Crumb Trailer Park Site

Herkimer County, New York

EPA

Region 2

July 2007

PURPOSE OF THIS DOCUMENT

This document describes the response actions considered for the Crumb Trailer Park site and identifies the preferred response action with the rationale for this preference.

The document was developed by the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC). EPA is issuing this document as part of its public participation responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The response actions summarized here are described in more detail in EPA's Engineering Evaluation/Cost Analysis (EE/CA). EPA and NYSDEC encourage the public to review the EE/CA to gain a more comprehensive understanding of the site and the proposed response action.

This document is being provided as a supplement to the EE/CA to inform the public of EPA and NYSDEC's preferred response action and to solicit public comments pertaining to all the response actions evaluated, as well as the preferred response action.

EPA's preferred response action, which is formally referred to as a "non-time critical removal action," consists of moving all of the trailers to an on- or off-property location and the placement of a soil cover over contaminated surface soils.

The response action described in this document is the *preferred* response action for the site. Changes to the preferred response action or a change from the preferred response action to another response action may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected response action will be made after EPA has taken into consideration all public comments. EPA is soliciting public comment on all of the response actions considered in the detailed analysis of the EE/CA because EPA and NYSDEC may select a response action other than the preferred response action.

MARK YOUR CALENDAR

July 31, 2007 - August 30, 2007: Public comment period related to this document.

August 21, 2007 at 7:00 P.M.: Public meeting at the Village of West Winfield Library, South Street, West Winfield, NY.

COMMUNITY ROLE IN SELECTION PROCESS

EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective response action for each Superfund site. To this end, the EE/CA and this document have been made available to the public for a public comment period which begins on July 31, 2007 and concludes on August 30, 2007.

A public meeting will be held during the public comment period at the Village of West Winfield Library on August 21, 2007 at 7:00 P.M. to present the conclusions of the EE/CA, further elaborate on the reasons for recommending the preferred response action, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented as part of the decision document (called an Action Memorandum) which will formalize the selection of the response action.

INFORMATION REPOSITORIES

Copies of this document and supporting documentation are available at the following information repositories:

Village of West Winfield
Village Office (Bisby Hall)
South Street
West Winfield, New York 13491

Hours: Monday - Friday, 9:00 A.M. - 12 Noon

Village of West Winfield Library
Bisby Hall
South Street
West Winfield, New York 13491

Hours: Monday, Tuesday, Thursday & Friday, 12:30 P.M. - 5:30 P.M.
Wednesday, 10:00 A.M. - 12 Noon,
6:00 P.M. - 8:00 P.M.

USEPA-Region II
Superfund Records Center
Building 205
2890 Woodbridge Ave
Edison, New Jersey 08837-3679
(732) 906-6877

Hours: Monday - Friday, 9:00 A.M. - 5:00 P.M.

Written comments on this document should be addressed to:

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SITE BACKGROUND

Site Description

The Crumb Trailer Park site is a small mobile home park situated on approximately 2.5 acres at 174 Burrows Road in West Winfield, New York. The site is currently occupied by fifteen trailers arranged on either side of a graveled loop road (Crumb Park Drive) that enters and exits off Burrows Road (see Figure 1). The site area is a trapezoidal-shaped part of a larger irregular-shaped property of 8 acres, with the remaining 5.5 acres (a triangular-shaped area to the east) being connected to the trailer park area in the northeast corner by a short corridor. The site extends 350 feet along Burrows Road (on its southern border) and is bordered to the west by a car wash and to the east by a New York State Electric and Gas facility. The site extends approximately 300 feet to the north and borders a former Erie-Lackawanna Railroad bed on its northern side. The 5.5-acre portion of the property is an open field, which extends further along the former railroad bed to the east and lies behind residential properties located along Burrows Road. The trailer park is well-kept. The area between the trailers is mostly lawn, with small sheds and flower gardens associated with some of the trailers.

The site lies in the northern portion of the Appalachian Upland physiographic province, near the bedrock divide between the Appalachian Upland and the Mohawk Lowland physiographic provinces. Geology in the region consists of limestone bedrock and glacial overburden materials.

Geographically, the site is located within the Unadilla River valley, the floor of which has relatively low topographic relief. West Winfield is located on the northern edge of the approximately one and one-half mile wide Unadilla River valley, which is oriented west southwest-east northeast and slopes slightly (approximately 0.28 percent slope) to the southwest in the vicinity of the site. The river valley is bounded abruptly to the north and south by rolling hills with elevations between three and five hundred feet above the valley floor. The Unadilla River is located approximately 500 feet to the north of the site. The site is not located in a 100-year floodplain.

The topography at the Crumb Trailer Park is mostly flat.

Site History

The site reportedly served as a municipal dump from the 1930's until the 1950's. A 1936 aerial photograph of the site shows an entry road off Burrows Road into an undeveloped property, with a possible disposal area in the north, just south of the Erie-Lackawanna railroad bed. In a 1942 aerial photograph, the road has a return loop at the end, indicating possible expansion of the disposal area. In a 1955 aerial photograph, the road could no longer be distinguished.

The property was converted to a trailer park by Frederick Crumb, who purchased the property from the Village of West Winfield in September 1957. Final cover soils from an unknown source were reportedly placed over the refuse area by Mr. Crumb.

For much of its history, the number of trailers and residents at the Crumb Trailer Park has reportedly remained stable

(*e.g.*, 15 trailers are shown in an aerial photograph in 1977, 15 trailers were reported in 1996, 13 trailers were observed in 2003, and 15 trailers were observed in 2006). The property was acquired in 2004 by Crumb's Trailer Park, LLC, a locally owned company.

The residents own their trailers and lease the lots.

SUMMARY OF SITE INVESTIGATIONS AND EXTENT OF CONTAMINATION

During EPA's 1996 removal activities at the Hiteman Leather Co. property on South Street (Route 51) in West Winfield, it was learned that waste materials from the tannery operation had been disposed of at a former municipal dump on Burrows Road, now underlying the Crumb Trailer Park. Subsequent sampling of the Crumb Trailer Park surface soils by the New York State Department of Health found elevated levels of inorganic contaminants similar to those found by NYSDEC at the Hiteman Leather Co. site[1] during a 1988-1992 investigation. Although elevated levels of inorganics were found, the concentrations were not above health-based levels.

Since the Crumb Trailer Park overlies waste materials from the former Hiteman Leather Co., as part of the remedial investigation (RI) and feasibility study associated with the Hiteman Leather site, in 2002, 14 surface and 38 subsurface soil samples were collected at the trailer park. Surface soil samples were collected at the 0-2 foot interval. Subsurface soil samples were collected at select intervals from 2-10 feet in 13 borings.

More extensive sampling was conducted at the site by EPA in August 2006. A total of 62 soil samples were collected. Samples were collected at the 0-0.5-foot and 0.5-1-foot intervals. Once again, contamination was found, primarily, on the west and northwest side of the trailer park.

The highest concentrations found for each of the contaminants of concern at the Crumb Trailer Park were arsenic (25.4 mg/kg), hexavalent chromium (17 mg/kg), lead (1,850 mg/kg), and manganese (1,480 mg/kg). The elevated levels of arsenic, hexavalent chromium, and lead are all located on approximately one-half of the site (*i.e.*, 1.25 acres in the west and northwest). While elevated levels of manganese are distributed over the entire site, they do not exceed NYSDEC's soil cleanup objectives (SCOs)[2].

The results from the RI sampling effort can be found in *Final Remedial Investigation, Hiteman Leather Site, Remedial Investigation and Feasibility Study, West Winfield, New York*, Volumes I and II, CDM Federal Programs Corporation, February 8, 2005. The results from the 2006 sampling can be found in *Sampling Report for the Remedial Assessment at the Hiteman Leather/Crumb Trailer Park Site, Village of West Winfield, Herkimer County, New York*, Environmental Protection Agency, Superfund Support Team, March 19, 2007. These documents can be found in the Hiteman Leather site information repositories identified on page 2, above.

The data show elevated levels of lead exceeding the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK), which is used to predict the risk of elevated blood lead levels in children under the age of seven that are exposed to environmental lead from many sources. The IEUBK model is the primary tool used in determining risk-based cleanup levels at lead-contaminated sites. The 2006 sampling included taking surface soil samples from 0-0.5 feet deep and 0.5-1 foot deep, with each level composited from five areas in front of and to the rear of each of the 15 trailers at the site. While elevated levels of lead were found in the surface soils during the RI, those were determined over a 0-2-foot interval, whereas the 2006 lead data were determined from the 0-1-foot interval (*i.e.*, 0-0.5 and 0.5-1 foot), indicating that the lead is more concentrated near the surface. The elevated lead levels exceeding the IEUBK criteria (400 mg/kg) included about one-half of the 2.5-acre trailer park area and extended from the western border of the property eastward to approximately midway across the trailer area, encompassing the soils beneath or in the yards surrounding seven of the 15 trailers.

SUMMARY OF SITE RISKS

Human Health Risk

Based upon the results of the 2002 investigation noted above, a baseline human health risk assessment, an analysis of the potential adverse human health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current and future land uses, was conducted to estimate the risks associated with current and future site conditions at the Crumb Trailer Park.

[1] The Hiteman Leather site, a former tannery, is a Superfund National Priorities List site that is currently being addressed by EPA.

[2] SCOs are identified in 6 NYCRR Part 375. SCOs are contaminant-specific cleanup objectives for soil based on a site's current, intended, or reasonably anticipated future use.

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the COCs at the site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk) with 10^{-6} being the point of departure. For non-cancer health effects, a "hazard index" (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which non-cancer health effects are not expected to occur.

Risks associated with soil at the Crumb Trailer Park were estimated for adult and child (0 to 6 years) residents based on potential exposure to contaminants through dermal contact, ingestion and inhalation of dust from vehicle traffic on the unpaved road.

The results of the human health risk assessment indicated that the increased cancer risks for the reasonably maximum exposed adult and child residents were in the acceptable risk range (1×10^{-4} for both adult and child residents).

With regard to noncancer effects, HIs exceeded the EPA threshold of one for several scenarios. The HI is seven for adult residents and 24 for a child resident from the potential inhalation of dust generated from the road surface due to manganese. It should be noted, however, that the adult and child resident noncancer risks are highly conservative, since the risk model does not take into consideration the fact that roadway dust is unlikely, since the road is covered with gravel.

In addition, the maximum concentration of lead (1,850 mg/kg) exceeds EPA's residential screening value of 400 mg/kg.

Risk information for this site can be found in *Final Human Health Risk Assessment, Hiteman Leather Site, Remedial Investigation and Feasibility Study, West Winfield, New York*, CDM Federal Programs Corporation, March 15, 2005 (this document can be found in the Hiteman Leather site information repository located at Village of West Winfield Library, Bisby Hall, 179 South Street, West Winfield, New York). The 2006 data is considered in *Supplemental Risk Evaluation for Crumb Trailer Park, Village of West Winfield, New York*, Environmental Protection Agency, July 2007.

Ecological Risk

There appears to be limited habitat (roadways, trailers, and lawns) associated with the site. As such, there are likely no complete exposure pathways associated with the site.

REMOVAL ACTION OBJECTIVES

The results of the human health risk assessment indicate that there would be a significant potential risk from exposure to contaminated soil at the trailer park. Therefore, conditions at the site meet the criteria for a removal action under CERCLA, as documented in Section 300.415(b)(2)(i) of the NCP, namely the actual or potential exposure to nearby human populations from hazardous substances.

The following removal action objectives were established for the site:

- Reduce or eliminate any direct contact, ingestion, or inhalation threat posed by surface soils.
- Minimize the potential for migration of contaminants from the site.

EPA has determined that a non-time-critical removal action is appropriate to abate, prevent, minimize, stabilize, mitigate, or eliminate these threats to public health, welfare, or the environment. The proposed response action is considered non-time critical because, although there is a threat to public health, welfare, or the environment, there is sufficient planning time available before the removal action must be initiated.

SUMMARY OF RESPONSE ACTIONS

Four potential response actions were developed, as described below.

Response Action 1: No Action

Capital Cost:	$0
Annual Post-Removal Site Control Costs:	$0
Present-Worth Cost:	$0
Construction Time:	0 months

The Superfund program requires that the "no-action" response action be considered as a baseline for comparison with the other response action. The no-action response action for soil does not include any physical remedial measures that address the problem of soil and sediment contamination at the property.

Response Action 2: Contaminated Soil Excavation and Off-Site Treatment/Disposal

Capital Cost:	$1,650,000
Annual Post-Removal Site Control Costs:	$5,000
Present-Worth Cost:	$1,721,000
Construction Time:	3 months

Under this response action, an estimated 4,000 cubic yards of surface soils (two-foot depth) exceeding 400 mg/kg lead, located on approximately one-half of the site (*i.e.*, 1.25 acres in the west and northwest), would be excavated and transported off-site for treatment/disposal. The excavated areas would be backfilled with clean fill and revegetated. The entire length of Crumb Park Drive would be paved.

The seven trailers in the affected area would have to be temporarily removed during construction and the residents would have to be temporarily moved. It would also be necessary to temporarily move the other eight trailers and to temporarily relocate the residents in these trailers to allow sufficient access for installing the soil cover and to grade the site for proper drainage.

During excavation activities, measures would have to be taken to protect the integrity of the subsurface infrastructure, such as the electric and water lines and the septic tanks.

Before backfilling, a readily-visible and permeable subsurface demarcation delineating the interface between the contaminated native soils and the clean fill would be installed.

The soil that would be used for backfilling would need to be sampled to insure that it meets NYSDEC's SCOs.

All excavated material would be characterized and transported for disposal (treatment may be required) at an off-site Resource Conservation and Recovery Act (RCRA)-compliant facility. Cleared vegetation would be disposed at a nonhazardous waste landfill or could be mulched and used elsewhere on-site.

Water generated from surface water runoff would need to be collected and treated on-site. The treated water would be discharged into the Unadilla River.

Under this response action, institutional controls in the form of an environmental easement and/or restrictive covenant would be used to restrict intrusive activities below the subsurface demarcation and below two feet in the areas of the site overlying the former disposal area which did not require a response action unless the activities are in compliance with a Site Management Plan. The Site Management Plan would provide for the proper management of all post-removal implementation components. Specifically, the Site Management Plan would describe procedures to confirm that the requisite engineering (subsurface demarcation) and institutional controls are in place and that nothing has occurred that would impair the ability of said controls to protect public health or the environment. The Site Management Plan would also include the identification of any use restrictions, the necessary provisions for the implementation of the requirements of the above-noted environmental easement and/or restrictive covenant, and a provision that the property owner or the party responsible for post-removal site control submit periodic certifications that the institutional and engineering controls (subsurface demarcation) are in place.

It is estimated that it would take 3 months to implement this response action.

Response Action 3: Soil Cover

Capital Cost:	$1,011,000
Annual Post-Removal Site Control Costs:	$5,000
Present-Worth Cost:	$1,082,000
Construction Time:	3 months

This response action would involve the placement of a two-foot soil cover over the surface soils exceeding 400 mg/kg lead. Approximately one-half of the site (*i.e.*, 1.25 acres in the west and northwest) would be raised, including part of Crumb Park Drive. The entire length of Crumb Park Drive would be paved.

The seven trailers in the affected area would have to be temporarily removed during construction and the residents would have to be temporarily moved. It would also be necessary to temporarily move the other eight trailers and to temporarily relocate the residents in these trailers to allow sufficient access for installing the soil cover and to grade the site for proper drainage.

Prior to placing the soil cover, vertical sleeves would have to be installed on the subsurface infrastructure connections (*e.g.*, electric and water lines and the septic tanks).

Before placing the soil cover over the contaminated areas, a readily-visible and permeable subsurface demarcation delineating the interface between the contaminated native soils and the soil cover would be installed.

The soil that would be used for the cover would need to be sampled to insure that it meets the SCOs. The covered area would be landscaped and graded.

Under this response action, institutional controls in the form of an environmental easement and/or restrictive covenant would be used to restrict intrusive activities below the subsurface demarcation and below two feet in the areas of the site overlying the former disposal area which did not require a response action unless the activities are in compliance with a Site Management Plan. The Site Management Plan would provide for the proper management of all post-removal implementation components. Specifically, the Site Management Plan would describe procedures to confirm that the requisite engineering (subsurface demarcation) and institutional controls are in place and that nothing has occurred that would impair the ability of said controls to protect public health or the environment. The Site Management Plan would also include the identification of any use restrictions, the necessary provisions for the implementation of the requirements of the above-noted environmental easement and/or restrictive covenant, a provision for the performance of the maintenance required by the remedy, and a provision that the property owner or the party responsible for post-removal site control submit periodic certifications that the institutional and engineering controls (subsurface demarcation) are in place.

It is estimated that it would take 3 months to implement this response action.

Response Action 4: Move Trailers and Soil Cover

Capital Cost:	$918,000-$1,261,000[3]
Annual Post-Removal Site Control Costs:	$5,000-$15,500[4]
Present-Worth Cost:	$1,046,000-$1,332,000
Construction Time:	3-4 months[5]

This response action would involve the movement of the seven trailers in the affected area to either another location on the 8-acre property (hereinafter, "on-property") or an off-property location(s). A two-foot soil cover[6] would be placed over the surface soils exceeding 400 mg/kg lead. The entire length of Crumb Park Drive would be paved. If the trailers are moved to an on-property location, the roadway leading to these trailers would also be paved.

If the trailers are to be moved to an on-property location, sampling would have to be performed to determine whether or not the surface soil at the new location meets NYSDEC's SCOs. If the soil does not meet the SCOs, measures to remediate the soil would need to be taken.

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3 The low cost corresponds to moving the trailers to an off-property location(s) and the high cost corresponds to moving the trailers to an on-property location.

4 Under the on-property movement scenario, it is presumed that the rents will not change. Therefore, the low annual cost includes only the maintenance of the soil cover.

Under the Uniform Movement Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601 *et seq*.) (URA), the incremental increase in rent is an eligible expense for 42 months. The high annual cost includes the maintenance of the soil cover and the incremental rent increases for the seven trailers under the off-property movement scenario.

5 The three-month time frame corresponds to moving the trailers to an off-property location and constructing a soil cover. The four-month time frame corresponds to moving the trailers to an on-property location and constructing a soil cover.

6 A two-foot thick soil cover for residential use is defined by 6 NYCRR Part 375.

If the trailers are moved to an on-property location, the subsurface infrastructure (*e.g.*, electric and water lines) would have to be extended to the new location and new septic tanks would have to be installed. The new infrastructure would need to comply with local water supply distribution and sanitary code requirements. In addition, a road to the new location would have to be constructed.

It would be necessary to temporarily move the other eight trailers and to temporarily relocate the residents in these trailers to allow sufficient access for installing the soil cover and to grade the site for proper drainage.

Before placing the soil cover over the contaminated areas, a readily-visible and permeable subsurface demarcation delineating the interface between the contaminated native soils and the soil cover would be installed.

The soil that would be used for the cover would need to be sampled to insure that it meets the SCOs. The covered area would be landscaped and graded.

Under this response action, institutional controls in the form of an environmental easement and/or restrictive covenant would be used to prohibit residential use of the soil-covered areas and restrict intrusive activities below two feet in the soil-covered area and the areas of the site overlying the former disposal area which did not require a response action unless the activities are in compliance with a Site Management Plan. The Site Management Plan would provide for the proper management of all post-removal implementation components. Specifically, the Site Management Plan would describe procedures to confirm that the requisite institutional controls are in place and that nothing has occurred that would impair the ability of said control to protect public health or the environment. The Site Management Plan would also include the identification of any use restrictions, the necessary provisions for the implementation of the requirements of the above-noted environmental easement and/or restrictive covenant, a provision for the performance of the maintenance required by the remedy, and a provision that the property owner or the party responsible for post-removal site control submit periodic certifications that the institutional controls are in place.

It is estimated that it would take three months to relocate the trailers to an off-property location and place a soil cover. It is estimated that it would take four months to relocate the trailers to an on-property location, extend the subsurface infrastructure, install new septic tanks, and place a soil cover.

EVALUATION OF RESPONSE ACTIONS

To select a response action for a site, EPA conducts a detailed analysis of the viable response actions. The detailed analysis consists of an assessment of the individual response actions against each of three evaluation criteria (effectiveness, implementability, and cost) and a comparative analysis focusing upon the relative performance of each response action against those criteria.

Effectiveness

This criterion refers to a response action's ability to meet the removal action objectives. The overall assessment of effectiveness is based on a composite of factors, including overall protection of public health and the environment, compliance with ARARs, long-term effectiveness and permanence, reduction of toxicity, mobility, and volume through treatment, and short-term effectiveness, as follows:

- Overall protection of human health and the environment assesses whether the response actions are protective of public health and the environment. The evaluation will focus on how each response action achieves adequate protection and describe how the response action will reduce, control, or eliminate risks at the site through the use of treatment, engineering, or institutional controls.
- Compliance with ARARs addresses whether or not a response action would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes. Other federal or state advisories, criteria, or guidance are "To-Be-Considered" (TBC) criteria. TBCs are not required by the NCP, but may be useful in determining what is protective of a site or how to carry out certain actions or requirements.
- Long-Term Effectiveness and Permanence involves the evaluation of the extent and effectiveness of the controls that may be required to manage the risk posed by treatment residuals and/or untreated wastes at the site. This criterion also considers the adequacy and reliability of controls and addresses the need for post-removal site control.

- Reduction of Toxicity, Mobility, and Volume through Treatment includes evaluating the anticipated performance of specific treatment technologies. This evaluation addresses the statutory preference for selecting response actions that employ treatment technologies to permanently and significantly reduce toxicity, mobility, or volume of wastes. Factors that will be considered, as appropriate, include: the treatment or recycling processes the response actions employ and the materials they would treat; the amount of hazardous materials to be destroyed or treated; the degree of reduction expected in toxicity, mobility, or volume; the degree to which the treatment would be irreversible; the type and quantity of residuals that would remain after treatment; and whether the response action would satisfy the preference for treatment.

- Short-Term Effectiveness examines the effectiveness of response actions in protecting public health and the environment during the construction and implementation period until the removal action objectives have been met. The following factors will be considered: potential for short-term risks to the affected community as a result of the response action; potential impacts on workers during the response action, and the effectiveness and reliability of protective measures that would be taken; potential adverse environmental impacts of the response action, and the effectiveness and reliability of protective measures that would be taken; and time until protection is achieved.

Implementability

Under this criterion, the ease of implementing the response actions will be assessed by considering the following factors: technical feasibility, including technical difficulties and unknowns associated with the construction and operation of a technology, the reliability of the technology, ease of undertaking additional response actions, the ability to monitor the effectiveness of the response action, and the extent to which the removal action contributes to the efficient performance of any long-term remedial action; administrative feasibility, including activities needed to coordinate with other offices and agencies, the ability to obtain necessary approvals and permits from other agencies (for off-site actions), and statutory limits on removal actions; availability of services and materials, including the availability of adequate on or off-site treatment, storage capacity, and disposal capacity and services; and the availability of necessary equipment and specialists, and provisions to ensure any necessary additional resources; and the availability of prospective technologies for full-scale application. This criterion will also assess state and community acceptance, as described below.

- State Acceptance indicates whether, based on its review of the EE/CA and this document, the State agrees with, opposes, or has no comment on the preferred response action at the present time.

- Community Acceptance, which will be assessed in the Action Memorandum, refers to the public's general response to the response actions described in the EE/CA and this document.

Cost

The costs that will be assessed include the capital costs, including both indirect and direct costs; post-removal site control costs, which include annual maintenance and residual disposal costs; and present-worth costs, which include the capital costs plus the present value of 30 years of post-removal site control costs (calculated at a 7 percent discount rate).

Comparative Analysis of Response Actions

A comparative analysis of the response actions based upon the evaluation criteria noted above follows:

Effectiveness

Overall Protection of Public Health and the Environment

Response Action 1 would not be protective of human health, since it would not actively address the contaminated soils which present unacceptable risks of human exposure. Response Actions 2, 3, and 4, on the other hand, would be protective of human health and the environment, since each action relies upon a strategy capable of eliminating exposure in combination with institutional controls, engineering controls (a soil cover in the case of Response Actions 3 and 4 and a subsurface demarcation in the case of Response Actions 2 and 3), and a site management plan.

Response Action 4 would be the most protective of public health, since it would completely eliminate the risk of exposure by the residents whose trailers are currently situated on contaminated surface soils by moving the trailers. Nearby residents whose trailers are situated on surface soils that are not contaminated would be protected from incidental exposure to the contaminated soils by the placement of a two-foot soil cover.

While Response Action 2 involves soil excavation and off-site disposal, it would be as protective of human health as Response Action 3, since both of these response actions would prevent exposure to contaminated soils by either excavating two feet of contaminated soil and backfilling with clean fill or placing a two-foot thick soil layer on top of the contaminated soil.

Under Response Actions 2, 3, and 4, the soil cover would prevent potential contaminated surface soil migration from the site.

Response Actions 2, 3, and 4 utilize engineering and institutional controls to prevent exposure to contaminated soils.

Although it is not evident that an ecological pathway exists because of the limited habitat associated with the site, excavating 2 feet of soil and replacing it with clean fill, placing 2 feet of clean fill, and placing 1 foot of clean fill under Response Actions 2, 3, and 4, respectively, would both be protective of any potential ecological receptors.

Compliance with ARARs

SCOs are identified in 6 NYCRR Part 375. SCOs are contaminant-specific cleanup objectives for soil based on a site's current, intended, or reasonably anticipated future use.

Since the contaminated soils would not be addressed under Response Action 1 (no action), this response action would not achieve the cleanup objectives for soils. Under Response Actions 2, 3, and 4, excavating and covering the soils exceeding human health protection values, respectively, would achieve compliance with the SCOs. Since Response Action 2 would involve the excavation of contaminated materials, their disposition would be governed by the requirements of RCRA. All excavated soils would be subjected to RCRA hazardous waste characteristic testing. The soils that pass the RCRA characteristic testing would be sent off-site for disposal at a RCRA Subtitle D facility. The soils that do not pass the RCRA characteristic testing would be sent off-site for treatment/disposal at a RCRA subtitle C facility. Therefore, this response action would satisfy this action-specific ARAR.

This response action would be subject to New York State and federal regulations regarding transportation and off-site treatment/disposal of wastes.

Under Response Actions 2, 3, and 4, contaminated soils would be covered with soil. A soil cover is an action-specific ARAR for closure. Therefore, these response actions would satisfy this action-specific ARAR.

The installation of a new water supply distribution system and septic systems under Response Action 4 would need to comply with Recommended Standards for Water Works, 2003 edition, and Part 17 of the New York State Sanitary Code.

All of the active response actions would require compliance with fugitive dust emission regulations.

Since residents would be moved under Response Actions 2, 3, and 4, the requirements of the URA and its implementing regulations at 40 CFR 4.1 *et seq*. would apply.

Long-Term Effectiveness and Permanence

Response Action 1 would involve no active response measures and, therefore, would not be effective in eliminating the potential exposure to contaminants in soils. Response Actions 2 and 3 would be effective in the long term by removing or covering the contaminated surface soils that exceed human health protection values from the Crumb Trailer Park. Response Action 4 would be effective in the long term by moving the affected residents and covering the contaminated surface soils that exceed human health protection values.

Response Actions 2, 3, and 4 would provide a high degree of long-term protection of human health in that they would eliminate the possibility of exposure to contaminated soils. The permanence of Response Action 2 would be dependent upon the proper enforcement of the land-use controls. The permanence of Response Action 3 would be entirely dependent upon the effective maintenance of the soil cover and the proper enforcement of the land-use controls. The permanence of Response Action 4 relative to the residents located in the eight trailers that would not be moved would be entirely dependent upon the effective maintenance of the soil cover and the proper enforcement of the land-use controls.

Reduction of Toxicity, Mobility, or Volume Through Treatment

Response Action 1 would provide no reduction in toxicity, mobility or volume. Under Response Action 2, the mobility of the contaminants would be eliminated by removing the contaminated surface soil for off-site treatment/disposal. While constructing a soil cover under Response Actions 3 and 4 would reduce potential human exposure to contaminated soils, the reduction would not be accomplished through treatment.

Under Response Actions 2, 3, and 4, the soil cover would prevent surface contaminant migration from the site, but not through treatment.

Short-Term Effectiveness

Since Response Action 1 does not include any physical construction measures in any areas of contamination, it would not present any potential adverse impacts to workers or the community as a result of its implementation. Response Action 2 could present some limited adverse impacts to remediation workers through dermal contact and inhalation related to excavation activities. Response Actions 2 and 3 would have short-term impacts on the residents of the Crumb Trailer Park, since all of the trailers would have to be temporarily removed during construction and the residents would have to be temporarily moved. Response Action 4 would have short-term impacts on all of the residents of the Crumb Trailer Park, since seven trailers would have to be moved either on or off of the property and

the other eight trailers would have to be temporarily moved. Noise from the excavation and backfilling associated with Response Action 2 and from placing the soil cover under Response Actions 3 and 4 could present some limited adverse impacts to remediation workers and nearby residents. In addition, soil sampling activities related to Response Actions 2, 3, and 4 would pose some risk. Under Response Action 4, if the trailers are moved to an on-property location, extending the infrastructure (*e.g.*, electric, water) to a new location from the former location could expose remediation workers to contaminated soils. The risks to remediation workers and nearby residents under all of the response actions could, however, be mitigated by following appropriate health and safety protocols, by exercising sound engineering practices, and by utilizing proper protective equipment.

Response Action 2 would require the off-site transport of contaminated soils, which may pose the potential for traffic accidents, which in turn could result in releases of hazardous substances. Under Response Action 2, disturbance of the land during excavation activities could affect the surface water hydrology of the areas being excavated. For these response actions, there is a potential for increased stormwater runoff and erosion during excavation activities that would have to be properly managed to prevent or minimize any adverse impacts. For these response actions, appropriate measures would have to be taken during excavation activities to prevent the transport of fugitive dust. Under Response Actions 3 and 4, placing a two-foot thick soil cover over the existing surface could significantly affect the overall surface water hydrology of the Crumb Trailer Park. Proper drainage would need to be provided for both response actions.

Since no actions would be performed under Response Action 1, there would be no implementation time. For Response Action 2, it is estimated that it would take three months to implement. For Response Action 3, it is estimated that it would take three months to implement. For Response Action 4, it is estimated that it would take three months to relocate the trailers to an off-property location and place a soil cover and 4 months to relocate the trailers to an on-property location, extend the subsurface infrastructure, install new septic tanks, and place a soil cover.

Implementability

Response Action 1 would be the easiest to implement, as there are no activities to undertake. Response Actions 2, 3, and 4 would employ technologies known to be reliable and that can be readily implemented. In addition, equipment, services, and materials needed for these response actions are readily available, and the actions under these response actions would be administratively feasible. Sufficient facilities are available for the off-site treatment/disposal of the excavated materials under Response Action 2.

Under Response Action 2 and Response Actions 3 and 4, determining the extent of the excavation and the soil cover boundary, respectively, could be easily accomplished through soil sampling and analysis.

Under Response Action 2, during excavation, measures would have to be taken to protect the integrity of the subsurface infrastructure (*e.g.*, electric and water lines and the septic tanks).

Under Response Action 3, prior to placing the soil cover, vertical sleeves would have to be installed on the subsurface infrastructure connections (*e.g.*, electric and water lines and the septic tanks).

Under Response Action 4, if the trailers are moved to an on-property location, the infrastructure (*e.g.*, electric, water) would have to be extended to new locations and new septic tanks would have to be installed. This could be fairly easily accomplished. In addition, movement of the trailers to an on-property location may require local approvals for infrastructure modifications and road construction.

The implementation of institutional controls, engineering controls (subsurface demarcation), and the development of a site management plan would be relatively easy to implement under Response Actions 2, 3, and 4.

State Acceptance

The State of New York provided input on the EE/CA during its preparation and agrees with the preferred response action.

Community Acceptance

Community acceptance of the preferred response action will be assessed in the Action Memorandum following review of the public comments received on the EE/CA and this document.

Cost

The estimated capital, annual post-removal site control costs, and present-worth costs for each of the response actions are presented below.

For Response Actions 2 and 3, the low capital cost assumes that only seven trailers are temporarily moved; the higher capital cost reflects the temporary movement of all of the trailers.

For Response Action 4, the low capital cost corresponds to moving the trailers to an off-property location(s) and the high capital cost corresponds to moving the trailers to an on-property location. Under the on-property movement scenario, it is presumed that the rents will not change. Therefore, the low annual cost includes only the maintenance of the soil cover. The high annual cost

corresponds to maintenance of the soil cover and the annual cost associated with incremental rent increases for the seven trailers under the off-property movement scenario.

Response Action	Capital Cost	Annual Post-Removal Site Control Costs	Present-Worth Cost
1	$0	$0	$0
2	$1,650,000	$5,000	$1,721,000
3	$1,011,000	$5,000	$1,082,000
4	$918,000-$1,260,000	$5,000-$15,500	$1,046,000-$1,332,000

As can be seen by the cost estimates, Response Action 1 is the least costly response action with a present-worth cost of $0. Response Action 2 is the most costly soil response action at an estimated present-worth cost of $1,721,000.

PREFERRED RESPONSE ACTION

Both Response Actions 2 and 3 use 2 feet of soil in combination with engineering and institutional controls to prevent exposure to contaminated soils (below the two-foot depth of excavation and at the surface, respectively). In addition, Response Action 4 uses 2 feet of soil in combination with institutional controls to prevent exposure of the residents (that will not be moved) to contaminated soils. Placing a two-foot thick soil cover over half of the existing ground surface under Response Actions 3 and 4 would be logistically challenging and could affect the overall surface water hydrology of the Crumb Trailer Park and the surrounding area. In addition, Response Actions 2 and 3 could potentially have short-term impacts on all of the residents of the Crumb Trailer Park, since it is highly likely that all of the trailers would have to be temporarily removed to allow sufficient access for excavating the contaminated soil and installing the soil cover, respectively. Response Action 4 could potentially have short-term impacts on all of the residents of the Crumb Trailer Park, since the residents in the seven trailers would be moved to an on- or off-property location and the remaining eight trailers would have to be temporarily removed to allow sufficient access for installing the soil cover.

Although it is more expensive than Response Action 3, Response Action 4 would be the most protective of public health of all of the active response actions, since it would completely eliminate the risk of exposure by the residents whose trailers are currently situated on contaminated surface soils by moving the trailers. Nearby residents whose trailers are situated on surface soils that are not contaminated would be protected from incidental exposure to the contaminated soils by the placement of a two-foot soil cover. In addition, Response Action 4 would be less costly than Response Actions 2 and 3.

Although it is not evident that an ecological pathway exists because of the limited habitat associated with the site, excavating 2 feet of soil and replacing it with clean fill, placing 2 feet of clean fill, and placing 1 foot of clean fill under Response Actions 2, 3, and 4, respectively, would be protective of any potential ecological receptors.

In assessing the various response actions**,** the costs associated with moving all of the residents to an on- or -off-property location were compared against the costs of Response Action 4, where only the seven trailers located on contaminated surface soils would be moved. The costs associated with moving all of the residents to an on-property location and placing one foot of soil over the contaminated areas[7] are essentially the same as permanently moving the residents from the seven trailers, temporarily moving the residents from the eight trailers, and placing two feet of soil over the contaminated areas. In addition, by moving all of the residents, the disruption of the residents of the eight trailers would be minimized, since they would only have to be moved once, and the one-foot soil cover would present fewer surface water drainage issues than two feet of soil. If all of the residents are moved to an on-property location, the trailer park community would remain intact.

In comparison to the other response actions, moving all of the trailers would be the most protective of public health, since it would completely eliminate the risk of exposure by the residents. As with all of the active response actions, the soil cover would prevent potential contaminated surface soil migration from the site and would provide a high degree of long-term protection of human health in that the possibility of exposure to contaminated soils would be eliminated. Moving all of the trailers would be the most permanent response action. All of the active response actions would be fairly easy to implement.

Based upon an evaluation of the various response actions, EPA and the NYSDEC recommend the following as a non-time-critical removal action at the Crumb Trailer Park. This preference is based on the proven effectiveness of the response action, the ease of implementation, and the relative cost.

Response Action 4a: Move Trailers and Soil Cover

[7] A one-foot thick soil cover for nonresidential use is defined by 6 NYCRR Part 375.

Capital Cost:	$713,000-$1,260,000[8]
Annual Post-Removal Site Control Costs:	$5,000-$27,500[9]
Present-Worth Cost:	$874,000-$1,331,000
Construction Time:	3-4 months[10]

This response action would involve the movement of all 15 of the trailers located in the trailer park to an on-property or off-property location(s). A minimum of a one-foot soil cover would be placed over the surface soils exceeding 400 mg/kg lead.

If the trailers are moved to an on-property location, the subsurface infrastructure (*e.g.*, electric and water lines) would have to be extended to the new location and new septic tanks would have to be installed. The new infrastructure would need to comply with local water supply distribution and sanitary code requirements. In addition, a road to the new location would have to be constructed.

If the trailers are to be moved to an on-property location, sampling would have to be performed to determine whether or not the surface soil at the new location meets NYSDEC's SCOs. If the soil does not meet the SCOs, measures to remediate the soil would need to be taken.

Before placing the soil cover over the contaminated areas, a readily-visible and permeable subsurface demarcation delineating the interface between the contaminated native soils and the soil cover would be installed.

The soil that would be used for the cover would need to be sampled to insure that it meets the SCOs. The covered area would be landscaped and graded.

Under this response action, institutional controls in the form of an environmental easement and/or restrictive covenant would be used to prohibit residential use of the existing trailer park location and restrict intrusive activities unless the activities are in compliance with a Site Management Plan. The Site Management Plan would provide for the proper management of all post-removal implementation components. Specifically, the Site Management Plan would describe procedures to confirm that the requisite institutional controls are in place and that nothing has occurred that would impair the ability of said control to protect public health or the environment. The Site Management Plan would also include the identification of any use restrictions, the necessary provisions for the implementation of the requirements of the above-noted environmental easement and/or restrictive covenant, a provision for the performance of the maintenance required by the remedy, and a provision that the property owner or the party responsible for post-removal site control submit periodic certifications that the institutional controls are in place.

EPA and NYSDEC believe that the preferred response action would provide the best balance of tradeoffs among the response actions with respect to the evaluating criteria. EPA and NYSDEC also believe that the preferred response action would be protective of human health and the environment, would comply with ARARs, would be cost-effective, and would utilize permanent solutions and response action treatment technologies or resource recovery technologies to the maximum extent practicable.

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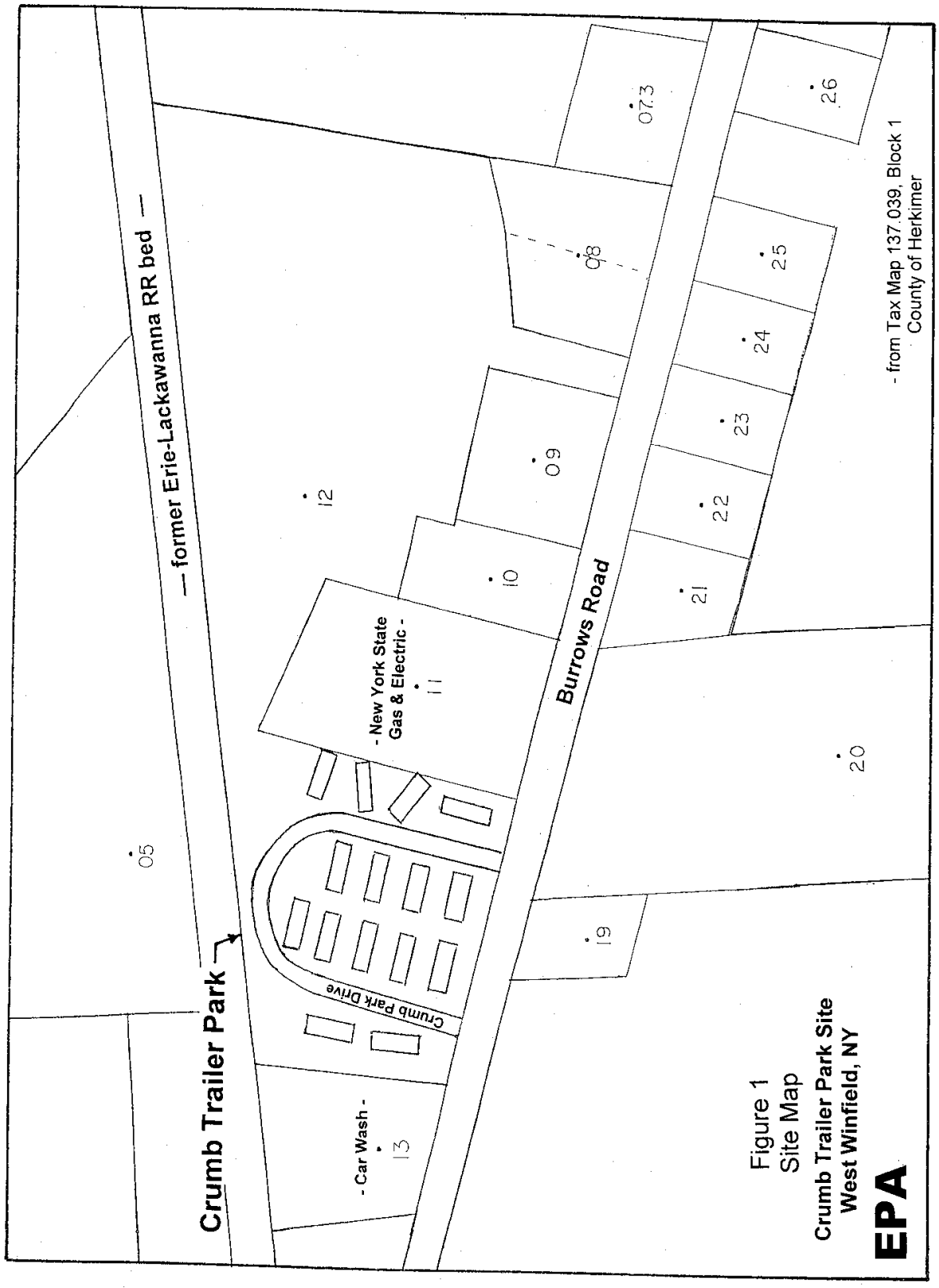
8 The low cost corresponds to moving the trailers to an off-property location(s) and the high cost corresponds to moving the trailers to an on-property location.

9 Under the on-property movement scenario, it is presumed that the rents will not change. Therefore, the low annual cost includes only the maintenance of the soil cover.

Under the URA, the incremental increase in rent is an eligible expense for 42 months. The high annual cost includes the maintenance of the soil cover and the incremental rent increases for the fifteen trailers under the off-property movement scenario.

10 The three-month time frame corresponds to moving the trailers to an off-property location and constructing a soil cover. The four-month time frame corresponds to moving the trailers to an on-property location and constructing a soil cover.


— former Erie-Lackawanna RR bed —
Crumb Trailer Park
Crumb Park Drive
- Car Wash -
13
- New York State
Gas & Electric -
11
Burrows Road
05
12
10
09
08
07.3
26
25
24
23
22
21
20
19
- from Tax Map 137.039, Block 1
County of Herkimer
Figure 1
Site Map
Crumb Trailer Park Site
West Winfield, NY
EPA