



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
9311 GROH ROAD
GROSSE ILE, MI 48138

13 APR 2012



MEMORANDUM

Subject: ACTION MEMORANDUM - Request for Approval of a Time-Critical Removal Action at the Lovers Lane Lead Site, Plainfield Township, Kent County, Michigan (Site ID # C5A8)

From: Jeffrey A. Lippert, On-Scene Coordinator (OSC)
Emergency Response Branch-1
Emergency Response Section-2

Through: Jason H. El-Zein, Chief
Emergency Response Branch 1

To: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document your approval to expend up to \$773,558 to conduct a time-critical removal action at the Lovers Lane Lead Site (site), in Plainfield Township, Kent County, Michigan. The time-critical removal action proposed herein is necessary to mitigate threats to public health, welfare, and the environment posed by the presence of an uncontrolled hazardous substance (lead) at the site. There are no nationally significant or precedent setting issues associated with the proposed response at this non-National Priority List site.

The Action Memorandum would serve as approval for expenditures by the Environmental Protection Agency (EPA), as the lead technical agency, to take actions described herein to abate the imminent and substantial endangerment posed by the hazardous substance at the site. The proposed removal of the hazardous substance would be taken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC 9604(a)(1), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300.415.

There are no nationally significant or precedent setting issues associated with the site.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: MIN000510664

RCRA ID: N/A

State ID: ITS# 2011410030

Category: Time-Critical

The site is a residential property that is approximately 0.50 acres in size. During the site assessment, the owner of the home was undergoing cancer treatments and has since died. Her son, his pregnant wife, and two small children now live in the home.

A. Site Description

1. Removal site evaluation

During the excavation for the installation of a water main, contractors for Plainfield Township encountered a large quantity of buried, crushed, lead-acid battery casing fragments (battery casings) in the right-of-way (ROW) adjacent to the site. Plainfield Township contacted the Michigan Department of Environmental Quality (MDEQ) who oversaw the excavation, removal, and proper disposal of the battery casings in the ROW. Based on MDEQ Staff observations, the battery casings extended beyond the ROW and onto the residential property. MDEQ contacted EPA in a letter dated November 4, 2011, and requested assistance with the site.

EPA met MDEQ on site on November 22, 2011, to conduct a walk-through of the site. EPA observed numerous pieces of battery casings throughout the residential property that had made their way to the surface from below. The owner of the home was in ill-health and going through cancer treatment. She was unable to speak and has since died. Her son informed both MDEQ and EPA Staff that he had observed pieces of battery casings throughout the property his whole life and had encountered them when digging a fire pit in the back yard. The son, his pregnant wife, and two small children have inherited the home and are in the process of moving in.

EPA conducted an assessment of the site on December 20, 2011, and documented the presence of a seam of crushed lead-acid battery casings one inch to three feet below the ground surface. The seam was one foot to two feet thick throughout the 0.50-acre property. Pieces of battery casings were also observed in the spoils from a newly drilled drinking water well in the front yard.

The MDEQ Direct Contact Criteria (DCC) for lead in residential soil is 400 milligrams per kilogram (mg/kg) and surface soils at the site are as high as 7,100 mg/kg. The Agency for Toxic Substances and Disease Registry (ATSDR) fact sheet for lead states that "Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage." With the new occupants of the residence on site, including a pregnant woman and two small children, the high

level of lead in surface soils has the potential to be ingested by the children and their pregnant mother.

2. Physical location

The site is located at Lovers Lane in Plainfield Township, Kent County, Michigan, 49321, in a mixed commercial/residential area. Coordinates for the site are 43.0437 degrees north and -85.6555 degrees west.

The area surrounding the Lovers Lane Lead Site was screened for Environmental Justice (EJ) concerns using Region 5's EJ Assist Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT)). Census tracts with a score of 1, 2, or 3 are considered to be high-priority potential EJ areas of concern according to EPA Region 5. The Lovers Lane Lead Site is in a census tract with a score of 8 (Attachment 3). Therefore, Region 5 does not consider this site to be a high-priority potential EJ area of concern. Please refer to the attached analysis for additional information.

3. Site Characteristics

The site consists of a 0.50-acre residential property in primarily residential area. The parcel is bordered by Lovers Lane to the southeast, Abridador Trail and residential homes to the southwest, wetlands and a residential home to the northeast and commercial properties to the northwest. The site is in the flood plain for the Grand River, which is approximately ½ mile to the southeast from the site.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

The presence of a hazardous substance at the site has been documented. The Toxicity Characteristic Leaching Procedure (TCLP) results for a soil sample collected from the surface soils at the site returned from the laboratory as high as 120 mg/kg for lead. The level designated as characteristically hazardous as defined by 40 C.F.R. §261.24 is 5.0 mg/kg. The level found at the site is 24 times higher than what is defined as characteristically hazardous. Three other surface soil samples were also characteristically hazardous for lead.

One sample of surface soil at the site was as high as 7,100 mg/kg. The DCC for residential properties is 400 mg/kg. The level found in this surface soil sample is over 6,700 mg/kg higher than the DCC. This is the highest of four samples that exceeded the DCC.

The site is built on wetlands and in the flood plain of the Grand River. Local residents in the area reported that the area is prone to flooding in April and May of each year, and in some cases the entire surface of the site can be submerged with flood waters during these months. Leachable lead at the site was documented at the site in surface soils by the TCLP tests during the site assessment. Leachable lead has the ability to become mobile when it encounters water. Leachable lead in the surface soils and below has the potential to become mobile and migrate off

site and into the Grand River. The Grand River is less than 500 feet from the site. Migrating lead in flood waters could also reach neighboring residential properties when river water rises into the flood plain.

In addition, lead in the surface soils has the ability to be tracked into the home on the site by the residents. Lead on shoes and vehicle tires can potentially be tracked off site by the residents, visitors and trespassers. Lead tracked off site can be spread throughout the area, into residential homes, and businesses.

5. NPL status

The site is not on the National Priorities List (NPL). However, the residence is one of 49 homes in the neighborhood that were all built around the same time. EPA has requested that MDEQ conduct an investigation to determine if other homes in the neighborhood could have used battery casings for fill material. If additional homes in the area contain battery casing-contaminated fill, there may be an expectation that the area be proposed for the NPL.

In addition, an NPL Site called H Brown is a former battery cracking operation and is located approximately 4 miles from the site. A Civil Investigator has been assigned to the case and will be questioning the former operator of the H Brown Site along with any employees whether crushed battery casing generated at the H Brown Site may have been relocated at the Lovers Lane Site.

6. Maps, pictures and other graphic representations

A figure detailing the location of the site is included in the attached Site Location Map (Figure A-1). A figure detailing site features such as the footprint of the home, site boundaries, and river location is presented in the attached Site Features Map (Figure A-2). Attachment III shows the Environmental Justice analysis data for the site.

B. Other Actions to Date

1. Previous actions

During the extension of the water main conducted by Plainfield Township, the contractor encountered the battery casings and contacted MDEQ. MDEQ oversaw the removal of the battery casings from the ROW. However, the contractor did not remove the battery casings from the residential property.

2. Current actions

Not Applicable.

C. State and Local Authorities' Roles

1. State and local actions to date

MDEQ oversaw the removal of the battery casings from the ROW. On November 11, 2011, MDEQ sent a letter to EPA requesting a response action at the site.

2. Potential for continued state/local response

MDEQ requested EPA assistance at the site on November 11, 2011, in dealing with the hazardous wastes located at the site. State and local government assistance will be required during the removal action for those governmental functions that are inherently state and local. EPA has requested that MDEQ conduct an investigation in the residential neighborhood to determine if battery casing could have been used as fill during the construction of other residential homes in the neighborhood.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Lovers Lane Lead site present a substantial threat to the public health, or welfare, and the environment, and meet the criteria for a time-critical removal action as provided for in the NCP, 40 C.F.R. §300.415(b)(2). These criteria include, but are not limited to, the following:

1. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

The site is not fenced and access to the property is unrestricted. The site is a residential home in a neighborhood consisting of approximately 50 homes. The site is also approximately 750 feet from White Pine Trail State Park. The fact that the site is a residential home, in a residential neighborhood, and in close proximity to a public state park increases the likelihood of exposure to residents in the home and in the area.

The ATSDR believes lead to be a probable human carcinogen, lead may cause significant health effects through any route of exposure. Lead exposure even at low levels can permanently affect children resulting in nervous system damage, learning disabilities, attention deficit disorder, and decreased intelligence. Lead exposures at high levels may cause more serious health effects such as seizures, unconsciousness, and possibly death.

The waste at the site is not properly containerized and exists in the soil and buried beneath the ground surface. None of the hazardous waste or potentially hazardous material has secondary containment. The area is in a wetland in the flood plain of the Grand River. The area reportedly floods every year and in some years water completely covers the yard of the residential home. During the site assessment, battery casings were excavated that still had battery sludge attached and imbedded in the casings. Flood waters could create potential

releases of hazardous waste from the site, and in addition to directly affecting nearby populations, may also migrate off site. Due to on site waste conditions, occupants in the home, nearby residents, and trespassers, hazardous waste on site could be released. Potential exposure through each of these migration pathways could cause imminent endangerment to human health, welfare, or the environment.

2. Actual or potential contamination of drinking water supplies or sensitive ecosystems.

Leachable lead at the site poses a threat to drinking water supplies. Not only is the residence at the site utilizing a well for drinking water, but the entire neighborhood consisting of approximately 50 homes has drinking water wells. The drinking water well at the site is only 46 feet deep. Leachable lead in the soil at the site has the ability to migrate downward and contaminate the drinking water aquifer. The groundwater at the site was sampled when it was encountered approximately two feet below the ground surface. Levels of lead in the perched groundwater was 5.7 mg/L. This level is considered characteristically hazardous under 40 C.F.R. §261.24. The characteristically hazardous groundwater has the potential to migrate downward and impact the drinking water aquifer for the area.

3. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

The site is located in the flood plain of the Grand River. Reportedly, each spring the waters in the Grand River reach flood stage and flood the site. The lead at the site is leachable, as indicated by the TCLP laboratory results. When flood waters reach the site it can mobilize the lead in the soil. Mobile lead can be transported off site by flood waters and reach the Grand River and neighboring residential properties. Rain and melting snow can also mobilize the leachable lead in surface soils at the site. Rain, melting snow, and flood waters all have the potential to cause releases and the off-site migration of hazardous substances.

4. The availability of other appropriate federal or state response mechanisms to respond to the release.

The MDEQ requested EPA's assistance with a Site Assessment and potential Time-Critical Removal at the site after documenting the existence of buried battery casings. Due to limited funding, MDEQ does not have the means to conduct a cleanup at the site. This request documents the need for federal involvement to address the imminent and substantial threat of endangerment to human health and the environment posed by the site.

IV. ENDANGERMENT DETERMINATION

Given the site conditions, the nature of the known and suspected hazardous substances on site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The response actions described in this memorandum directly address actual or potential releases of hazardous substances on site, which may pose an imminent and substantial endangerment to public health, or welfare, or the environment. Removal activities on site will include:

- a) Develop and implement a site-specific Health and Safety Plan, including an Air Monitoring Plan, and a Site Emergency Contingency Plan;
- b) Develop and implement a Site Work Plan and Site Security Plan;
- c) Excavate contaminated soil and battery casings;
- d) Remove and treat or dispose of contaminated groundwater encountered during excavation;
- e) Connect the residence to the municipal water supply and properly abandon the drinking water well on the property;
- f) Sample all suspected hazardous substances and conduct confirmation sampling in compliance with a site-specific QA/QC Plan;
- g) Address other contaminated media in accordance with Applicable, Appropriate, and Relevant Requirements to the extent practicable;
- h) Consolidate and package hazardous substances, pollutants and contaminants for transportation and off-site disposal;
- i) Backfill and restore excavated and disturbed areas;
- j) Decontaminate structures that are found to be contaminated with lead dust from surface soils as necessary;

- k) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes, or contaminants that pose a substantial threat of release at a RCRA/CERCLA-approved disposal facility in accordance with EPA's Off Site Rule (40 C.F.R. § 300.440).

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal site control consistent with the provisions of Section 300.415(l) of the NCP. Elimination of all threats presented by hazardous substances at the site, however, is expected to minimize the need for post-removal site control.

All hazardous substances, pollutants or contaminants removed off site pursuant to this removal action for treatment, storage and disposal shall be treated, stored, or disposed at a facility in compliance, as determined by EPA, with the EPA Off Site Rule, 40 C.F.R. § 300.440.

The response action proposed herein will mitigate the threats at the site by properly identifying, consolidating, and packaging hazardous materials, pollutants, and contaminants on site. The consolidated materials will be removed and ultimately disposed off site. Additional site activities may include security, perimeter air monitoring, and decontamination of the home on the site, as needed to complete the removal action. This response action will be conducted in accordance with Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1) and Section 300.415 of the NCP, 40 CFR 300.415, to abate or eliminate the immediate threat posed to public health and/or the environment by the presence of the hazardous substances. The hazardous substances at the site are expected to be removed as a result of the proposed removal action. No uncontrolled hazardous substances are expected to remain at the site once the removal action is completed.

2. Contribution to remedial performance

The proposed action will not impede future actions based on available information. The proposed actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action with respect to the release or threatened release concerned. EPA has requested that MDEQ conduct an investigation into the remaining homes in the neighborhood to determine if battery casings were used to fill those properties. Results of the investigation will be used to determine if additional actions are necessary by either MDEQ or the Remedial Branch of EPA for the remaining properties.

3. Engineering Evaluation/Cost Analysis (EE/CA)

Not Applicable.

4. Applicable or relevant and appropriate requirements (ARARs)

All applicable, relevant, and appropriate requirements (ARARs) of Federal and State Law will be complied with to the extent practicable considering the exigencies of the circumstances. The OSC sent a letter dated February 24, 2012, requesting ARARs to Mr. David O'Donnell, MDEQ, Grand Rapids Office asking for any State of Michigan ARARs which may apply.

Federal

Federal ARARs for this site primarily include, but are not limited to: 40 C.F.R. §101 (14), §121 (d)(3), §262.11, §300.440, and §300.415 (2).

State

On February 29, 2012, MDEQ responded to the State ARAR request with a general list of their environmental regulations, no specific ARARs were supplied. The OSC will attempt to comply with known State ARARs to the extent practicable based on the urgency of the situation and the scope of the removal.

5. Project schedule

The proposed activities listed in Section V of this memorandum will require an estimated 45 on site working days to complete.

6. Estimated costs

REMOVAL ACTION PROJECT CEILING ESTIMATE	
<u>Extramural Costs:</u>	
<u>Regional Removal Allowance Costs:</u>	
Total Cleanup Contractor Allowance Costs	\$ 565,210
<u>Other Extramural Costs Not Funded from the Regional Allowance:</u>	
Total START, including multiplier costs	\$ 79,422
Subtotal Extramural Costs	\$ 644,632
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)	\$ 128,926
TOTAL REMOVAL ACTION PROJECT CEILING	\$ 773,558

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the site conditions, the nature of the hazardous substances and pollutants or contaminants documented on site, and the potential exposure pathways to nearby populations described in Sections II, III, and IV above, actual or threatened release of hazardous substances and pollutants or contaminants from the site, failing to take or delaying action may present an imminent and substantial endangerment to public health, welfare or the environment, increasing the potential that hazardous substances will be released, thereby threatening the adjacent population and the environment.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in the Enforcement Confidential Addendum¹.

$$(\$773,558 + \$157,985) + (62.76\% \times \$931,543) = \$1,516,179$$

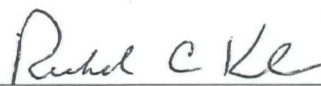
The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$1,516,179.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lovers Lane Lead Site in Plainfield Township, Kent County, Michigan, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the site, see Attachment II. Conditions at the site meet the NCP § 300.415(b)(2) criteria for a removal action and I recommend your approval of the removal action proposed in this Action Memorandum.

¹ Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

The total removal project ceiling if approved, will be \$773,558, of which an estimated \$694,136 may be used for the cleanup contractor costs. You may indicate your approval by signing below.

APPROVE: 
Director, Superfund Division

DATE: 4-13-12

DISAPPROVE: _____
Director, Superfund Division

DATE: _____

Enforcement Addendum

Figures:

- A-1; Site Location Map
- A-2: Site Features Map

Attachments:

- I. Detailed Cleanup Contractor Cost Estimate
- II. Administrative Record Index
- III. Region 5 EJ Analysis
- IV. Independent Government Cost Estimate

cc: Sherry Fielding, EPA, 5104A
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Valencia Darby, U.S. Department of the Interior, w/o Enf. Addendum
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Dan Wyant, Director, MDEQ, w/o Enf. Addendum
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walczakj@michigan.gov

FIGURE A-1

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION**

**SITE LOCATION MAP
FOR
LOVERS LANE LEAD SITE
PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN**

April 2012

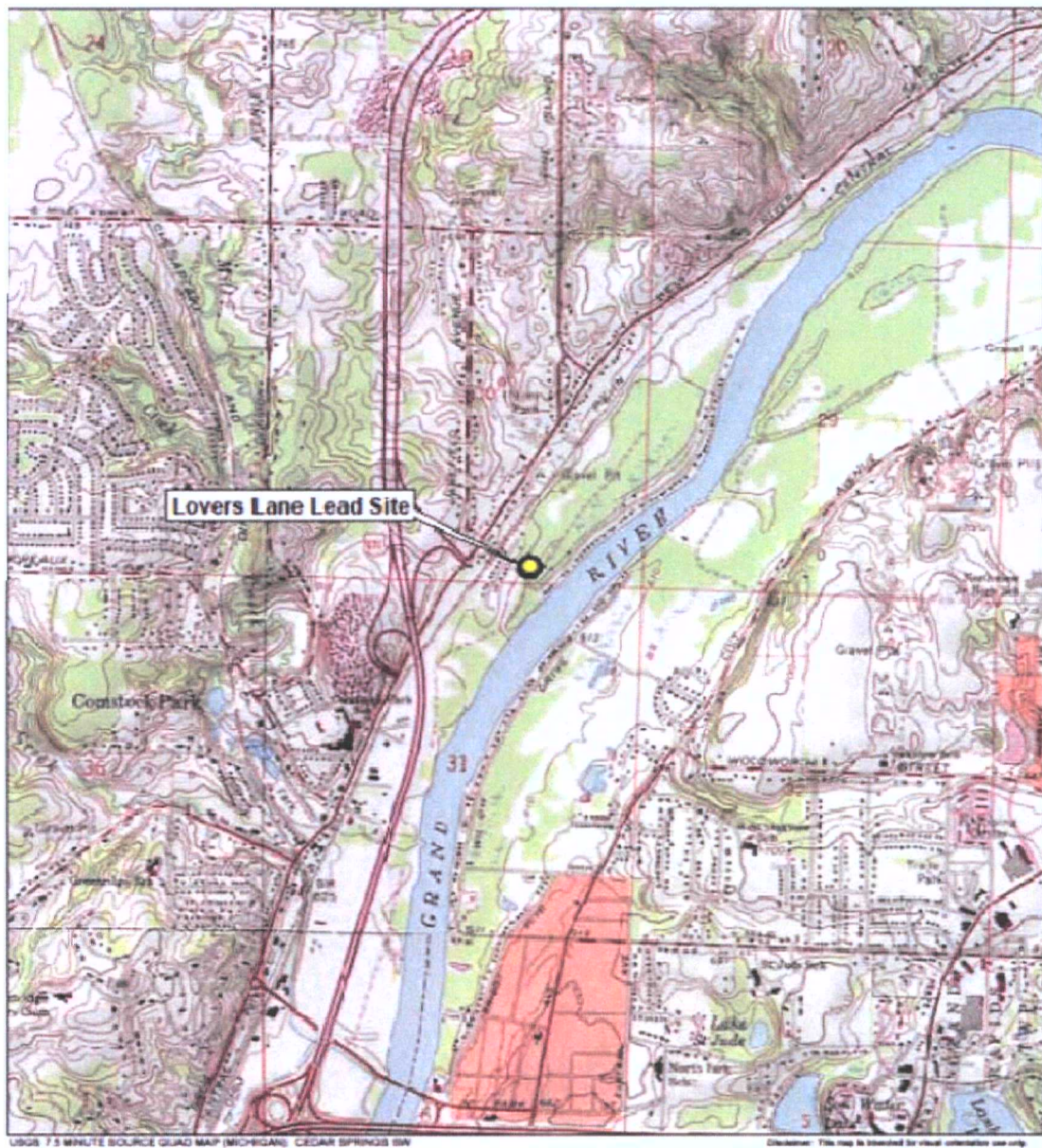


FIGURE A-2

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION**

**SITE FEATURES MAP
FOR
LOVERS LANE LEAD SITE
PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN**

April 2012



SOURCE: KENT COUNTY GEOSPATIAL SERVICE

ENFORCEMENT ADDENDUM

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**

FOIA EXEMPT

**LOVERS LANE LEAD SITE
PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN
MARCH 28, 2012**

(REDACTED 3 PAGES)

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**

ATTACHMENT I
U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION
DETAILED CLEANUP CONTRACTOR ESTIMATE
FOR
LOVERS LANE LEAD SITE
PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN

April 2012

The estimated cleanup contractor (ERRS) costs necessary to complete the removal action at the Lovers Lane Lead Site are as follows:

Personnel	\$ 186,680
Equipment	\$ 65,455
Other Costs	\$ 46,325
Transportation and Disposal	<u>\$ 266,750</u>
Total ERRS Contractor Costs	\$ 565,210

ATTACHMENT II

U.S. ENVIRONMENTAL PROTECTION AGENCY

REMOVAL ACTION

ADMINISTRATIVE RECORD

FOR

LOVERS LANE LEAD

PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN

April 2012

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	08/00/10	ATSDR	File	ATSDR Tox FAQs Sheet for Lead, CAS #7439-92-1	2
2	11/04/11	O'Donnell, D., MDEQ	Kelly, B., Lippert, J., EPA	Request for Assistance in Defining Extent and Removal of Lead Contaminated Soil and Battery Casing Waste	2
3	2/24/12	Lippert, J., EPA	O'Donnell, D., MDEQ	Letter re: EPA Request for MDEQ Identify all ARARs for the Lovers Lane Lead Site	1
4	02/27/12	Fusinski, K., EPA	Lippert, J., EPA	Review of Sampling Data for the Lovers Lane Lead Site	2
5	02/29/12	O'Donnell, D., MDEQ	Lippert, J., EPA	Email Message re: MDEQ Identifies ARARs for the Lovers Lane Lead Site	2
6	03/09/12	Babu, N., Oneida Total Integrated Enterprises	Lippert, J., EPA	Site Assessment Report for the Lovers Lane Lead Site	93
7	00/00/00	Lippert, J., EPA	Karl. R., EPA	Action Memorandum: Lovers Lane Lead Site (PENDING)	

ATTACHMENT III
U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION
REGION 5 SUPERFUND ENVIRONMENTAL JUSTICE ANALYSIS
FOR
LOVERS LANE LEAD SITE
PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN
ORIGINAL
April 2012

Lovers Lane Lead Map Showing EJ SEAT Values For Surrounding Area

Lovers Lane Lead Site



ATTACHMENT IV

INDEPENDENT GOVERNMENT COST ESTIMATE

**LOVERS LANE LEAD SITE
PLAINFIELD TOWNSHIP, KENT COUNTY, MICHIGAN
APRIL 2012**

(REDACTED 2 PAGES)

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION