewhere to let us know they're finished and the site is now completely noncontaminated.

MR. DANNENBERG: First off,

Proceedings

I guess, let me begin by saying this change of remedy applies to the soil. There's also a groundwater treatment component to the remedy, and we'll be monitoring the groundwater for the next couple or few years. That's not going to be over the next three or four months.

Also, you're sitting next to Dennis.

Dennis, if I could get your address too.

The Mayor of Maybrook, I'd be happy to get him on our mailing list.

As we get additional documents, I'll send it directly to your office. If there's somebody in your office that you'd like me to send it to instead of yourself, that would be fine.

MAYOR LEAHY: Okay.

MR. DANNENBERG: And I

Proceedings

understand, you're absolutely right, the Town of Maybrook has a vested interest as well.

Yes?

MR. GROVES: Art Groves, Campbell Hall, 4 Church Street.

I'm not used to the terminology that we're using and all the things, and you're speaking very forthright --

MR. DANNENBERG: I'm sorry.

MR. GROVES -- about everything.

Could you in laymen's terms put things on a continuum; on one end of the continuum horrible, poisonous, killing kind of place versus not so bad?

Where is this site on that continuum?

MR. DANNENBERG: Well, that would be a difficult continuum for me to put it on.

I could say right now we

Proceedings

have made the determination -- again, the EPA does perform risk assessments. The contamination is where it is in the soil, the area's fenced in, somebody -- a trespasser would have to go through great lengths to get near that soil. And it's also buried below clean soil.

So, nobody's exposed at the current time to that contaminated soil. There is no exposure, there's no current danger whatsoever on that continuum.

The groundwater below the contaminated area is contaminated, and we do have concerns that this contamination could migrate offsite. There are quite a few people in this room that probably have private wells on the property, and we are going to great lengths to continue to monitor both our own groundwater

monitoring network associated with the site and some private wells surrounding the site.

So, if we saw contamination in any of those wells --

MR. GROVES: The fact that it's on the list means that things aren't wonderful.

MR. DANNENBERG: There's contamination and --

MR. BADALAMENTI: We wouldn't want a drinking water well to be installed at that site.

MR. GROVES: Thank you.

MR. JANKOWSKI: Bob Jankowski, Town of Hamptonburgh Supervisor. I have two questions.

One, on the actual site, isn't it true that if the site were evaluated right now, today, if it was an unknown site and you came upon it, I've heard from the applicants here that it wouldn't even be considered a Superfund

site today as of the condition today compared to the way it was when I was seven years old.

MR. DANNENBERG: I would say when you were seven, this site is certainly not what it was then, not as bad --

MR. JANKOWSKI: I already knew the answer to that.

The second question was does the EPA have control -- if the trucking, you know, business is done, does the EPA have control over the types of trucks, the way that the trucks are covered, and the whole nine yards?

MR. DANNENBERG: Yes.

MR. JANKOWSKI: And the trucks going out, does the EPA have control over that?

MR. DANNENBERG: The controls would be upfront in the process. First of all, the EPA will have oversight of the whole

operation going on. It is the responsible parties that are performing and paying for the cleanup. The EPA will have oversight presence out at the site while excavation is occurring pretty close to a hundred percent of the time that activities are being performed on the site.

MR. GUZMAN: If I can add to that.

Maybe you can add.

MR. BADALAMENTI: The trucks would also leave the site cleaned off to ensure we're not spreading things from the site on the roadways. The trucks will likely be covered so as not to --

MR. JANKOWSKI: We'd insist on that, but we need to know, who do we talk to about that?

MR. DANNENBERG: We'll receive a work plan. We have to approve of a work plan with all of

Proceedings

these contingencies built into it.

There will certainly be a decontamination pad on the site, which Sal was just referring to, where any trucks leaving the site would be decontaminated before they left the site so nothing would be tracked off the site.

MR. JANKOWSKI: Sorry to jump back in.

Does the EPA issue or allow for road bonding and things like that?

I know you're dealing with a county road there, but there are certain local, you know, requirements that we have normally on construction sites, and I was wondering if that kind of thing is...

MR. BADALAMENTI: The state requirements for trucks on roadways will have to be complied with.

Proceedings

MS. DUNN: Doris Dunn, Campbell Hall.

I live on that road and I live, I think, close enough to it. No one has ever taken a water sample from our house.

Will they start taking water samples from people closer to the site?

And when they start digging to excavate the soil, that will disturb, like, where it's been cocooned now for quite a while.

Is that going to, like, cause more contamination by releasing it?

MR. DANNENBERG: That's a good question.

I mean, if the previous -- I guess, first of all, based on the previously selected remedy versus the new one, we'd be excavating the same area. All of that excavation work would have been

occurring either way. The same precaution will be taking place. We are disturbing this area, to use your term, that's been cocooned there for so long.

We expect to be pulling up a lot of groundwater from that area. We'll pull that up, put it in tanks, and we'll treat that groundwater and clean it up.

As far as other contaminants, some contaminants you worry about fugitive dust particles going up in the air. We have precautions that are built in to our activities to prevent that.

We'll also have air monitoring around the site and along the perimeter to make sure that contaminants aren't spreading in the air. They'll be hooked up to alarms and we'll know if they go off and respond.

MS. DUNN: How about testing

Proceedings

more homes on that road?

MR. DANNENBERG: Well, I guess I'd have to, Ms. Dunn, know a little bit more about exactly where you're located.

The people that do the testing right now, the responsible parties, pay for it. It's reported through New York State Department of Health.

So, I can see what resources New York State Department of Health has, but the wells that we do sample are in close proximity to the site. They have never been impacted -- by our data, we've never seen them impacted whatsoever.

And if they went to a well further away than that, they'd have to go through -- I mean, groundwater will flow pass those wells first.

So, depending on -- I guess

Proceedings

I'd like to know exactly where you live, and maybe you can share that with me after the meeting.

MS. DUNN: Okay.

MR. DANNENBERG: I can discuss that with the Department of Health.

MS. DUNN: I have another question.

In the 1990s, a neighbor of mine three houses down called and said there's a Superfund site, and we could see people in special suits going in.

What was done in the 1990s?

And what's happened there from then 'til now?

MR. DANNENBERG: Well, I know at one point -- on one of the maps, I showed you Beaver Damn Brook wraps around the site. We wanted to make sure that groundwater wasn't recharging into Beaver Damn Brook.

Proceedings

So, I can't correlate it with exactly this 1990s date that you're talking about --

MS. DUNN: That's when that fence went up in there.

MR. DANNENBERG: We had people go back there. And Tyvek suits, the white suits, were worn with hoods because of a lot of ticks in the woods over there. People were coming out of the woods with ticks all over.

So, they were basically there to protect themselves from ticks, which is certainly an environmental exposure but it's not related to the contamination itself.

MS. DUNN: That's when that fenced-in area went in and then there were, like, barrels in that fenced-in area. So, you know, that was always a curiosity for us.

Proceedings

MR. DANNENBERG: It was test pitting done in the 1990s also, where little areas, small areas, were excavated up to pull samples from. The contamination is there, it does volatilize up, so it's not uncommon to be wearing protective equipment at a Superfund site. I don't know if anybody was wearing a respiratory mask also, breathing mask.

But, again, from my familiarity, when people were in the woods and in the stream collecting samples, it was to prevent exposure to ticks.

MR. DANNENBERG: Yes?

MR. SCHIMPF: I didn't quite understand something. Maybe it's me.

I think you mentioned that you determined there was no harm to the public to date with respect to the sites.

Proceedings

Correct?

But it could be in the future. You also correlated that with construction workers breathing in airborne particles or whatever --

MR. DANNENBERG: Right.

MR. SCHIMPF: -- you know, operating on the site.

Okay. Could you -- could you enlighten me on that?

In other words, first of all, is there a present --

MR. DANNENBERG: Risk?

MR. SCHIMPF: -- development plan for that site?

MR. DANNENBERG: No, there's no present development plan for the site.

MR. SCHIMPF: Okay.

So, how would it have been in the past, then, that it would be okay for the public but in the future it might have been a

Proceedings

danger?

MR. DANNENBERG: Perhaps I didn't do a good job of explaining.

MR. SCHIMPF: I don't know. It could be me.

MR. DANNENBERG: Might have been me.

We perform a risk assessment, and the risk assessment is to establish protection of human health and the environment. Basically, these two parallel risk assessments. They examine current risks and potential future risks.

The current risk is soil is in the ground, nobody's exposed to that contaminated soil. Groundwater may migrate from the site. But as far as the soil, which is my main topic of tonight, nobody's exposed to that soil.

The risk assessment is based

on nothing being done at the site. So, if nothing were done and everybody walked away from the site and all of a sudden the owners of the property decided let's develop it and they sent in home builders, then they would be exposed to it because nothing was done.

If nothing were going to be done, I would think that the restrictions would be put in place, something would be marked on the deed. But, really, I was talking from the perspective of the risk assessment, which really is set about based on how the site is right now if nothing was done.

MR. BADALAMENTI: With respect to future use, if zoning laws would allow residential use on that property, that would be the concern some day if homes are built there.

Proceedings

MR. SCHIMPF: There is something within the current plan to speak to airborne particles.

Correct?

MR. DANNENBERG: Yes.

MR. SCHIMPF: That's in that...

MR. DANNENBERG: That will be in --

MR. SCHIMPF: In the biocell?

MR. DANNENBERG: Well, the biocell would be a contained thing. It would be built basically below grade, it would be buried. It would have liners on the side and a liner below it. So, the problem with the vapors and fugitive dust would be mostly during excavation activities.

So, it's the same excavation activities that would be done under either of these two soil remedies. The precautions that we

Proceedings

would take for vapors, we could apply a foam that suppresses vapors from coming off the soil, care is taken duration excavation activities, and we have air monitoring devices established both in the work zone itself and at perimeter locations adjacent and on the sides of the site.

MR. SCHIMPF: And you're expecting about twenty trucks a day?

MR. DANNENBERG: I'd be expecting fifteen, twenty trucks a day, yes.

Now, this would include clean soil coming into the site as well as contaminated soil leaving the site. Obviously, the contaminated soil leaving the site, we're planning on backfilling the area with clean soil to grade and restoring the area.

Proceedings

Some clean soil might need to be coming in from the site. Some of the site -- some of the soils from the site itself might be used, we might be able to get soil from the site at a different area, but we'll probably be importing some clean soil.

MR. SCHIMPF: How far down?

MR. DANNENBERG: It would be down pretty close to bedrock. Bedrock ranges from about twelve feet to twenty feet down.

And that's basically the thickness of the overburden aquifer. So, we'd extend as much as twenty feet down.

Yes?

MR. PRITCHARD: I have a two-part question. Bob Pritchard, Village of Maywood, and I also have land on County Route 4.

About ten years ago, there was a map that showed the

groundwater plume, and that predominantly was heading to the east, taking a course of a mile or so.

Is that available on this website, the map?

MR. DANNENBERG: I'm not sure, but I think not.

I can certainly, Mr. Pritchard, get you a copy of our most recent mapping.

We've gotten intermittent hits at some of our monitoring wells of some site-related contaminants. We haven't seen it migrating, you know, well beyond the site property.

MR. PRITCHARD: You have not seen it?

MR. DANNENBERG: We have seen at a couple wells at the adjacent property, but we haven't seen it move as a plume beyond that.

Proceedings

MR. PRITCHARD: Okay.

MR. DANNENBERG: And the levels outside of the plume area itself tend to be fairly low what we call MCLs allowed in drinking water. The worst of it is below wherever the contaminated soil is.

I'd be happy to get you a map if you share your address or e-mail address.

MR. PRITCHARD: I have a second question.

MR. DANNENBERG: Okay.

MR. PRITCHARD: The oxygenating compounds, is that going to be a carbonate system that they use in there?

Is that going to expand and push that groundwater out?

MR. DANNENBERG: No, it shouldn't.

It would be a time-released oxygen-releasing compound. It could be applied either in slurry

or by granular particles or a powder. We haven't made that final determination yet and, indeed, we haven't selected this remedy until we get input from the public.

But that's what we foresee as far as the ORC compounds, would be either powder, granular, or foam.

MR. PRITCHARD: But nothing to expand.

MR. DANNENBERG: No.

Yes?

MR. BARNETT: Hopefully nothing would happen, but with twenty trucks a day in and out, if something were to occur, if there were an accident, would you notify or call Orange County Haz Mat team?

You would obviously let them know this is going to be going on in case something happens.

Proceedings

MR. DANNENBERG: Yes, we would set up a list of contacts. If anything like that were to happen, everybody on the list would be contacted immediately.

Yes?

MR. TANNER: My name is Bob Tanner, Campbell Hall.

The lagoons are within 150 yards of my house.

MR. DANNENBERG: I know where you live, yes.

MR. TANNER: If you're going to put air monitors, put one on my yard, will you?

(Laughter)

MR. DANNENBERG: Would it be -- what we kind of projected was to probably have a monitoring device on the south or southwestern portion of the site, which is between the lagoons and your yard. It's not on your yard.

MR. TANNER: You can put it

on my yard if you want.

(Laughter)

MR. TANNER: I have another question.

The land around the yard is owned my Mr. Bianzini.

MR. DANNENBERG: Yeah, to the east.

MR. TANNER: He's digging soil from just the other side of where your lagoons are, dumping it down by my house.

How do I know if that's contaminated?

MR. DANNENBERG: He's filling in by what, the railway grade?

MR. TANNER: Yes.

MR. DANNENBERG: He's dumping it down by your house?

I've certainly never heard anything about that.

MR. TANNER: He just started a couple weeks ago.

Proceedings

MR. DANNENBERG: I'm not sure --

MR. TANNER: And what he's doing, as far as I can see, is throwing it in wetlands.

MS. TANNER: It floods every year.

MR. DANNENBERG: Within the fenced area?

MS. TANNER: No, between the fenced area and County Route 4, the area where the small, little brook goes through.

MR. DANNENBERG: When you go out the back of the site and you turn right along the railway grade, the Tanners live towards the bottom on the other side of the brook.

MR. TANNER: On the old railway bed, where he's filling in with soil just not too far from the lagoon..

I don't know if it's

contaminated. I'm sure he don't know either.

MR. BADALAMENTI: But our soil testing would show that beyond the immediate boundaries of the lagoons, there's no soil contamination.

Right?

MR. DANNENBERG: Yes.

So, I mean, his soil -- you are kind of talking about a different issue, and I can understand why it would concern you, but his soil would not be contaminated with anything to do with this site.

MR. TANNER: It wouldn't be?

MR. DANNENBERG: No, it wouldn't.

The contaminatns aren't moving in the soil. They could move in the groundwater because the groundwater's a mobile thing. The soil is staying where it is.

Proceedings

So, that's not moving to Mr. Bianzini's property. There are bedrock, croppings, that come out in several places between the plume area and Mr. Bianzini's property, where he's mining the soil and digging.

MS. TANNER: One other question.

They have tested our water for over a dozen years.

Are they still going to continue testing our water?

MR. DANNENBERG: They will continue to test your water.

And here, Ms. Dunn, with this home, it's basically right across from the site itself, and we were concerned that we were covering the most nearby wells in each direction.

MR. TANNER: They were testing our water every three months.

Proceedings

MR. DANNENBERG: They're not anymore. They're doing it basically on an annual basis, and that was based on the determination that no contaminants were coming up.

We wanted to continue sampling it and, obviously, get a read on that and know what contaminants came if it did come to bear. But it was deemed that we really weren't seeing anything different and it hadn't been impacted.

MR. TANNER: I still buy my drinking water, though.

(Laughter)

MR. DANNENBERG: Yes?

MS. HURYN: Donna Huryn.

When might this remediation start, and when will you start the groundwater remediation plan?

MR. DANNENBERG: If we went forward with the previous remedy,

we were hoping to begin this year. It would take several months, it would take a while, to construct the biocell. We still have to do all the same excavation activities. It could take six to nine months to construct the biocell before we actually began operating.

The biocell would be located within the excavated -- within a portion of the excavated area below the ground. So, a component of that area, we would start with the groundwater treatment on one part of that area.

With this remedy, we're also looking to start this summer, we're looking at three- to four-month time period that it would take to do it, and the groundwater treatment will begin this summer.

As we excavate certain areas, we would be applying these

oxygen-releasing compounds, which would induce -- help these contaminants to break down.

MS. HURYN: Would it be possible to put your map up and show where the monitoring wells are?

MR. DANNENBERG: No, I don't have that on any of these maps.

It probably could happen. The reason I didn't is we're really focusing here on change of the soil remedy. The groundwater remedy remains the same.

I could share that with you, though. I'd be happy to do that. I can e-mail you a copy of that.

Yes?

MS. CAREY: Nancy Carey, Campbell Hall.

If the alarms do go off, what do we do, the community, if we hear these alarms going off?

That means the air's

Proceedings

contaminated.

Should we have remedies?

Should we have filters for our faces, you know, masks?

MR. DANNENBERG: What we would expect is with the precautions we're taking, we expect the monitors would not go off, the alarms would not go off.

If the monitor was set off, I expect it to be within the excavated area first, certainly before it traveled in one direction or another.

In the case of which direction, which perimeter we're looking at, it kind of depends on which side of the site is downwind that day.

MS. CAREY: That's right.

MR. DANNENBERG: We would set up precautions where -- they'd be set off at levels that are pretty low, not at levels that

Proceedings

were where somebody's exposed to something horrible at that point. We'd set it to trigger at a much lower level, at a precursor to any kind of harm whatsoever.

It could be a risk for chronic exposure, where -- if it was over a longer period of time. But for acute exposure, we'll be setting it at a much safer level.

MS. CAREY: Well, I'm a nurse also, and I know there's asthmatics out there, I know there are COPD'ers out there, people with bad respiratory problems, and people with lung cancer. And I would hate to see an environmental impact.

Maybe there's something we can have in the community to prevent that if the alarms are set off, that we throw our masks on. Something as simple as this.

Like here, 9/11, I was down

there at the site. There are people dying now from 9/11, being down at the site, Ground Zero, where if they just wore their masks and kept them on they wouldn't be exposed as bad.

So, I'm just looking at future use. Let's say there is a thing, where's everybody going to run to, you know, upwind instead of downwind?

So, I just want to know what plans should be made. You should have some emergency plan.

MR. DANNENBERG: We will have an emergency plan.

I should take a step back and say we haven't selected this remedy yet. We're still in the public comment period. We felt that the public might come up with additional information that wasn't previously considered.

An emergency plan would be

set up and we would have some type of alarm set up to notify people right away. Certainly, again, I would say the levels are not going to be levels that people would be impacted with on short exposure.

But I understand your concern with people who are more susceptible; people who have asthma, people with preconditions. We'd be establishing this in the work plan, and we will provide that to the public. We'll be including a copy of that at this repository here in Hamptonburgh as well as our own. And we can certainly post that on the website too.

MR. BADALAMENTI: The contingency plan that would be in place would be aimed at monitoring -- at the excavation area, monitoring the air there. And if something were to get too

high, we would take some action.

MR. DANNENBERG: Right there.

MR. BADALAMENTI: Right there before it even reaches the perimeter of the site.

We would not expect any fumes or vapors or dust to migrate beyond the site boundaries. That would be the goal of the way the excavation will occur.

MS. CAREY: But the weather lately has been very forceful winds. Let's say at that moment, all of a sudden that tornado wind type of wind comes through and the beepers are going off.

These are just some thoughts. And being in my field, we always think of preventive measures?

MR. BADALAMENTI: Under those extreme circumstances, we would expect not to do any

excavation that day.

MR. DANNENBERG: Yes?

MR. LOWN: John Lown, Maybrook resident.

You're going to set up an air sampling perimeter around the excavation site.

Can you just determine or establish the distance of the site to the perimeter, the radius from the site?

MR. DANNENBERG: This site has been surveyed. I would be guessing if I gave you a number right now. It would be a guess, I don't know the exact number.

But the site is clearly defined. I don't know exactly. If we're setting it up by just before County Highway 4, we could have an exact amount or within a few yards from the excavation area.

I don't have that number

with me handy, but, yes, we can provide that.

Yes?

MR. ZGODA: Jim Zgoda, I'm also a resident of County Route 4. I have a couple questions.

Right now, the security fence around the property is in disrepair.

Will that be repaired before any excavation is done there?

MR. DANNENBERG: I would have to look at it.

What part of --

MR. ZGODA: Particularly along the railroad grade.

MR. DANNENBERG: There was an area in the back along the railway grade that was knocked down a few years ago. When we noticed it, it was fixed.

MR. TANNER: The gates is always open. I accessed the property just last month.

You found the gates open?

MR. ZGODA: Yes.

MR. TANNER: Yeah, all the time. They're always open.

MR. DANNENBERG: That's a concern to me. They should certainly be locked up.

Of course during the remedial design, we do have people in the field who have done sampling there while some activity is going on. We have people present on the site.

Did you confront or see any people?

MR. ZGODA: No. It was a weekend.

MR. TANNER: They're never shut.

MR. DANNENBERG: I don't know what to say to that. That's news to me. I'll take that up with the responsible parties. They should not be open. Nobody

Proceedings

should be able to -- I'll do that.

MR. ZGODA: The other question is so you're anticipating traffic of about twenty trucks a day for three to four months?

MR. DANNENBERG: As much as twenty trucks a day, right.

MR. ZGODA: Do you have proposed working hours?

Days of the week?

MR. DANNENBERG: Monday through Friday, looking at normal workdays.

And I'm not sure what the Town's requirements are as far as early start or noise limitations or what have you, but we'd be looking in the basic workday window. You know, whether it might start at 8 o'clock or 7 o'clock in the morning, but they're not going to be out there at 5 o'clock in the morning. So, we might get an early start.

Proceedings

MR. ZGODA: Right now, it's a quiet country road. Twenty trucks a day for four months will really change things quite a bit.

You also mentioned that the trucks would be decontaminated on site before they leave.

MR. DANNENBERG: Right.

MR. ZGODA: How will that be done if there's no groundwater available?

MR. DANNENBERG: We'll have water for use. I mean, we'll be able to use water that we bring on site to decontaminate it.

But there's not a lot of water that's necessary. We're not spraying something down. Of course, we are using water to rinse because we have cleaners. We'll have a pad set up away from the excavation area, the trucks will sit upon the pad and there be decontaminated using cleaners,

some water.

We'll also be pulling up groundwater as we're excavating and cleaning that water. So, that water will be treated. That water can be reused for the decontamination process. Of course, after it's used for decontamination, it would have to be treated again.

But we'll have plenty of water, plenty of water from the excavation area itself. We'll be hitting groundwater.

MR. MARKOWITZ: It will be treated on site?

MR. DANNENBERG: It will be treated on site.

MR. PRITCHARD: You alluded to the trucks will probably be covered. The way a lot of these dumptrucks are right now, they have the cloth cover over and they're exposed on the sides.

Proceedings

The nurse here is talking about when a heavy wind comes up and kicks up the dust and this dust flying out of the back of the trucks going through village neighborhoods.

MR. DANNENBERG: No.

We will take precautions.

MR. PRITCHARD: Will it be sealed?

MR. DANNENBERG: Will it be sealed? Whether tarp versus a metal truck is a determination that hasn't been made.

We can wet the soil so no dust comes off whatsoever. For concern about vapors volatilizing off, we can add a foaming agent to suppress it and keep everything within the truck.

And we'll take extreme precautions to ensure that everything stays within the truck. This will not be a gardening truck

or something.

MS. REYNOLDS: Noreen Reynolds, Village of Maybrook.

How do you decide which trucking company gets this job?

Is it the lowest bidder?

MR. DANNENBERG: The process is often a lowest bidder, but the trucking company would have to show that they're perfectly capable of doing the job and doing the job right.

So, we will have a whole bunch of quality assurance specifications.

MS. REYNOLDS: Do they have to meet certain criteria, like, be approved by the EPA to do this type of work?

MR. DANNENBERG: They're probably approved by the DOT.

Right?

MR. BADALAMENTI: I think there's hazardous waste trucker's

license also.

MS. REYNOLDS: Okay.

MR. DANNENBERG: I can't say definitively, but I would think something through the Department of Transportation. I can look into it for an exact answer for you.

They will have to be capable of doing this and have the equipment to do it right, so it's not just anybody with a truck that puts out a low bid.

MS. REYNOLDS: Okay.

MR. MORGAN: Sean Morgan, PE.

The drivers have to be DOT licensed.

MR. DANNENBERG: This is an answer to your question.

MR. MORGAN: And the state licenses the transporters. So, the person is licensed by the DOT, certified by DOT, getting

physicals, everything like that, and the company is a licensed transporter.

MR. DANNENBERG: Thank you very much.

Yes, Dennis.

MAYOR LEAHY: Dennis Leahy, Mayor, Village of Maybrook.

You mentioned, Mark, that you have some areas ten to twenty feet down to clean the contaminants up.

MR. DANNENBERG: Yes.

MAYOR LEAHY: It's a concern for the Village of Maybrook. We're one point five miles away. And I'm sure it's even worse for some of the residents that live around the area.

One of the concerns that I have is, first of all, about the streams in the area, and the other thing is what do you do with all the trees and the vegetation that

surround the area?

MR. DANNENBERG: Well, some of the area will need to be cleared out to perform the operation we're talking about, specifically the driveway, to get the -- right now, it's this tight little driveway that has a whole bunch of small trees on each side. We need to be bringing up some fairly large trucks to be carting this waste off.

The area where the lagoons are itself is revegetated, but it's plush with wildflowers, grasses that have grown fairly high. There's not a substantive population of any mature trees.

If a tree was in the way, you know, we'd have to fell it to some extent, drop maybe a couple smaller trees. It's not an area where we have to come in with a hydraulic saw, but we will need to

clear out some areas, predominantly the driveway.

There's a clearing area over there that will have be cleared out a little bit but not deforested to set up the decontamination pad, to set up a staging area to allow trucks to come in and other excavation equipment to come in and do the work.

MAYOR LEAHY: So, as you clear the area, would the bottom line be it would be an empty field after it was done?

MR. DANNENBERG: Sorry, I missed it.

MAYOR LEAHY: After you cleared a section, after the end result, it would be an empty field.

MR. DANNENBERG: It would be an empty field. We would try to restore it as best as possible.

Proceedings

You know, as far as restoration, what do you go back to? These lagoons were constructed decades ago. So, we're not necessarily looking at that.

This property is 29 acres. The impacted area and the work area we're looking at are five-, six-acre area not including the driveway that we'll actually be using for the equipment, the decontamination pad, and the equipment itself.

So, it's a small component of the site property itself, but it will be restored, it will be re-seeded after it's backfilled with clean soil, and, if left alone, the forest would repopulate on its own.

That's not to say it would be left alone. What transpires after the site is cleaned up, if

the site is, indeed, cleaned up completely, it could be developed in a number of ways depending on the local zoning.

MAYOR LEAHY: When you see something that's been sitting there for such a long time, and going back from what we've heard over the years, you disrupt it, you tend to make more things happen.

One of the concerns I have is once you get down to that bedrock, is it possible that you could cause a problem with the aquifers where we will have problems that could cause leakage into some wells because we're disturbing it?

MR. DANNENBERG: We will disturb it, but the disturbance is going to be a two-part, maybe a little more than two parts, predominantly because while we're

excavating to remove the contaminated soil, we'll be dewatering, we'll be pulling up a whole bunch of contaminated groundwater and treating it.

When we pull the groundwater up, if anything, it would attract groundwater along the sides towards that area; not pushing out towards other wells, it would attract it to where the dewatering is going on.

And no, I don't really see it impacting wells beyond this. Where you go into an environment like a sediment environment, a riverbed, that can be extremely disruptive. In this case, we're digging up 21,000 tons of dirt and backfilling it with clean soil, we'll make sure that it's compacted and properly compacted and back to grade.

MAYOR LEAHY: How much was

put down there a few years back?

I know I read that there was soil that was put over it.

MR. DANNENBERG: There was soil put over it in 1968 and again in 1974. So, it was a long time ago.

MAYOR LEAHY: Do you know the depth?

MR. DANNENBERG: I don't know what the quantities are. It's interesting. I would say it's the top three or four feet of soil, topsoil.

So, over the whole breadth of roughly -- the lagoons themselves are not the full four acres. You can tell with one of the figures I put up, the lagoons were the rectangles within the four- or five-acre area.

So, it's a much smaller area than that, maybe two and a half, three acres, of actual lagoons.

Proceedings

Those were backfilled. But, yes, it's a significant area and it was backfilled with four feet of topsoil.

MAYOR LEAHY: I'm sorry, I don't mean to hog all the questions up here.

You did say back in 1957 compared to today that the contaminants were less today than they were back then.

MR. DANNENBERG: It's kind of what Mr. Jankowski said.

MAYOR LEAHY: That's correct.

MR. DANNENBERG: But, yes, I would say that the site was more hazardous then.

MAYOR LEAHY: How does that -- I mean, I'm not a chemist or anything.

How does that happen?

MR. DANNENBERG: The site was more hazardous because some of

this backfilling didn't happen, people were exposed. There were people on site, there were workers on site that were exposed, potentially been exposed to some of this.

And if you go back to 1975 and today, there's not a lot of difference. There hasn't been much disturbance. The difference would be our concern about groundwater migrating, not the soil itself.

You've been very patient.

MR. VOLKNER: I live across the street from Bob. I'm Joe Volkner. I live across the street from the Tanners.

I was here at the last hearings, I brought something up. And one of the things I see you do not recognize with your proposals, have you ever thought of putting 360 landfill cap down on top of

Proceedings

this?

The plume hasn't moved that much according to last time. That would stop water infiltration flowing into the ground. You have a problem later on, you can put a slurry wall.

My main problem is my wife has COPD, and I worry about these particles in the air. I know how this stuff works because this is my kind of business. I know how to fill.

So, was that ever thought about?

MR. DANNENBERG: We did consider capping the area.

Obviously, that would affect how much water is leaching down into the groundwater --

MR. VOLKNER: Right, to dry up.

MR. DANNENBERG: The source itself would still stay there,

though, and we would --

MR. VOLKNER: You're saying that's disappearing as it is. The plume is not like it was years ago. If you stop that, the migration is going to stop.

MR. DANNENBERG: The migration would be expected to largely stop, yes.

MR. VOLKNER: So, now you're not --

MR. DANNENBERG: The source is still there.

MR. VOLKNER: -- digging everything up, getting everything in the air.

The other part of my question is not just me living across the street, it's the hazards up and down the road. I'm with the fire company here in town.

Which way would these trucks be going?

Proceedings

Are we back through this way through town, through the whole town, Maybrook?

MR. DANNENBERG: The intention, there's an underpass that we're concerned the trucks would not fit going west.

We would be taking it back to 207, through the Town of Maybrook, and getting right on 84.

MR. VOLKNER: Okay.

MR. DANNENBERG: There are two treatment storage and disposal facilities, one out towards Pennsylvania that I mentioned earlier, right off of 84; the other one, 84 goes right to the Thruway.

MR. VOLKNER: The other part is you're trucking out and you're trucking back in.

Are these trucks going to be doing round robin?

Are they being

decontaminated at both ends to bring fresh material in?

MR. DANNENBERG: Well, they may need to be decontaminated on both ends. The logistics of that hasn't been fully fleshed out.

MR. VOLKNER: I'd really like to see a cap put on. That's my input.

MR. DANNENBERG: Okay. Thank you.

MR. BARNETT: The question I've got is if you decide to go with removing the soil, do we have a guarantee you will finish this project?

There's no way you're going to say you ran out of money, the economy is bad, the site is going to be left even worse. Once you decide to go that way, you know you're going to finish the project.

Is that correct?

Proceedings

MR. DANNENBERG: The economy is bad.

MR. BARNETT: We know that.

(Laughter)

MR. DANNENBERG: No, this will be --

MR. BARNETT: The trucking firm went bankrupt so we can't get the soil out of there.

MR. DANNENBERG: No, this will be funded. The responsible party -- we have a legal contract set up with money set aside in an escrow account. There is money there to do this work.

MR. BARNETT: We have your word tonight that if you start this project it will be finished?

MR. GUZMAN: Let me interject.

The parties are under a Court Order to complete this task, this work. So, they have to set money to guarantee that the work

will be completed.

So, the work will be done. They will be conducting the work, and they must do it.

MR. BARNETT: The worst thing that could happen is you start this and all this soil has been disturbed and all of a sudden we're told we have to stop the work.

That's definitely not acceptable to anyone.

MR. DANNENBERG: That would be unacceptable to us as well.

Yes?

MR. COCCHIARA: Rick Cocchiara, Councilman, Town of Hamptonburgh.

Question, you mentioned the different lagoons. Are all of them pretty much an equal risk for contamination or is one lagoon worse than another?

So, do we have an idea as

Proceedings

you're progressing through the project, is it pretty much equal or is there a certain point in the project where it becomes even more hazardous and, so, more vigilance is required?

MR. DANNENBERG: That's a very good question.

With the Nepera Chemical Company itself, as they were doing operations down at their facility in Harriman, they did predominantly the same type of work and put out the same products throughout. So, for the most part, the wastewater that was going into the lagoons was similar in all the lagoons.

That's not to say they didn't get an occasional batch process, an order for just one thing particular that they would do. It would be much less amount of wastewater, it would only have

been for one small order. But I would expect that each lagoon might have a little bit of their own attributes.

For the contaminants we're looking at, they're pretty similar in the soil throughout all six lagoons.

Yes?

MS. HURYN: Stephanie Huryn.

Where can one get their well water tested for the contaminants that are at that site?

MR. DANNENBERG: Well, of course, kits could be purchased and you could send your water to a lab and pay for it yourself.

As far as establishing additional private wells beyond what we've already established is necessary -- and, again, the wells that we are sampling, the private wells we are sampling, cover the perimeter around the site and in

the direction the water does flow, and this has not been to date impacted based on the data we've collected.

So, depending on exactly where you're located, this network of private wells that are sampled through the cooperation of the New York State Department of Health could be expanded, but the only guarantee would be to get your own kit or pay somebody to come and sample it.

MS. HURYN: Who would that be?

Is there testing in Campbell Hall?

And is there any way to tell if this contamination is in your well water?

Is there an odor, taste, particularly?

MR. DANNENBERG: It depends on the contaminant. With these

Proceedings

contaminants, pyridine would have kind of a sweetish smell to it.

MS. CAREY: No wonder the water tastes so good.

(Laughter)

MR. DANNENBERG: I don't know everything. Some can be odorless.

I would rely on laboratory data.

MS. BRADSHAW: Gina Bradshaw.

Bottom line with the groundwater, it is contaminated, period.

MR. DANNENBERG: Yes.

MS. BRADSHAW: This is why Option A is off the table, because the groundwater is contaminated.

MR. DANNENBERG: Well, option, you mean --

MS. BRADSHAW: Not doing anything.

MR. DANNENBERG: Alternative

Proceedings

1.

MS. BRADSHAW: The soil has to be removed and replaced.

My biggest question is once you disturb -- one of the lagoons is partially or mostly slate too.

Once you do this, I mean, it's hard to tell which direction water is going and where it's seeping to and what it's doing.

I mean, I'm a nurse too. We deal with carcinoma in a patient. It takes one cell to be one millimeter off on tissue and it's over there.

I mean, groundwater has got to be seeping, it's got to be going somewhere. If you're guaranteeing us right now that this groundwater is contaminated, how is this public here to feel safe where it's going to go, where it has been going, and what's going to happen once these lagoons

Proceedings

are disturbed?

MR. DANNENBERG: Well, the data for the groundwater is a matter of public record. The data is out there in public record documents. I can certainly disseminate out more, I'm sure. If you do want something in particular, I'm happy to share that with you.

We know which directions the groundwater flows. It flows in two predominant directions. We established groundwater monitoring wells and we have groundwater monitoring wells throughout the whole site.

The groundwater with the highest concentrations is right below in that plume area. That's not to say the contamination has, indeed, migrated from the spot.

We will continue to monitor those groundwater monitoring wells

Proceedings

and we'll be adding additional groundwater monitoring wells and backfill.

MS. BRADSHAW: While you're disturbing it, doesn't it change -- it may change the direction of the contaminated groundwater?

MR. DANNENBERG: While we're disturbing it, we're going to be sucking up a lot of this water. We're pulling that in. We're going to have to store a lot of this groundwater. We're pumping out on site, and the way -- you treat it so it won't discharge back. So, we'll be treating it first, taking it out and treating it.

When that water is removed, along the whole excavated area, the water on every side will want to fill back up. So, if anything, that water is going to be running

Proceedings

back into the lagoon area, not away from it.

And then there's something to say about this being done shorter term. Maybe we'll do it optimistically in twelve weeks. At the outer reach, we're looking at fourteen weeks. And it would be done.

MS. BRADSHAW: My last question is will the Town of Hamptonburgh and the Village of Maybrook Department of -- DPW, will they be available?

I mean, do they have access and, like, the Mayor have access to make sure that this groundwater contamination is always being tested while the site is being disturbed?

MR. DANNENBERG: We're going to be increasing the amount of testing, testing the water, and getting that data out to the Town

of Hamptonburgh, and we'll certainly share it with the Mayor's Office in the Town of Maybrook and the Board.

We can post a lot of this on our website. Perhaps the Towns of Maybrook and Hamptonburgh are interested in doing the same thing. I can certainly provide the information electronically.

MS. BRADSHAW: You'll have additional -- not just air quality testing, but groundwater testing as you're disturbing the soil.

MR. DANNENBERG: We're going to install a whole bunch of additional wells; not as we're disturbing the soil, but after we backfill with clean soil, compact the area, we'll then install additional wells. We'll be monitoring water, we'll be treating, and providing this oxygen-releasing compound to break

down contaminants, and we'll be measuring that and the overburden aquifer.

MS. BRADSHAW: And then what about the lagoons that's -- like, we spoke about the slate.

MR. DANNENBERG: There's one lagoon separate from the others. We're looking at that as a separate case.

The contaminated wastewater that went into it is very similar, pretty much the same, as the other wastewater discharged at the other lagoons. It's the last lagoon that was put in. It's perched on top of a little bedrock outcropping, and they dug it out to construct the lagoon. You're looking at sixty or eighty percent of that, that is estimated to be shale, comprised of broken up shale. And that sits on top of competent bedrock.

Proceedings

But most of that, with the exception of top three or four feet of the top soil, it was used as a backfill. They used shale. So, the difference of it is it's going to be a pain in the neck to excavate through all this shale but it's still going to be excavated.

MS. BRADSHAW: So, you'll go down to bedrock even though the shale is there?

MR. DANNENBERG: We'll go down to the bedrock, pretty close to it.

Yes, Mr. Tanner?

MR. TANNER: Do you know if there are any drums in there with chemicals in it?

I heard there were.

MR. DANNENBERG: At one point, three or four drums were discovered, and they were moved off -- I don't want to give you

the wrong date, but I believe it was the late eighties or early nineties.

We've had geoprobe equipment up in that area on numerous occasions and we've done a heck of a lot of probing. It's a geoprobe working -- work as well as magnetometry type stuff was also done in detecting the drums. We believe that's all that was there.

When we excavate, we're not expecting to see additional --

MR. TANNER: I heard there was more than three or four of them there.

I heard that from a man that he knew the guy that used to dump in there. When those things were full, he used to open up the valve and back in the truck and ride up and down the old railroad.

(Laughter)

MR. TANNER: This guy, he

seen him do it.

MR. BADALAMENTI: Who were the owners back then?

MR. DANNENBERG: Harribal.

MS. GROVES: Jane Groves, Campbell Hall.

I remember the original lagoon and no fencing, it was all open. You know, my mom was driving us over to Chafee's to grocery shop and we drove right up there to see. It was sort of like this little phenomena before people were terrified of the chemicals and danger. It was just like wow, this is so interesting.

But my question about that is when the lagoons were backfilled -- and, yes, the odor was horrible -- when the lagoons were backfilled, was that wastewater removed first or was it just disbursed; you know, as the dirt went in, the wastewater went

Proceedings

out?

What exactly happened?

MR. DANNENBERG: When they were backfilled, as I understand it, the water -- first of all, there were cracks determined. New York State came in, determined there were leaks at the base of the lagoons. Some of the water was going down into the aquifers, into the groundwater. On top of that, much of it was vaporizing up and coming off the top.

So, when they were backfilled, they were pretty dry. There was a staining where the contaminants were, but they were pretty dry.

MS. GROVES: So, it had already gone into the soil and into the Outer Kill?

MR. DANNENBERG: Yes.

MR. TANNER: When they backfilled the lagoons, they had a

dirt damn to keep it in. That busted all up. Everything was there, down the riverbed, right to my pond.

MR. DANNENBERG: Your pond has seen a lot.

(Laughter)

MR. TANNER: I told the guys about it, and they came down with a pump to pump my pond out.

MR. VAN NIEWERBURGH: Paul Van Niewerburgh, Town of Hamptonburgh.

Who are these responsible parties or party?

MR. DANNENBERG: Well, obviously, it was Nepara Chemical Company who operated the facility that produced the waste. There were a couple of other chemical companies that bought in to the operation.

Cambridge Corporation, which is based in New Jersey, was a part

owner at one point of the manufacturing, a part owner. Warner Lambert came in and purchased Nepera, and then Pfizer purchased Warner Lambert.

So, those are really the four responsible parties. There was also an individual that stated he too is responsible. I'm not sure what the --

MR. VAN NIEWERBURGH: They are the ones who are paying for it?

MR. DANNENBERG: They are the ones that are going to pay for it, hire the people to do the work.

We've hired a contractor as well as our own people to be out at the facility while all the work is being done.

MR. VAN NIEWERBURGH: And that's the answer to my second question, which was you said we're

doing this and we're doing that. In fact, the contractor's hired by the responsible parties and are doing all the work and you're overseeing it.

MR. DANNENBERG: Yes.

MR. VAN NIEWERBURGH: So, EPA is not -- these are not EPA trucks and EPA excavators and EPA monitor wells and EPA air monitors and all of that. This is all being done by these responsible parties and presumably you're supervising them.

MR. DANNENBERG: Right.

MR. VAN NIEWERBURGH: And presumably to your specifications.

MR. DANNENBERG: Correct.

MR. VAN NIEWERBURGH: You being EPA.

MR. DANNENBERG: EPA, yes.

MR. VAN NIEWERBURGH: Okay.

And number three, of course, goes right -- my question goes

right into the heart of why we're here, why you're here, which is to choose between these alternatives or the third alternative of capping, which I thought was an interesting one.

It seems to me, just glancing at this and hearing your presentation, that you've chosen the -- you're choosing this new option of removing the soil because it's the cheapest approach.

MR. DANNENBERG: I don't believe it's really the cheapest approach.

MR. VAN NIEWERBURGH: It's quick.

MR. DANNENBERG: It's certainly quick and it's certainly guaranteed to get the contaminated soils out.

There were questions as far as creating a biocell --

Proceedings

MR. VAN NIEWERBURGH: The biocell is a new type of technology.

MR. DANNENBERG: It's a newer technology, it's kinetic, it helps these compounds break down, balancing the nutrients, water, air. These are pretty basic things; nutrients that we need, air, and water. But they do have to be properly balanced.

As far as the speed of it happening, we did not feel this was guaranteed to be done in two or three years.

MR. VAN NIEWERBURGH: By cheapest solution, I mean the solution you recommend tonight is one that has a finite -- it's finite.

MR. DANNENBERG: It's finite.

MR. VAN NIEWERBURGH: We know how this will work because

we've done it before.

MR. DANNENBERG: We do project the cost is about exactly as much the remedy that was previously suggested.

MR. VAN NIEWERBURGH: The Biocell is open-ended. There could be surprises.

MR. DANNENBERG: There could be surprises.

MR. VAN NIEWERBURGH: And that could raise the cost.

MR. DANNENBERG: It absolutely could.

MR. VAN NIEWERBURGH: So, the last part of this third question is how having made this original decision to go with this interesting new technology, now you have changed your mind, and, of course, being suspicious peasants here, at least me, I'm thinking right away these responsible parties got nervous

because this was an open-ended commitment on their part.

The question is, Nepera is not even operating anymore.

MR. DANNENBERG: Right.

MR. VAN NIEWERBURGH: So, this is like an annoying piece of history.

MR. DANNENBERG: Well, it is an annoying piece of history.

MR. VAN NIEWERBURGH: For them.

MR. DANNENBERG: For the residents also. For a lot of people.

There is a finite amount of time to do this. Costs that were considered earlier on -- I mean, the actual disposal of the contaminated soil, the prices have cut down significantly. Also, from the precharacterization work and the additional sampling we did during remedial design, we looked

at the data and we realized that a lot of this is not going to be classified as hazardous at all, it's going to be nonhazardous. So, costs are down based on that.

MR. VAN NIEWERBURGH: This is the EPA's decision to reopen this?

MR. DANNENBERG: The EPA discussed this with the responsible parties and the DEC and it was our decision to put out a proposed plan with the selected remedy.

MR. VAN NIEWERBURGH: But it was the EPA's initiative?

MR. DANNENBERG: Yes, it was EPA's initiative to think about this remedy we're selecting and include that in the feasibility study done in 2007 before a Record of Decision was put out selecting the previous remedy.

So, we wanted to be looking

at this remedy back then. We thought it was very viable then. We didn't know exactly which road we would take.

MR. VAN NIEWERBURGH: Okay.

MR. DANNENBERG: And we also feel that in the meantime, we're still concerned about the groundwater. So, this meeting is really dealing mostly with the soils, is dealing exclusively with the soils, but we can't ignore the contaminated groundwater and the concern about drinking wells and the Town of Maybrook public water supply wells maybe impacted in the future.

We build in contingencies. If those are impacted, there are contingencies in the previous Record of Decision to immediately treat the public water, you know, some type of other water supply. There are contingencies in there

if the wells were impacted.

The Town of Maybrook regularly monitors for cycling; none have shown up as of now. So, we take that to mean the public wells have not been impacted by the site. We also take that to be at the present time. There's no guarantee about the future.

So, we want the contaminated soil dealt with and dealt with to minimize what's going on with the contaminated groundwater.

Yes?

MR. MORGAN: The changing of the soil from hazardous to nonhazardous, is that based on concentrations or...

MR. DANNENBERG: It's based on predominantly the concentrations.

Yes?

MR. BARNETT: One of the most important things that we have

Proceedings

to count on is for our federal government to provide for the welfare of its people. And I want to thank you folks for coming tonight. This is a very deep concern for all of us, and I hope you consider everything we've said very carefully and take care of this problem.

It's obviously been a problem in our area for a long time, and you've heard a lot of different people talk about for many years they've lived around here with all this going on.

I just want to take a moment to thank you all for coming in to alleviate some of our concerns and hopefully finally abolishing this problem.

MR. DANNENBERG: That's our hope too. Thank you.

Yes?

MS. CAREY: Nancy Carey.

Proceedings

My water has been tested. I thought it was from the gas station, but maybe it's you. I ask the people who keep testing it, and I'm like what are you testing for?

Maybe I'm a dumb blonde or something.

MR. DANNENBERG: Where are you located?

MS. CAREY: Campbell Hall, right on 207.

Maybe I'm down the plume. I've been having it tested for years, a few years.

MR. DANNENBERG: That's interesting. I think it's the gas station.

MS. GROVES: Jane Groves again.

Just so I have this clear, we all met here I believe in 2007 and you all chose, you know, a method to take care of the problem

that did not involve trucking. I have this little newspaper article that said the work would start in early 2009. Obviously, that came and went. Here we are back, 2011.

Exactly which agency or was it the responsible parties who decided that the method needed to be changed?

MR. DANNENBERG: It was conversations with -- this was a mutual decision. It was a conversation between ourselves, the EPA, and the responsible parties and New York State.

Predominantly, EPA has primary responsibility for oversight of this, so I would say it would be basically between the EPA and the responsible parties. Through our discussions, we both felt this was a better remedy.

MR. BADALAMENTI: That came about as result of additional

information.

MS. GROVES: Okay.

MR. BADALAMENTI: During the design process, we did a lot of additional samples and we got a better picture of how big the problem really was. Once we got that additional information, other options become possible.

MS. GROVES: I mean, I would trust the expertise of the EPA before I would the opinions of the responsible parties, who are just going to be looking at the bottom line.

MR. MORGAN: The responsible party's decision, is that going through the trust?

MR. DANNENBERG: That's going through the trust, yes.

MR. MORGAN: Will they make a decision on the contractor?

MR. DANNENBERG: They will make the decision on the

contractor.

We have seen and -- you know, the contractor that they hired to do the remedial action was for the biocell, you know, to complete the remedial action. So, they provided the qualifications of this contractor to the EPA, and the EPA examined those qualifications, and we did approve of the qualifications.

MR. MORGAN: But the execution of the contract, who's doing that?

MR. DANNENBERG: The contractor who's actually going to be doing it?

MR. MORGAN: Yes.

MR. DANNENBERG: The contractor that's been hired is WRS Compass, and that would have been for the biocell, the excavation and transport.

Yes, sir?

Proceedings

MR. WILLEMS: Greg Willems, Hamptonburgh Town Board.

When remediation is done with the site, will this site ever be developable, and who will make that determination?

MR. DANNENBERG: Well, I would like to think it would be developable, not to say it would be developed. That, to me, implies the site is cleaned up, and that has a good sound to me.

MR. WILLEMS: The reason I ask the question is I can see somewhere down the road some poor planning board being placed in the awkward position against developing the site unless we have an adequate response from EPA.

MR. DANNENBERG: That's a good point.

We would have to sign off on the remedy, we'd do a bunch of confirmatory sampling to make sure

there was no contamination.

And we expect to be here for several years monitoring groundwater. So, we'll be doing postexcavation sampling in the soil area, once the soil is excavated, to make sure the source itself of groundwater contamination is removed.

But we expect to be here for several years, so I don't look at this as remediated in three to four months. The soil aspect of it will be done in three to four months. We have an extensive groundwater monitoring network and we'll be here for several years.

We'll be putting out occasional reports also talking about the progress made at the site and where we're standing. If we were in a position at the end of this Superfund process that I've presented earlier, it was

kind of detailed page with a whole bunch of different steps that Superfund takes, but the ultimate step is determination the site is cleaned up and the site can be deleted from the National Priorities List.

And that's our objective, to get this site deleted from the National Priorities List. It's classified as completely cleaned up, there's no more risk associated with it. And then it's somewhat up to the property owner and the zoning board to determine how the site would be redeveloped, not EPA at that point.

MR. WILLEMS: That's the part that bothers me.

MR. DANNENBERG: The EPA would be issuing a big document that says this site is being deleted from National Priorities List.

Proceedings

That's not a lightly taken step and most of the sites to be put on the National Priorities List have not been deleted. It's a rare site that has been deleted to date.

Yes?

MR. ZGODA: Jim Zgoda.

Is this remediation that's been done elsewhere at a similar site?

MR. DANNENBERG: Yes.

MR. ZGODA: And what's the post remediation experience?

MR. DANNENBERG: Well, I can't say with the same site-related contaminants. The process that we're doing here is different.

But what you're doing here has been done at a lot of contaminated sites in the past. It's, you know, called dig and haul. You excavate the site and

haul it off someplace for treatment and ultimately disposal.

Landfills have -- this is done in landfills, this was done in numerous industrial facilities where soil and industrial lagoons or cesspools were contaminated. Gas stations with underground storage tanks have been dug up. Some of them might have to be followed with soil vapor extraction unit work or something else.

But certainly the excavation is a tried and tested remedy, straightforward, relatively low tech, outside of the analysis. There will be extensive analysis.

MR. TANNER: Can the land around it be built on now?

MR. DANNENBERG: The bedrock outcroppings don't make it easy but, yeah, it could be.

I think it's zoned mostly

agricultural/residential use. So, I would think it really has to do, Mr. Tanner, with the local zoning.

Yes, it could be. It's not conducive, a lot of it is not conducive to it because of the bedrock.

MR. BADALAMENTI: There would be a little concern with drinking water wells very close to the site.

MR. DANNENBERG: Yes, if it were developed, deed restrictions would have to be put, talking about the groundwater. It could be -- you know, there would be information written into the deed saying you're not allowed to install a private well on the site.

So, there would be restrictions to it, but, yes, the site itself --

MR. TANNER: People come to

Proceedings

me want to know who owns it, they want to buy some property.

MR. MARKOWITZ: First piece of input I have for you is the more information you provide to the community on your website, the better for the community. So, I urge you to post as much data and information as possible to the EPA website for this project.

Second piece of input I have is that it's a cosmic law that for anything to get cleaned, something else has to get dirty. This isn't going to go away no matter how it's dealt with. Everybody wants it to be remediated ultimately as an end goal. I think all of our concerns are what the ancillary effects are going to be from the methodology that's used.

I particularly have concern -- by the way, I'm Joel Markowitz from the Village of

Proceedings

Goshen, for the record.

I'm approximately five miles away as the crow flies. Our community is west of this. Prevailing winds generally run west and east, but, as was pointed out, we've been through a period of unusual weather. We've had very vigorous winds going the other way this spring.

My concern is what the outgassing and particulate shedding effects are going to be both from the excavation and transportation.

One of the questions I have for you is what you're presenting tonight is a modification of the Record of Decision. The original plan called for excavation and treatment on site.

MR. DANNENBERG: Right.

MR. MARKOWITZ: What is currently being proposed is

Proceedings

excavation and transportation of material offsite for treatment.

MR. DANNENBERG: Right.

MR. MARKOWITZ: Absent the shedding and outgassing during transportation, one would assume that the environmental effects for the two methodologies are approximately equivalent.

So, what is the deciding factor for the EPA in preferring to transport the material rather than treating it onsite, where there would not be this additional factor of contamination during transportation?

MR. DANNENBERG: Well, we want to get on with the remedy, as I know everybody in this room probably does too. We have a certain asurety, assurance, of how long this is going to take. It's going to be short and quick to deal with the soil, take it

offsite to a facility capable of treating it.

At this site, the biocell, we had certain concerns about how long that's going to operate. We've gotten mixed information. It could take four or five years. Pyridine compounds -- from that list I showed you with the different contaminants on site, the benzene, the toluene, the xylene, the ethylbenzene, you find a lot of this at gas stations with underground storage tanks. These are known quantities, we kind of know how they breakdown, it's done a lot in other facilities.

Pyridine is a little more unusual, and, frankly, we don't know how long that will take to breakdown to levels that we've established as cleanup goals.

MR. MARKOWITZ: Would there not be less chance of their

spreading if you treated them in situ rather than to transport them?

MR. DANNENBERG: We'll be doing the same excavation work either way. So, if you worry about particulates, we can spray down what's been excavated to minimize or eliminate the possibility of leaking, fugitive dust going off in whatever direction. So, we can minimize or eliminate that.

As far as the volatilization vapors going in the air, we can use foaming agents and minimize or eliminate what's leaving the excavated area too.

MR. MARKOWITZ: Will that be a requisite?

MR. DANNENBERG: Yes, of the work.

MR. MARKOWITZ: A specification of the project.

Proceedings

MR. DANNENBERG: Yes, it will. It will be something everybody associated with the site will be working at the site aware of the actual operation of the equipment, as well our people at the EPA. This will be something that we will be keeping a close eye on.

MR. MORGAN: With the oxygenating compound, are you going with the ORC Advanced or RegenOx, R-E-G-E-N-O-X?

MR. DANNENBERG: We haven't made that final determination.

We are looking for a compound that will have a time-release element to it so we'll be able to continue to treat the water. We have this initial treatment, and based on data we collect we may have several additional applications in the future.

Proceedings

But we'll be monitoring closely this first application, and we're hoping, basically, to be using something with more of a time-release mechanism, so it will start right away to work but it will continue to work over several months.

We'll have to be deciding that very soon. If we get going on this, we can issue a Record of Decision, and hope to start work in short order; really, a month or two.

MR. MORGAN: The issue you bring up is the uncertainty when you break down the grades and barricades, going with the RegenOx to oxydize, the compound.

MR. DANNENBERG: That's a good point, good point.

MR. MARKOWITZ: I have another question, but I think it's relative to that.

Proceedings

With MTBEs, which I'm not suggesting are on the site, but my understanding is with the similar type of treatment with MTBEs, the oxidation process can actually -- there have been studies that show that that injection can actually cause the contaminant to migrate, to spread.

MR. DANNENBERG: Right.

MR. MARKOWITZ: Is that a factor in treating these particular contaminants?

MR. DANNENBERG: This is not going to be the same kind of factor.

MTBE, I don't want to assume -- I'm not a chemist. That being said, MTBE travels extremely fast in the aquifer, much faster than pyridine. And I think that's part of the reason...

Part of what Joel is talking about with MTBE, it travels fast.

Proceedings

MR. MARKOWITZ: But the question I'm getting at is whether or not the chemical reduction of the contaminant, this chemical agent that was being used may cause the contaminant to plume, to spread to fractures in the bedrock and in the aquifers.

MR. DANNENBERG: No, we don't feel that it will.

Certainly with the Vtech compound, the benzene, toluene, ethylbenzene compounds is being well studied. The pyridine compound is certainly less so. Each Superfund is different that has pyridine compounds.

We don't expect it to be traveling very fast in the groundwater. We're going to continue to monitor around that perimeter regularly and we'll get an early heads-up on how much is still on site, whether they are

Proceedings

traveling at all where they are monitoring before it goes offsite.

MR. MARKOWITZ: What's the maximum range for air quality monitoring for these particular contaminants?

In other words, how far out could you go on a radius and still have effective air quality monitoring?

MR. DANNENBERG: I would have to look at the environment. I'm not sure.

I would say the pyridine compound which we were just discussing is not very volatile. It does volatilize a little bit, go up in the air, but not like benzene or something else would.

MR. MARKOWITZ: In terms of the nonvolatile, semi-volatile contaminants, I assume there will be air quality monitoring for them as well.

Proceedings

MR. DANNENBERG: Yes.

MR. MARKOWITZ: How far out can you go on those and have effective monitoring?

MR. DANNENBERG: Well, we'll be -- and I think Sal Badalamenti touched on this earlier, we'll be monitoring in the actual work zone.

MR. MARKOWITZ: That's why I ask, because we're beyond that.

MR. DANNENBERG: We get something in the work zone area, we'll immediately take precautions to stop any airborne activity right then and there.

We can apply a foam agent to suppress any vapors coming off of the excavated material immediately. So, if anything was detected to be volatilized, we can stop that.

Any other questions?

MR. VAN NIEWERBURGH: Will

EPA be on site continually through the process?

MR. DANNENBERG: We will have a presence onsite. So, either ourselves or we'll also be hiring a contractor to work for us to be our contractor, and we'll have pretty much a hundred percent presence while excavation is going on

Well, I hope I did a decent job answering all of your questions.

MS. BRADSHAW: Gina Bradshaw, Trustee, Village of Maybrook.

My biggest concern is, as we have spoken about, getting this information out to the public. It was very disheartening to me not to find it on, you know, any websites or anything like that. I also volunteer with some cancer organizations up here.

Proceedings

And I think that we had spoken about it, and maybe you could work something out with the Mayor, Supervisor of Hamptonburgh, on getting this information out to the public, whether on our water bills -- I know mailings, whatever are costly, but, I mean, there's not -- I don't know how many residents are in the Town of Hamptonburgh. Maybrook has four thousand whatever residents --

MR. JANKOWSKI: Six thousand.

MS. BRADSHAW: I mean, if you do water bills, you send out water bills --

(Laughter)

MS. BRADSHAW: Well, something to inform the public. None of us knew that the public comment opened up May 20.

MS. ECHOLS: How come you didn't know but it was right on

Proceedings

the proposed plan?

MS. BRADSHAW: You know how I actually got the proposed plan? I got the proposed plan because I work in Manhattan and I rode down on the train with somebody who works for EPA who said: Don't you live near here?

MS. ECHOLS: Really?

MS. BRADSHAW: That's how I found out.

MS. CAREY: I found out from him calling me tonight.

MS. ECHOLS: There was a public notice placed in -- a display ad placed in The Times Herald Record. Sometimes you may not see that all the time.

This proposed plan was sent out to almost two hundred people. Neighbors have to share this information too. We can't --

MS. BRADSHAW: Did you send it to the Village Board, though,

Proceedings

like, to the Village Supervisor?

MS. ECHOLS: I'd have to look on the the mailing list to see exactly who it was sent to.

MS. BRADSHAW: That's just one of my closing concerns.

MS. ECHOLS: I understand, I understand.

But you have to remember, as a community, you have to share information --

MS. BRADSHAW: Right.

MS. ECHOLS: -- as well. You have to. If you never come to a meeting, you're not on our mailing list, so you won't receive the information.

But you can always call us and we can add you on the list. You can e-mail us. We have an eight hundred number as well. There's a whole lot of ways to get in touch with EPA.

If you need to know anything

about the site, you can always call us or e-mail us.

MR. DANNENBERG: So, we can do our best to get the information out. I'm certainly going to share it with the Mayor of Maybrook's office.

Or Gina, if you're specifically on our mailing list, we can get stuff out to you. Don't hesitate to send me --

MS. BRADSHAW: Well, any residents surrounding --

MR. DANNENBERG: -- if you need to send information to the Town of Hamptonburgh.

We'll certainly be updating frequently our own website. That's the only website we can run.

MS. BRADSHAW: I understand. Thank you for your time tonight and in the past too.

What is the next step in the

process?

MR. DANNENBERG: A lot of concerns were raised tonight, and, again, I hope I addressed them.

We'll go back, we're getting some comments or questions by mail, we have additional comments, questions, come in by e-mail. We'll look at all of this and list them.

And when we issue a record of decision amendment, we're going to be providing all of those comments and questions in one form or another along with our Record of Decision Amendment.

We're also going to respond to all of those comments and questions. The public comment period ends June 20. If there's nothing -- any of those comments or questions presented to us that would make us change the preferred remedy, we decide to move forward

with this remedy that we're proposing, select it, and issue a Record of Decision, I anticipate we can do that within the next four weeks.

If we do that within the next four weeks, the responsible parties would be looking shortly thereafter to getting out in the field and getting started.

MR. GUZMAN: Mark, the only caveat is we need to modify the Court Order. Once we reach the Record of Decision and the Amendment, then we have to apply to change the Order, the Consent Decree, and it's signed with the parties. And that may take, you know, a few more weeks.

So, that's when Court -- you know, it's not a major modification to the Order, but it will take, you know, the Court, the judge presiding, has to look

at the materials and approve them. And we don't think it would be -- he or she, whoever the judge is, would readily approve any such modifications.

MR. DANNENBERG: Concurrent with that, we could be going through additionally what exactly are we doing with the air monitoring plan, where exactly are we going to be setting them, at what distance should they be set from the excavation area, what qualifications of certain truckers?

Yes, ma'am?

MS. STEVENS: Lorretta Stevens.

How are we, the general public, going to be aware of your final decision?

MR. DANNENBERG: Well, we'll issue a public document and we'll post that right on our website.

Proceedings

And we'll also be forwarding a copy to the Town of Hamptonburgh. The Town Clerk here, Diane Fortuna, has some shelves set up in their office with a public record of various documents that the EPA or New York State has issued pertaining to this site that are relevant to this site, and that's considered the public record.

We also keep public record that people can review at our office in New York City.

MS. STEVENS: How are we going to know when to look for it?

We don't come in here every day and say, hey, did it come yet.

MR. DANNENBERG: As Cecilia was mentioning, you can get on our mailing list.

MS. ECHOLS: We can prepare a fact sheet for the community and let you know.

Proceedings

Usually when the Record of Decision is signed, a press released is prepared and sent to the media. And if the media wants to pick it up, they put a story in the newspaper. That's another way to hear about it.

When we're ready to come into your community to start doing the work, the trucking, we can send you a notice two weeks before to let you know this is going to start.

So, it's going to be sometime later this summer, in the fall, you're going to start seeing some information, I would presume.

MR. VAN NIEWERBURGH: Dry season.

MR. DANNENBERG: Absolutely.

So, we're hoping this summer. We're not looking at the fall, we are hoping to get going. If we select this remedy, we're

hoping to get going very soon.

You're absolutely right, it should be done in the dry season.

MR. MARKOWITZ: Do you have an anticipated date for the decision?

MR. DANNENBERG: Well, I'm not the one who signs it. We have our own hierarchy, and the Record of Decision will be signed off on several tiers of our hierarchy above me. So, we have our own process.

We will push to expedite that, and we're hopeful that this could be done over the course of the next four weeks, that we could have that document, selected remedy.

MS. ECHOLS: In addition, as long as you've written legibly, you will receive something in the mail. If we can't understand what is written but if there's a

telephone number, we make a phone call, we ask can you give us your address again.

But a lot of times people don't make the mailing list because they didn't sign in. They may have attended, they may have picked up the leaflets, but they didn't sign in. So, we have no way of contacting them.

MR. DANNENBERG: There are also several people in this room that have my e-mail address. If I have your e-mail address, I'm happy to send out a message by e-mail.

Other than that, we certainly have a mailing list and can send you something out in Postal Service mail as well.

MR. PRITCHARD: Quick, I promise.

Since this is in the Town of Hamptonburgh, would there be any

Proceedings

objection to the EPA of having a representative from the Town of Hamptonburgh stop in and watch and look from time to time?

MR. DANNENBERG: I don't necessarily object to that as a premise. I'm not too sure. I would kind of have to talk...

If we have a work zone going on, first of all, somebody is not just working on the work zone. It's a hot zone, it might be contaminated, you might need to have a hard hat, you may need safety equipment, be fully briefed before stepping on to the site.

So, we have our own precautions that nobody's just walking out to the site. At the same time, there's perhaps legal issues that somebody else does actually own the property, so it's not open to anybody.

MR. PRITCHARD: I would not

have asked the question except that you said you won't be out there. The EPA themselves will be hiring a contractor.

MR. DANNENBERG: I'll be out there, but we're hiring a contractor to be out there --

MR. PRITCHARD: I personally don't like playing telephone.

MR. DANNENBERG: I think as far as public relations too, there might be an opportunity to have some people come on to the site, see some of the things, maybe from a distance, of what we do.

Apparently, I don't think that's necessarily a bad idea, but we would have to discuss it internally.

MR. PRITCHARD: Thank you.

MR. VAN NIEWERBURGH: You're not going to be there all the time. You're going to be working with Region 3, DEC.

Proceedings

Right?

MR. DANNENBERG: Somewhat.

MR. VAN NIEWERBURGH: So, wouldn't it be easier to have one of their representatives out there instead of a contractor?

Which is what I had to do on my site. And that way, there's no you didn't see this, you didn't say that, okay, you're not working for the contractor.

We had to pay for the DEC monitor to be there.

MR. DANNENBERG: That would be easier and probably significantly cheaper for the federal government. My contractor doesn't come cheap.

But our contractor works for us, and, you know, DEC kind of does -- we share a lot of information, we're sister agencies, we're partners in a lot of ways.

Proceedings

MR. VAN NIEWERBURGH: I'm just saying they're the region. They're here.

MR. DANNENBERG: They are the region and they will want to have presence on the site too.

With my contractor that we hire, we can mandate exactly what they do, we can make sure that they're qualified.

If for any reason we have some peculiar thing going on at the site, we can bring in a new expert. So, we can control our contractor. But we'll be in touch with DEC and certainly Albany as well.

MS. CAREY:

MS. CAREY: Nancy Carey.

Is the treated soil going to be the soil that's coming back in to fill?

MR. DANNENBERG: Some of it might be.

Proceedings

I think what we're looking at predominantly is using soils from other locations on the site. We're going to certainly need to import some clean soil which has specific regulations by New York State as to what's defined as clean soil. It's possible that some of the treated soil from the landfill could be put back on a truck and brought back to the site as clean soil.

Any other questions?

Smaller crowd now.

(Laughter)

MR. DANNENBERG: Well, again, I appreciate everybody's concern about this site. I'm concerned about it too. I think we all are, which is why we made the trip up here tonight.

I expect to be up here a significant amount of time during the summer when actual work is

being done.

MR. TANNER: How come nothing was done three years ago when we had this meeting?

MR. DANNENBERG: Well, we had this meeting. At that point, we had to enter into a contract. An Order was signed by a judge to enforce upon the responsible party to do the work.

After the meeting we had a few years ago, it took about a year before we could actually work out that paperwork, get on a judge's calendar, and actually have that document signed.

At that point, we did start the work. We started the remedial design process. Additional characterization work and survey work was done on the site. We designed the biocell, we desinged the remedy, the groundwater aspect and soil aspect. We hoped to be

out here last summer.

By the time it was looking like we were going to be done with our design, it was extremely late in the season. And to go out, as you were talking about, with dewatering, going out during the wet season, digging everything up, trying to construct a biocell submerged in groundwater really becomes almost an impossible feat.

So, we forced things back to this year, signed off on a remedial design report, and started analyzing this alternative.

MR. TANNER: Definitely will be done this year?

MR. DANNENBERG: We're hoping to get it done this year.

MR. TANNER: You're hoping now.

(Laughter)

MR. VAN NIEWERBURGH: It's

too late in the season already.

MR. DANNENBERG: We're on a very expedited schedule. And barring anything that would cause us not to select this remedy, we're hoping to get out here. If we can get out here at the tail end of July -- yeah, we're squeezing it. We'll have to be dealing with some water issues, but we want to work quick and want to hope the weather is conducive to us and we want to hope that our lesser estimates of a twelve-week operation are true rather than our outer most at four months.

MR. VAN NIEWERBURGH: Where will you be bringing material back in from?

I hope it ain't coming from the Goshen pile.

(Laughter)

MR. DANNENBERG: I've heard about the Goshen pile, I heard

about that.

I am unfamiliar with that. It would be New York State certified clean soil.

MR. MARKOWITZ: Come on, what's a little lead?

(Laughter)

MR. DANNENBERG: It's pretty much guaranteed we won't be bringing it in from Goshen.

MR. VAN NIEWERBURGH: Where will you be bringing it in from?

MR. DANNENBERG: I don't know. It would have to be certified, and some of it will be borrowed from the site itself.

We might be able to, you know, use some soils from the site from more remote areas and bring that in to fill it; not the lagoons, but the excavated areas.

Yes, Mr. Jankowski?

MR. JANKOWSKI: In the Town of Hamptonburgh, we'll be paying

close attention and monitoring traffic and the way it proceeds out at the site. Obviously, if it goes that way, you select to do that.

And especially when I bring my three boys, Spike, Woody, and Moody, to the Otter Kill Animal Hospital, they better not be afraid of those big trucks, because then you're going to have a problem.

(Laughter)

MR. DANNENBERG: We do not want a problem with the Town Supervisor, that's for sure.

(Laughter)

MR. DANNENBERG: So, if there are any other questions?

All right. Thank you all for coming. If you want, you can reach me by postal mail, by e-mail.

MR. WILLEMS: Where's your

Proceedings

contact information?

MR. DANNENBERG: I'll pull it back up.

MS. ECHOLS: It's also in the proposed plan on Page 2.

MR. DANNENBERG: This is my e-mail address.

It's also in the proposed plan.

(Time noted: 9:15 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)

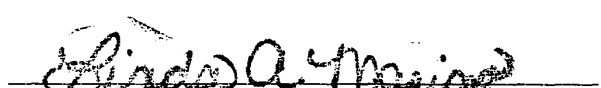
) ss.

COUNTY OF NEW YORK)

I, LINDA A. MARINO, RPR, CCR, a Shorthand (Stenotype) Reporter and Notary Public of the State of New York, do hereby certify that the foregoing transcription of the public meeting, taken at the time and place aforesaid, is a true and correct transcription of my shorthand notes.

I further certify that I am neither counsel for nor related to any party to said action, nor in any way interested in the result or outcome thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 21st day of June, 2011.



LINDA A. MARINO, RPR, CCR

APPENDIX VI

COST DETAILS

Present Worth Calculator

Directions: Input the following data in the designated cells: interest rate - (A9) number of years - (B9), annual O&M costs - (C9) a

interest rate	number of periods	annual O&M costs	Capital Cost	annual payout	present worth factor
7.00%	1	$25,000.00	$3,000,000.00	$28,750.00	0.934579439
			Present Value of O&M		
			$26,869.16		
			Total Cost		
			$3,026,869.16		