

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEBRASKA

UNITED STATES OF AMERICA

and

STATE OF NEBRASKA,

Plaintiffs,

v.

UNION PACIFIC RAILROAD COMPANY

and

UNION PACIFIC CORPORATION,

Defendants.

CIVIL ACTION NO. 8:11CV195

**CONSENT DECREE**

## TABLE OF CONTENTS

I.	BACKGROUND.....	1
II.	JURISDICTION.....	2
III.	PARTIES BOUND.....	2
IV.	DEFINITIONS .....	3
V.	GENERAL PROVISIONS .....	5
VI.	PERFORMANCE OF THE WORK BY SETTLING DEFENDANT .....	6
VII.	REPORTING REQUIREMENTS .....	7
VIII.	EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS .....	8
IX.	PROJECT COORDINATORS.....	9
X.	PERFORMANCE GUARANTEE .....	10
XI.	CERTIFICATION OF COMPLETION .....	14
XII.	EMERGENCY RESPONSE .....	15
XIII.	PAYMENTS FOR RESPONSE COSTS.....	15
XIV.	INDEMNIFICATION AND INSURANCE .....	17
XV.	FORCE MAJEURE.....	18
XVI.	DISPUTE RESOLUTION.....	20
XVII.	STIPULATED PENALTIES.....	22
XVIII.	COVENANTS BY PLAINTIFFS.....	24
XIX.	COVENANTS BY SETTLING DEFENDANT .....	26
XX.	EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION.....	28
XXI.	ACCESS TO INFORMATION.....	29
XXII.	RETENTION OF RECORDS .....	30
XXIII.	NOTICES AND SUBMISSIONS.....	31
XXIV.	RETENTION OF JURISDICTION.....	32
XXV.	APPENDICES.....	33
XXVI.	COMMUNITY RELATIONS .....	33
XXVII.	MODIFICATION.....	33
XXVIII.	LODGING AND OPPORTUNITY FOR PUBLIC COMMENT.....	33
XXIX.	SIGNATORIES/SERVICE.....	34
XXX.	FINAL JUDGMENT.....	34

## I. BACKGROUND

A. The United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), and the State of Nebraska ("State"), on behalf of the Director of the Nebraska Department of Environmental Quality ("NDEQ"), filed a complaint in this matter pursuant to Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606, 9607.

B. The United States in its complaint seeks, *inter alia*: (1) reimbursement of certain costs incurred by EPA for response actions at the Omaha Lead Superfund Site in Omaha, Nebraska (the "Site"), and (2) performance of response actions by the Defendant at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP").

C. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State on February 6, 2009, of negotiations with potentially responsible parties ("PRPs") regarding the implementation of the remedial design and remedial action for the Site, and EPA has provided the State with an opportunity to participate in such negotiations and be a Party to this Consent Decree.

D. The State is seeking reimbursement of certain costs incurred by the Nebraska Department of Environmental Quality for response actions at the Site pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607.

E. In accordance with Section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the Department of the Interior on February 6, 2009, of negotiations with PRPs regarding the release of hazardous substances that may have resulted in injury to the natural resources under federal trusteeship and encouraged the trustee(s) to participate in the negotiation of this Consent Decree. The Director of the Nebraska Department of Environmental Quality is the State official designated as the State Natural Resources Trustee under Section 107(f)(2)(B) of CERCLA, 42 U.S.C. § 9607(f)(2)(B).

F. The Defendants have entered into this Consent Decree (collectively referred to as "Settling Defendant") without adjudication of any issue of fact or law. The Settling Defendant does not admit any liability to the Plaintiffs arising out of the transactions or occurrences alleged in the complaint, nor does it acknowledge that the release or threatened release of hazardous substances at or from the Site constitutes an imminent or substantial endangerment to the public health or welfare or the environment.

G. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on April 30, 2003, 68 Fed. Reg. 23077.

H. In response to a release or a substantial threat of a release of hazardous substances at or from the Site, EPA commenced on September 30, 2002, an initial Remedial Investigation and Feasibility Study ("RI/FS") for the Site pursuant to 40 C.F.R. § 300.430.

I. The EPA completed a final Remedial Investigation ("RI") Report on October 24, 2008, and EPA completed a final Feasibility Study ("FS") Report on October 28, 2008, in support of a final Record of Decision.

J. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for remedial action on October 30, 2008, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the EPA based the selection of the response action.

K. The decision by EPA on the remedial action to be implemented at the Site is embodied in a final Record of Decision ("ROD"), executed on May 13, 2009, on which the State has given its concurrence. The ROD includes a responsiveness summary to the public comments. Notice of the final plan was published in accordance with Section 117(b) of CERCLA.

L. Based on the information presently available to EPA and the State, EPA and the State believe that a portion of the Work will be properly and promptly conducted by the Settling Defendant if conducted in accordance with the requirements of this Consent Decree and its appendices.

M. Solely for the purposes of Section 113(j) of CERCLA, 42 U.S.C. § 9613(j), the Remedial Action set forth in the ROD and the Work to be performed by the Settling Defendant shall constitute a response action taken or ordered by the President for which judicial review shall be limited to the administrative record.

N. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is procedurally and substantively fair, reasonable, and in the public interest.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

## II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over the Settling Defendant. Solely for the purposes of this Consent Decree and the underlying complaint, Settling Defendant waives all objections and defenses that it may have to jurisdiction of the Court or to venue in this District. Settling Defendant shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

## III. PARTIES BOUND

2. This Consent Decree applies to and is binding upon the United States and the State and upon Settling Defendant and its successors and assigns. Any change in ownership or corporate status of Settling Defendant including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Settling Defendant's responsibilities under this Consent Decree.

3. Settling Defendant shall provide a copy of this Consent Decree to each contractor hired to perform the Work required by this Consent Decree and to each person representing Settling Defendant with respect to the Site or the Work and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Settling Defendant or its contractors shall provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. Settling Defendant shall nonetheless be responsible for ensuring that its contractors and subcontractors perform the Work in accordance with the terms of this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, each contractor and subcontractor shall be deemed to be in a contractual relationship with the Settling Defendant within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

#### IV. DEFINITIONS

4. Unless otherwise expressly provided in this Consent Decree, terms used in this Consent Decree that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply solely for purposes of this Consent Decree:

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*

“Consent Decree” or “Decree” shall mean this Consent Decree and all appendices attached hereto (listed in Section XXVI). In the event of conflict between this Consent Decree and any appendix, this Consent Decree shall control.

The term “day” shall mean a calendar day unless expressly stated to be a working day. The term “working day” shall mean a day other than a Saturday, Sunday, or federal holiday. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

“Effective Date” shall be the effective date of upon which this Consent Decree is entered by the Court as recorded on the Court docket, or, if the Court instead issues an order approving the Consent Decree, the date such order is recorded on the Court docket.

“EPA” shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

“NDEQ” shall mean the Nebraska Department of Environmental Quality and any successor departments or agencies of the State.

“Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other deliverables submitted pursuant to this Consent Decree, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Section XII (Emergency Response), Paragraph 31 (Funding for Work Takeover), and

Section XXVI (Community Relations). Future Response Costs shall also include Interest beginning on the Effective Date.

“Institutional Controls” shall mean Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, and/or resource use to minimize the potential for human exposure to Waste Materials at the Site; (b) limit land, water, and/or resource use to implement, ensure non-interference with, or ensure the protectiveness of the Remedial Action at the Site; and/or (c) provide information intended to modify or guide human behavior at the Site.

“Interest,” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

“National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

“Paragraph” shall mean a portion of this Consent Decree identified by an Arabic numeral or an upper or lower case letter.

“Parties” shall mean the United States, the State of Nebraska and the Settling Defendant.

“Past Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States or the State paid at or in connection with the Site up to the Effective Date, plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.

“Performance Standards” shall mean the measures of achievement of the goals of the Work, consistent with the ROD and the SOW.

“Plaintiffs” shall mean the United States and the State of Nebraska.

“Proprietary Controls” shall mean easements or covenants running with the land that (a) limit land, water or resource use and/or provide access rights and (b) are created pursuant to common law or statutory law by an instrument that is recorded by the owner in the appropriate land records office.

“RCRA” shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 *et seq.* (also known as the Resource Conservation and Recovery Act).

“Record of Decision” or “ROD” shall mean the EPA Final Record of Decision relating to the Omaha Lead Site signed on May 13, 2009, by the Superfund Division Director, EPA Region 7, and all attachments thereto. The ROD is attached as Appendix A.

“Remedial Action” shall mean those actions taken to perform the Selected Remedy chosen by EPA in the Final ROD.

“Section” shall mean a portion of this Consent Decree identified by a Roman numeral.

“Settling Defendant” shall mean Union Pacific Corporation, Union Pacific Railroad Company, and their respective predecessors and successors.

“Site” shall mean the Omaha Lead Superfund Site, which encompasses approximately 27 square miles and lies generally within a four-mile radius centered around the former ASARCO and Gould Facilities, which were located at 500 Douglas Street and 555 Farnam Street, respectively, in Omaha, Douglas County, Nebraska, and depicted generally on the map attached as Appendix C.

“State” shall mean the State of Nebraska.

“Statement of Work” or “SOW” shall mean the statement of work for implementation of the Work at the Site, as set forth in Appendix B to this Consent Decree and any modifications made in accordance with this Consent Decree.

“Supervising Contractor” shall mean the principal contractor retained by the Settling Defendant to supervise and direct the implementation of the Work under this Consent Decree.

“Transfer” shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” shall mean the United States of America and each department, agency and instrumentality of the United States, including EPA and any federal natural resource trustees.

“Waste Material” shall mean (1) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (3) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27) and (4) any wastes, solid waste, hazardous waste, contaminants or hazardous substances as defined under the Nebraska Environmental Protection Act, Neb. Rev. Stat. § 81-1501 et seq. and the rules and regulations promulgated pursuant to such Act.

“Work” is required for protection of human health and the environment and shall mean all activities Settling Defendant is required to perform under the Consent Decree to implement the ROD, in accordance with the SOW, as set forth in the Work Plan attached as Appendix D to this Consent Decree and any modifications of the Work Plan approved by EPA, until the Performance Standards set forth in the Work Plan are met, and excluding the activities required under Section XXII (Retention of Records).

#### V. GENERAL PROVISIONS

5. Objectives of the Parties. The objectives of the Parties in entering into this Consent Decree are to protect public health or welfare or the environment by the design and implementation and/or funding of certain response actions at the Site by the Settling Defendant, to pay a portion of the response costs of the Plaintiffs, and to resolve the claims of Plaintiffs against Settling Defendant as provided in this Consent Decree.

6. Commitments by Settling Defendant. Settling Defendant shall finance and perform \$3.15 million in Work in accordance with this Consent Decree, the ROD, the SOW, and all work plans and other plans, standards, specifications, and schedules set forth in this Consent Decree or developed by Settling Defendant and approved by EPA pursuant to this Consent Decree. Settling Defendant shall also pay the United States and the State for a portion of the Past Response Costs and Future Response Costs as provided in this Consent Decree.



7. The Administrative Order issued by EPA to Union Pacific Railroad Company on March 31, 2005, with an effective date of December 16, 2005 (Docket No. CERCLA-07-2005-0207), will be withdrawn by EPA. The withdrawal shall become effective on the Effective Date of the Consent Decree.

8. Compliance With Applicable Law. All activities undertaken by Settling Defendant pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Defendant must also comply with all applicable or relevant and appropriate requirements of all federal and state environmental laws as set forth in the ROD and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, shall be deemed to be consistent with the NCP.

#### VI. PERFORMANCE OF THE WORK BY SETTLING DEFENDANT

##### 9. Supervising Contractor.

Settling Defendant has chosen the Omaha Healthy Kids Alliance ("OHKA") as its Supervising Contractor.

##### 10. Work Plan and Performance.

a. Settling Defendant has developed a work plan describing 5 years of health education and community involvement programs (the "Work Plan"). The Work Plan is incorporated and enforceable under this Consent Decree as Appendix D. The Settling Defendant shall perform \$3.15 million of Work focused on health education and community involvement about the health risks of lead exposures through its implementation of the Work Plan.

b. Upon EPA's issuance of an authorization to proceed, Settling Defendant shall implement the Work Plan, subject to Paragraph 12 below. The Settling Defendant shall submit to EPA an annual report and other deliverables required under the SOW and the Work Plan in accordance with the approved schedule for review and approval pursuant to Section VIII (EPA Approval of Plans and Other Submissions).

11. The Settling Defendant shall continue to implement the Work for a period of five (5) years, and until OHKA has expended the \$3.15 million in funding provided by Settling Defendant for health education and community involvement programs. The \$3.15 million in costs shall include all costs for performing the Work required by this Consent Decree. All other costs incurred by Settling Defendant in completing the requirements of this Consent Decree shall not be included as part of the \$3.15 million to perform the Work required by the Consent Decree, including but not limited to, any costs incurred by Settling Defendant or billed by the Plaintiffs under Paragraph 35 of Section XII (Emergency Response), any costs incurred by the Settling Defendant or billed by the Plaintiffs under Paragraph 31 (Funding for Work Takeover), any costs incurred by Settling Defendant complying with requirements of Section X (Performance Guarantee) or Section XIV (Indemnification and Insurance), and any payments for Stipulated Penalties or Interest.

##### 12. Modification of the SOW or Related Work Plans.

a. If EPA determines that it is necessary to modify the Work specified in the SOW, the Work Plan and/or in work plans developed pursuant to the SOW to achieve and



maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy set forth in the ROD, and such modification is consistent with the scope of the remedy set forth in the ROD, then EPA may issue such modification in writing and shall notify Settling Defendant of such modification. For the purposes of this Paragraph and Paragraph 33 only, the "scope of the Work required by this Consent Decree" is the performance of health education and community involvement programs at a cost to Settling Defendant of \$3.15 million. If Settling Defendant objects to any modification it may, within 30 days after EPA's notification, seek dispute resolution under Paragraph 50 (Record Review).

b. The SOW, the Work Plan, and/or related work plans shall be modified: (i) in accordance with the modification issued by EPA; or (ii) if Settling Defendant invokes dispute resolution, in accordance with the final resolution of the dispute. The modification shall be incorporated into and enforceable under this Consent Decree, and Settling Defendant shall implement all work required by such modification. Settling Defendant shall incorporate the modification into the related Work Plan(s) as appropriate.

c. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions as otherwise provided in this Consent Decree.

13. Nothing in this Consent Decree, the SOW, or the Work Plan constitutes a warranty or representation of any kind by Plaintiffs that compliance with the work requirements set forth in the SOW and the Work Plans will achieve the Performance Standards.

#### VII. REPORTING REQUIREMENTS

14. In addition to any other requirement of this Consent Decree, Settling Defendant shall submit 3 copies to EPA and 2 copies to the State of written annual progress reports according to the Work Plan that: (a) describe the actions which have been taken toward achieving compliance with this Consent Decree during the previous year; (b) identify all work plans, reports and other deliverables required by this Consent Decree completed and submitted during the previous year; (c) describe all actions, including, but not limited to, implementation of work plans, which are scheduled for the next year; (d) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (e) include any modifications to the work plans or other schedules that Settling Defendant has proposed to EPA or that have been approved by EPA; (f) include a summary of all costs incurred performing Work during the previous year and in total; (g) describe all activities undertaken in performance of the Work which supports the Community Relations Plan during the previous year and those expected to be undertaken in the next year; and (h) identify any changes in project managerial personnel that occurred during the previous year. Settling Defendant shall submit progress reports to EPA and the State, consistent with the Work Plan, until EPA notifies the Settling Defendant pursuant to Paragraph 33.b of Section XI (Certification of Completion). If requested by EPA, Settling Defendant shall also provide briefings for EPA to discuss the progress of the Work.

15. The Settling Defendant shall notify EPA of any change in the schedule described in the annual progress report for the performance of any activity, including, but not limited to, implementation of work plans, no later than seven days prior to the performance of the activity.

16. Upon the occurrence of any event during performance of the Work that Settling Defendant is required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-know Act ("EPCRA"), 42 U.S.C. § 11004, Settling Defendant shall within 24 hours of the onset of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response and Removal Branch, Superfund Division, EPA, Region 7, (913) 281-0991. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

17. Within 20 days of the onset of such an event, Settling Defendant shall furnish to Plaintiffs a written report, signed by the Settling Defendant's Project Coordinator, setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within 30 days of the conclusion of such an event, Settling Defendant shall submit a report setting forth all actions taken in response thereto.

18. Settling Defendant shall submit 3 copies of all plans, reports, and data required by the SOW, the Work Plan, or any other approved plans to EPA in accordance with the schedules set forth in such plans. Settling Defendant shall simultaneously submit 2 copies of all such plans, reports and data to the State. Upon request by EPA or the State, Settling Defendant shall submit in electronic form all portions of any report or other deliverable Settling Defendant is required to submit pursuant to the provisions of this Consent Decree.

19. All reports, plans or other deliverables submitted by Settling Defendant to EPA which purport to document compliance by Settling Defendant, with the terms of this Consent Decree shall be signed by an authorized representative of the Settling Defendant.

#### VIII. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

##### 20. Initial Submissions.

a. After review of any plan, report or other item which is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by the State, shall: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission, directing that the Settling Defendant modify the submission; or (iv) any combination of the foregoing.

b. EPA also may modify the initial submission to cure deficiencies in the submission if: (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable plan, report, or deliverable.

21. Resubmissions. Upon receipt of a notice of disapproval under Paragraph 20.a.(iii) or (iv) or if required by a notice of approval upon specified conditions under Paragraph 20.a.(ii), Settling Defendant shall, within 60 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. After review of the resubmitted plan, report, or other deliverable, EPA may: (a) approve, in whole or in

part, the resubmission; (b) approve the resubmission upon specified conditions; (c) modify the resubmission; (d) disapprove, in whole or in part, the resubmission, requiring Settling Defendant to correct the deficiencies; or (e) any combination of the foregoing.

22. Material Defects. If an initially submitted or resubmitted plan, report, or other deliverable, contains a material defect, and the plan, report, or other deliverable is disapproved or modified by EPA under Paragraph 20.b.(ii) or 33 due to such material defect, then the material defect shall constitute a lack of compliance for purposes of Paragraph 53. The provisions of Section XVI (Dispute Resolution) and Section XVII (Stipulated Penalties) shall govern the accrual and payment of any stipulated penalties regarding Settling Defendant's submissions under this Section.

23. Implementation. Upon approval, approval upon conditions, or modification by EPA, under Paragraph 20 or 21, of any plan, report or other deliverable, or any portion thereof: (a) such plan, report, or other deliverable, or portion thereof, shall be incorporated into and enforceable under this Consent Decree; and (b) Settling Defendant shall take any action required by such plan, report, or other deliverable, or portion thereof, subject only to Settling Defendant's right to invoke the Dispute Resolution procedures set forth in Section XVI (Dispute Resolution) with respect to the modifications or conditions made by EPA. The implementation of any non-deficient portion of a plan, report, or other deliverable submitted or resubmitted under Paragraph 20 or 21 shall not relieve Settling Defendant of any liability for stipulated penalties under Section XVII (Stipulated Penalties).

#### IX. PROJECT COORDINATORS

24. Jeff McDermott, Manager Environmental Site Remediation, Union Pacific Railroad Company, 1400 Douglas Street, Stop 1030, Omaha, NE 68179, telephone (402) 544-3675, is Settling Defendant's Project Coordinator. Kara H. Eastman MSW, the Executive Director of OHKA, 5006 Underwood Ave., Omaha, NE 68132, telephone (402) 934-9700, is Settling Defendant's Alternate Project Coordinator. Within 20 days of lodging this Consent Decree, the State and EPA will notify Settling Defendant, in writing, of the name, address and telephone number of their respective designated Project Coordinators and Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to the other Parties at least 5 working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. The Settling Defendant's Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. The Settling Defendant's Project Coordinator shall not be an attorney for the Settling Defendant in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during Work activities.

25. Plaintiffs may designate other representatives, including, but not limited to, EPA and State employees, and federal and State contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and an On-Scene Coordinator (OSC) by the NCP, 40 C.F.R. Part 300. In addition, EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent with the NCP, to halt any Work required by this Consent Decree and to take

any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

26. EPA's Project Coordinator and the Settling Defendant's Project Coordinator will meet, at a minimum, on a quarterly basis. If both Parties agree, the meeting can take place by telephone.

#### X. PERFORMANCE GUARANTEE

27. In order to ensure the full and final completion of the Work, Settling Defendant shall establish and maintain a performance guarantee for the benefit of EPA in the amount of \$2 million (hereinafter "Cost of the Work"). The performance guarantee, which must be satisfactory in form and substance to EPA, shall be in the form of one or more of the following mechanisms:

- a. A surety bond unconditionally guaranteeing payment and/or performance of the Work that is issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury;
- b. One or more irrevocable letters of credit, payable to or at the direction of EPA, that is issued by one or more financial institution(s) (i) that has the authority to issue letters of credit and (ii) whose letter-of-credit operations are regulated and examined by a U.S. federal or state agency;
- c. A trust fund established for the benefit of EPA that is administered by a trustee (i) that has the authority to act as a trustee and (ii) whose trust operations are regulated and examined by a U.S. federal or state agency;
- d. A policy of insurance that (i) provides EPA with acceptable rights as a beneficiary thereof; and (ii) is issued by an insurance carrier (a) that has the authority to issue insurance policies in the applicable jurisdiction(s) and (b) whose insurance operations are regulated and examined by a U.S. federal or state agency;
- e. A demonstration by the Settling Defendant that meets the financial test criteria of 40 C.F.R. § 264.143(f) with respect to the Cost of the Work, provided that all other requirements of 40 C.F.R. § 264.143(f) are met to EPA's satisfaction; or
- f. A written guarantee to fund or perform the Work executed in favor of EPA by one or more of the following: (i) a direct or indirect parent company of the Settling Defendant, or (ii) a company that has a "substantial business relationship" (as defined in 40 C.F.R. § 264.141(h)) with the Settling Defendant; provided, however, that any company providing such a guarantee must demonstrate to the satisfaction of EPA that it satisfies the financial test requirements of 40 C.F.R. § 264.143(f) with respect to the Cost of the Work that it proposes to guarantee hereunder.

28. Settling Defendant has selected, and EPA has approved, as an initial performance guarantee a written guarantee to fund or perform the Work by Union Pacific Corporation, pursuant to Paragraph 27(f). Within ninety days after lodging of this Consent Decree, Settling Defendant shall execute or otherwise finalize all instruments or other documents required in order to make the selected performance guarantee(s) legally binding, and such performance guarantee shall thereupon be fully effective. Within thirty days of entry of this Consent Decree, Settling Defendant shall submit all executed and/or otherwise finalized instruments or other documents required in order to make the selected performance guarantee

legally binding to the EPA Regional Financial Management Officer in accordance with Section XXIII (Notices and Submissions) of this Consent Decree, with a copy to the United States, EPA and the State as specified in Section XXIII.

29. If at any time after the Effective Date and before issuance of the Certification of Completion of the Work pursuant to Paragraph 33.b, the Settling Defendant provides a performance guarantee for completion of the Work by means of a demonstration or guarantee pursuant to Paragraph 27.e or Paragraph 27.f above, the Settling Defendant shall also comply with the other relevant requirements of 40 C.F.R. § 264.143(f), 40 C.F.R. § 264.151(f), and 40 C.F.R. § 264.151(h)(1) relating to these mechanisms unless otherwise provided in this Consent Decree, including but not limited to (i) the initial submission of required financial reports and statements from the relevant entity's chief financial officer ("CFO") and independent certified public accountant ("CPA"), in the form prescribed by EPA in its financial test sample CFO letter and CPA reports available at:

<http://www.epa.gov/compliance/resources/policies/cleanup/superfund/fa-test-samples.pdf>;

(ii) the annual re-submission of such reports and statements within 90 days after the close of each such entity's fiscal year; and (iii) the prompt notification of EPA after each such entity determines that it no longer satisfies the financial test requirements set forth at 40 C.F.R.

§ 264.143(f)(1) and in any event within 90 days after the close of any fiscal year in which such entity no longer satisfies such financial test requirements. For purposes of the performance guarantee mechanisms specified in this Section X, references in 40 C.F.R. Part 264, Subpart H, to "closure," "post-closure," and "plugging and abandonment" shall be deemed to refer to the Work required under this Consent Decree, and the terms "current closure cost estimate" "current post-closure cost estimate," and "current plugging and abandonment cost estimate" shall be deemed to refer to the Cost of the Work; the terms "owner" and "operator" shall be deemed to refer to the Settling Defendant; and the terms "facility" and "hazardous waste facility" shall be deemed to include the Site.

30. In the event that EPA determines at any time that a performance guarantee provided by the Settling Defendant pursuant to this Section is inadequate or otherwise no longer satisfies the requirements set forth in this Section for any reason, or in the event that the Settling Defendant becomes aware of information indicating that a performance guarantee provided pursuant to this Section is inadequate or otherwise no longer satisfies the requirements set forth in this Section for any reason, Settling Defendant, within 30 days of receipt of notice of EPA's determination or, as the case may be, within 30 days of the Settling Defendant becoming aware of such information, shall obtain and present to EPA for approval a proposal for a revised or alternative form of performance guarantee listed in Paragraph 27 of this Consent Decree that satisfies all requirements set forth in this Section X. In seeking approval for a revised or alternative form of performance guarantee, Settling Defendant shall follow the procedures set forth in Paragraph 32.b.(ii) of this Consent Decree. Settling Defendant's inability to post a performance guarantee for completion of the Work shall in no way excuse performance of any other requirements of this Consent Decree, including, without limitation, the obligation of Settling Defendant to complete the Work in strict accordance with the terms of this Consent Decree.

31. Funding for Work Takeover. The commencement of any Work Takeover pursuant to Paragraph 71 of this Consent Decree shall trigger EPA's right to receive the benefit of any performance guarantee provided pursuant to Paragraph 27.a, 27.b, 27.c, 27.d, or 27.f, and



at such time EPA shall have immediate access to resources guaranteed under any such performance guarantee, whether in cash or in kind, as needed to continue and complete the Work assumed by EPA under the Work Takeover. Upon the commencement of any Work Takeover, if (a) for any reason EPA is unable to promptly secure the resources guaranteed under any such performance guarantee, whether in cash or in kind, necessary to continue and complete the Work assumed by EPA under the Work Takeover, or (b) in the event that the performance guarantee involves a demonstration of satisfaction of the financial test criteria pursuant to Paragraph 27.e or Paragraph 27.f.(ii), Settling Defendant (or in the case of Paragraph 27.f.(ii), the guarantor) shall immediately upon written demand from EPA deposit into an account specified by EPA, in immediately available funds and without setoff, counterclaim, or condition of any kind, a cash amount up to but not exceeding the estimated cost of the remaining Work to be performed as of such date, as determined by EPA. In addition, if at any time EPA is notified by the issuer of a performance guarantee that such issuer intends to cancel the performance guarantee mechanism it has issued, then, unless Settling Defendant provides a substitute performance guarantee mechanism in accordance with this Section X no later than 30 days prior to the impending cancellation date, EPA shall be entitled (as of and after the date that is 30 days prior to the impending cancellation) to draw fully on the funds guaranteed under the then-existing performance guarantee. All EPA Work Takeover costs not reimbursed under this Paragraph shall be reimbursed under Section XIII (Payments for Response Costs).

32. Modification of Amount and/or Form of Performance Guarantee.

a. Reduction of Amount of Performance Guarantee. If Settling Defendant believes that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 27 above, Settling Defendant may, on any anniversary date of entry of this Consent Decree, or at any other time agreed to by the Parties, petition EPA in writing to request a reduction in the amount of the performance guarantee provided pursuant to this Section so that the amount of the performance guarantee is equal to the estimated cost of the remaining Work to be performed. Settling Defendant shall submit a written proposal for such reduction to EPA that shall specify, at a minimum, the cost of the remaining Work to be performed and the basis upon which such cost was calculated. In seeking approval for a reduction in the amount of the performance guarantee, Settling Defendant shall follow the procedures set forth in Paragraph 32.b.(ii) of this Consent Decree for requesting a revised or alternate form of performance guarantee, except as specifically provided in this Paragraph 32.a. If EPA decides to accept Settling Defendant's proposal for a reduction in the amount of the performance guarantee, either to the amount set forth in Settling Defendant's written proposal or to some other amount as selected by EPA, EPA shall notify the Settling Defendant of such decision in writing. Upon EPA's acceptance of a reduction in the amount of the performance guarantee, the Cost of the Work shall be deemed to be the estimated cost of completing the Work set forth in EPA's written decision. After receiving EPA's written decision, Settling Defendant may reduce the amount of the performance guarantee in accordance with and to the extent permitted by such written acceptance and shall submit copies of all executed and/or otherwise finalized instruments or other documents required in order to make the selected performance guarantee legally binding in accordance with Paragraph 32.b.(ii). In the event of a dispute, Settling Defendant may reduce the amount of the performance guarantee required hereunder only in accordance with a final administrative or judicial decision resolving such dispute pursuant to Section XVI (Dispute Resolution). No change to the form or terms of any performance

guarantee provided under this Section, other than a reduction in amount, is authorized except as provided in Paragraphs 30 or 32.b of this Consent Decree.

b. Change of Form of Performance Guarantee.

(i) If, after entry of this Consent Decree, Settling Defendant desires to change the form or terms of any performance guarantee provided pursuant to this Section, Settling Defendant may, on any anniversary date of entry of this Consent Decree, or at any other time agreed to by the Parties, petition EPA in writing to request a change in the form or terms of the performance guarantee provided hereunder. The submission of such proposed revised or alternative performance guarantee shall be as provided in Paragraph 32.b.(ii) of this Consent Decree. Any decision made by EPA on a petition submitted under this subparagraph b(i) shall be made in EPA's sole and unreviewable discretion, and such decision shall not be subject to challenge by Settling Defendant pursuant to the dispute resolution provisions of this Consent Decree or in any other forum.

(ii) Settling Defendant shall submit a written proposal for a revised or alternative form of performance guarantee to EPA which shall specify, at a minimum, the estimated cost of the remaining Work to be performed, the basis upon which such cost was calculated, and the proposed revised form of performance guarantee, including all proposed instruments or other documents required in order to make the proposed performance guarantee legally binding. The proposed revised or alternative performance guarantee must satisfy all requirements set forth or incorporated by reference in this Section. Settling Defendant shall submit such proposed revised or alternative performance guarantee to the EPA Regional Financial Management Officer in accordance with Section XXIII (Notices and Submissions) of this Consent Decree. EPA will notify Settling Defendant in writing of its decision to accept or reject a revised or alternative performance guarantee submitted pursuant to this subparagraph. Within ninety days after receiving a written decision approving the proposed revised or alternative performance guarantee, Settling Defendant shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected performance guarantee legally binding in a form substantially identical to the documents submitted to EPA as part of the proposal, and such performance guarantee shall thereupon be fully effective. Settling Defendant shall submit copies of all executed and/or otherwise finalized instruments or other documents required in order to make the selected performance guarantee legally binding to the EPA Regional Financial Management Officer within 30 days of receiving a written decision approving the proposed revised or alternative performance guarantee in accordance with Section XXIII (Notices and Submissions) of this Consent Decree, with a copy to the United States, EPA and the State as specified in Section XXIII.

c. Release of Performance Guarantee. Settling Defendant shall not release, cancel, or discontinue any performance guarantee provided pursuant to this Section except as provided in this subparagraph. If Settling Defendant receives written notice from EPA in accordance with Paragraph 33 hereof that the Work has been fully and finally completed in accordance with the terms of this Consent Decree, or if EPA otherwise so notifies Settling Defendant in writing, Settling Defendant may thereafter release, cancel, or discontinue the performance guarantee provided pursuant to this Section. In the event of a dispute, Settling Defendant may release, cancel, or discontinue the performance guarantee required hereunder



only in accordance with a final administrative or judicial decision resolving such dispute pursuant to Section XVI (Dispute Resolution).

#### XI. CERTIFICATION OF COMPLETION

##### 33. Completion of the Work.

a. Within 60 days after the end of the five years funded by Settling Defendant, the Settling Defendant shall submit a Final Report to the EPA and the State, consistent with Paragraph 6 of the SOW. Within 30 days after receipt of the Final Report, if the Settling Defendant still believes that the Work has been fully performed and the Performance Standards have been achieved, it shall submit a written request for certification to EPA for approval, with a copy to the State, pursuant to Section VIII (EPA Approval of Plans and Other Submissions). In the request, the Settling Defendant's Project Coordinator shall state that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of the Settling Defendant or the Settling Defendant's Project Coordinator:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If, after receipt and review of the Final Report, EPA, after reasonable opportunity for review and comment by the State, determines that the Work or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Settling Defendant in writing of the activities that must be undertaken by Settling Defendant pursuant to this Consent Decree to complete the Work and achieve the Performance Standards, provided, however, that EPA may only require Settling Defendant to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the Work required by this Consent Decree," as that term is defined in Paragraph 12.a. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendant to submit a schedule to EPA for approval pursuant to Section VIII (EPA Approval of Plans and Other Submissions). Settling Defendant shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to its right to invoke the dispute resolution procedures set forth in Section XVI (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion of the Work and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Consent Decree and that the Performance Standards have been achieved, EPA will so certify in writing to Settling Defendant. This certification shall constitute the Certification of Completion of the

Work for purposes of this Consent Decree, including, but not limited to, Section XVIII (Covenants by Plaintiffs). Certification of Completion of the Work shall not affect Settling Defendant's remaining obligations under this Consent Decree.

34. Completion of the Remedial Action. When EPA has issued Settling Defendant a Certificate of Completion of the Work and also performed all other activities selected as a part of the Remedial Action in the final ROD, EPA will issue a Remedial Action Report, certifying that the Remedial Action is completed. This Remedial Action Report shall constitute the Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XVIII (Covenants by Plaintiffs).

## XII. EMERGENCY RESPONSE

35. In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Defendant shall, subject to Paragraph 36, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, the Settling Defendant shall notify the Emergency Response and Removal Branch, Superfund Division, EPA, Region 7, (913) 281-0991. Settling Defendant shall take such actions in consultation with EPA's Project Coordinator or other available authorized EPA officer and in accordance with all applicable plans or documents developed pursuant to the SOW. In the event that Settling Defendant fails to take appropriate response action as required by this Section, and EPA takes such action instead, Settling Defendant shall reimburse EPA all costs of the response action under Section XIII (Payments for Response Costs).

36. Subject to Section XVIII (Covenants by Plaintiffs), nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States, or the State, (a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, or (b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site.

## XIII. PAYMENTS FOR RESPONSE COSTS

37. Payments by Settling Defendant for Past Response Costs.

a. Within 30 days of the Effective Date, Settling Defendant shall pay to EPA \$9,500,000 in payment for Past Response Costs. Payment shall be made in accordance with Paragraphs 39.a and 39.c (Payment Instructions).

b. The total amount to be paid by Settling Defendant pursuant to Paragraph 37.a shall be deposited in the Omaha Lead Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

c. Within 30 days of the Effective Date, Settling Defendant shall pay to the State \$400,000 by official bank check made payable to Nebraska Department of Environmental Quality, in payment of State Past Response Costs. Settling Defendant shall send the bank check to Michael J. Linder, Director Nebraska Department of Environmental Quality, Suite 400, The Atrium, 1200 N Street, P.O. Box 98922, Lincoln, Nebraska 68509-8922.

38. Payments by Settling Defendant for Future Response Costs and NRD. Within 30 days of the Effective Date, Settling Defendant shall pay to EPA as Future Response Costs, a single payment in the amount of \$11,850,000 for distribution to existing programs. EPA plans to fund the following programs:

a. EPA's existing contracts for exterior lead-based paint stabilization with Professional Environmental Engineers, Inc. (Contract: EP-R7-06), and Prudent Technologies, Inc. (DBA: Prudent Environmental Services) (EP-R7-08-07);

b. The City of Omaha's Exterior Paint Stabilization Program (Cooperative Agreement V-98767501);

c. The City of Omaha's Lead Hazard Registry to include properties which have received soil remediation and/or exterior paint stabilization (Cooperative Agreement V-98767501);

d. The child blood-lead screening components of the Douglas County Health Department's Lead Poisoning Prevention Program (Cooperative Agreement V-98771701-6); and

e. Response to interior lead-contaminated dust.

f. The total amount to be paid by Settling Defendant pursuant to Paragraph 38 shall be deposited in the Omaha Lead Special Account within the EPA Hazardous Substance Superfund to be retained and used to finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund. The total amount to be paid by Settling Defendant pursuant to Paragraph 38 shall be deposited in the Omaha Lead Special Account within the EPA Hazardous Substance Superfund. The EPA plans to use the total amount to be paid by Settling Defendant pursuant to Paragraph 38 to finance response actions under programs listed in Paragraph 38.a through 38.e, or other response actions at or in connection with the Site, or transferred by EPA to the EPA Hazardous Substance Superfund.

g. Within 30 days of the Effective Date, Defendant will pay to the U.S. Department of Interior \$100,000 in natural resource damages. Payment shall be made in accordance with Paragraph 39.d (Payment Instructions).

39. Payment Instructions for Settling Defendant.

a. Instructions for Past Response Cost Payments. Settling Defendant shall make all payments required by this Paragraph by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice account in accordance with current EFT procedures, and in accordance with instructions provided to Settling Defendants by the Financial Litigation Unit of the U.S. Attorney's Office after the Effective Date.

b. Instructions for Future Response Cost Payments and Stipulated Penalties. All payments required elsewhere in this Consent Decree, to be made in accordance with Paragraph 39.b shall be made by online payment made at <https://www.pay.gov> to the U.S. EPA



account in accordance with instructions provided to Settling Defendant by EPA following lodging of the Consent Decree.

c. Instructions for All EPA Payments. All payments made under Paragraph 39.a or 39.b shall reference the Consolidated Debt Collection System ("CDCS") number, EPA Site/Spill ID Number 07ZY, DOJ Case Number 90-11-3-07834, and USAO file number 2011v00076. At the time of payment required to be made in accordance with Paragraph 39.a or 39.b, Settling Defendant shall send notice that payment has been made to the United States, and to EPA in accordance with Section XXIII (Notices and Submissions), and to the EPA Cincinnati Finance Office by email at [acctsreceivable.cinwd@epa.gov](mailto:acctsreceivable.cinwd@epa.gov), or by mail to 26 Martin Luther King Drive, Cincinnati, Ohio 45268. Such notice shall also reference the CDCS Number Site/Spill ID Number and DOJ Case Number.

d. Instructions for NRD Payments: Settling Defendant shall make all payments required by this Paragraph by FedWire EFT to the U.S. Department of Interior Natural Resource Damage Assessment and Restoration Fund (Account No. 14X5198) in accordance with current EFT procedures, and in accordance with instructions provided to Settling Defendant by the U.S. Department of Justice after the Effective Date. A separate, site-specific numbered account has been or will be established within DOI's Natural Resource Damage Assessment and Restoration Fund ("Omaha Lead Account"). The Fish and Wildlife Service shall use the funds in the Omaha Lead Account, including all interest earned on such funds, for appropriate natural resource damage assessment and restoration activities.

40. Interest. In the event that any payment for Past Response Costs or for Future Response Costs required under this Section is not made by the date required, Settling Defendant shall pay Interest on the unpaid balance. The Interest to be paid on Past and Future Response Costs under this Paragraph shall begin to accrue on the Effective Date. The Interest shall accrue through the date of Settling Defendant's payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to Plaintiffs by virtue of Settling Defendant's failure to make timely payments under this Section including, but not limited to, payment of stipulated penalties pursuant to Paragraph 53.

#### XIV. INDEMNIFICATION AND INSURANCE

##### 41. Settling Defendant's Indemnification of the United States and the State

a. The United States and the State do not assume any liability by entering into this Consent Decree or by virtue of any designation of Settling Defendant as EPA's authorized representatives under Section 104(e) of CERCLA, 42 U.S.C § 9604(e). Settling Defendant shall indemnify, save and hold harmless the United States, the State, and their officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Settling Defendant, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under its control, in carrying out activities pursuant to this Consent Decree, including, but not limited to, any claims arising from any designation of Settling Defendant as EPA's authorized representatives under Section 104(e) of CERCLA. Further, the Settling Defendant agrees to pay the United States and the State all costs they incur including, but not limited to, attorneys' fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States or the State

based on negligent or other wrongful acts or omissions of Settling Defendant, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Consent Decree. Neither the United States nor the State shall be held out as a party to any contract entered into by or on behalf of Settling Defendant in carrying out activities pursuant to this Consent Decree. Neither the Settling Defendant nor any such contractor shall be considered an agent of the United States or the State.

b. The United States and the State shall give Settling Defendant notice of any claim for which the United States or the State plans to seek indemnification pursuant to Paragraph 41, and shall consult with Settling Defendant prior to settling such claim.

42. Settling Defendant covenants not to sue and agrees not to assert any claims or causes of action against the United States and the State for damages or reimbursement or for set-off of any payments made or to be made to the United States or the State, arising from or on account of any contract, agreement, or arrangement between the Settling Defendant and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Settling Defendant shall indemnify and hold harmless the United States and the State with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between the Settling Defendant and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

No later than 15 days before commencing any on-Site Work, Settling Defendants shall secure, and shall maintain until the first anniversary of EPA's Certification of Completion of the Work pursuant to Paragraph 33.b of Section XI (Certification of Completion) commercial general liability insurance with limits of 1 million dollars, for any one occurrence, and automobile liability insurance with limits of 1 million dollars, combined single limit, naming the United States and the State as additional insureds with respect to all liability arising out of the activities performed by or on behalf of the Settling Defendant pursuant to this Consent Decree. In addition, for the duration of this Consent Decree, the Settling Defendant shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of the Settling Defendant in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, the Settling Defendant shall provide to EPA and the State certificates of such insurance and a copy of each insurance policy. Settling Defendants shall resubmit such certificates and copies of policies each year on the anniversary of the Effective Date. If Settling Defendant demonstrates by evidence satisfactory to EPA and the State that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Defendant need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor.

#### XV. FORCE MAJEURE

43. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the Settling Defendant, of any entity controlled by Settling Defendant, or Settling Defendant's contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Defendant's best efforts to fulfill the

obligation. The requirement that the Settling Defendant exercise “best efforts to fulfill the obligation” includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. “Force Majeure” does not include financial inability to complete the Work or a failure to achieve the Performance Standards.

44. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, for which Settling Defendant intends or may intend to assert a claim of force majeure, the Settling Defendant shall notify orally EPA’s Project Coordinator or, in his or her absence, EPA’s Alternate Project Coordinator or, in the event both of EPA’s designated representatives are unavailable, the Director of the Superfund Division, EPA Region 7, within 48 hours of when Settling Defendant first knew that the event might cause a delay. Within 7 days thereafter, Settling Defendant shall provide in writing to EPA and the State an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Settling Defendant’s rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the Settling Defendant, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Settling Defendant shall include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Settling Defendant from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Settling Defendant shall be deemed to know of any circumstance of which Settling Defendant, any entity controlled by Settling Defendant, or Settling Defendant’s contractors knew or should have known.

45. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify the Settling Defendant in writing of its decision. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay is attributable to a force majeure event, EPA will notify the Settling Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

46. If the Settling Defendant elects to invoke the dispute resolution procedures set forth in Section XVI (Dispute Resolution), it shall do so no later than 30 days after receipt of EPA’s notice. In any such proceeding, Settling Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and



mitigate the effects of the delay, and that Settling Defendant complied with the requirements of Paragraphs 43 and 44, above. If Settling Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Settling Defendant of the affected obligation of this Consent Decree identified to EPA and the Court.

#### XVI. DISPUTE RESOLUTION

47. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes regarding this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States to enforce obligations of the Settling Defendant that have not been disputed in accordance with this Section.

48. Any dispute regarding this Consent Decree shall in the first instance be the subject of informal negotiations between the Parties to the dispute. The period for informal negotiations shall not exceed 30 days from the time the dispute arises, unless it is modified by written agreement of the Parties to the dispute. The dispute shall be considered to have arisen when one Party sends the other Parties a written Notice of Dispute.

49. Statements of Position.

a. In the event that the Parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA shall be considered binding unless, within 15 days after the conclusion of the informal negotiation period, Settling Defendant invokes the formal dispute resolution procedures of this Section by serving on the United States a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Settling Defendant. The Statement of Position shall specify the Settling Defendant's position as to whether formal dispute resolution should proceed under Paragraph 50 or 51.

b. Within 14 days after receipt of Settling Defendant's Statement of Position, EPA will serve on Settling Defendant its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 50 or 51. Within 10 days after receipt of EPA's Statement of Position, Settling Defendant may submit a Reply.

c. If there is disagreement between EPA and the Settling Defendant as to whether dispute resolution should proceed under Paragraph 50 or 51, the Parties to the dispute shall follow the procedures set forth in the paragraph determined by EPA to be applicable. However, if the Settling Defendant ultimately appeals to the Court to resolve the dispute, the Court shall determine which paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 50 and 51.

50. Record Review. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the adequacy of any response action includes, without limitation: (1) the adequacy or



appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by Settling Defendant regarding the validity of the final ROD's provisions.

a. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the Parties to the dispute.

b. The Director of the Superfund Division, EPA Region 7, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 50.a. This decision shall be binding upon the Settling Defendant, subject only to the right to seek judicial review pursuant to Paragraph 50.c and d.

c. Any administrative decision made by EPA pursuant to Paragraph 50.b. shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by the Settling Defendant with the Court and served on all Parties within 15 days of receipt of EPA's decision. The motion shall include a description of the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States may file a response to Settling Defendant's motion.

d. In proceedings on any dispute governed by this Paragraph, Settling Defendant shall have the burden of demonstrating that the decision of the Superfund Division Director is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Paragraph 50.a.

51. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Settling Defendant's Statement of Position submitted pursuant to Paragraph 49, the Director of the Superfund Division, EPA Region 7, will issue a final decision resolving the dispute. The Superfund Division Director's decision shall be binding on the Settling Defendant unless, within 15 days of receipt of the decision, the Settling Defendant files with the Court and serves on the Parties a motion for judicial review of the decision setting forth the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the Consent Decree. The United States may file a response to Settling Defendant's motion.

b. Notwithstanding Paragraph M of Section I (Background) of this Consent Decree, judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

52. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Settling Defendant under this Consent Decree, not directly in dispute, unless EPA or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 60. Notwithstanding the stay of

payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that the Settling Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XVII (Stipulated Penalties).

#### XVII. STIPULATED PENALTIES

53. Settling Defendant shall be liable for stipulated penalties in the amounts set forth in Paragraphs 54 and 55 to the United States for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XV (Force Majeure).

“Compliance” by Settling Defendant shall include completion of all payments and activities required under this Consent Decree, or any plan, report or other deliverable approved under this Consent Decree in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans, reports or other deliverables approved under this Consent Decree and within the specified time schedules established by and approved under this Consent Decree.

54. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Subparagraph 54.b:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 1,000	1st through 14th day
\$ 2,500	15th through 30th day
\$ 5,000	31st day and beyond

b. Compliance Milestones.

(1) Failure to make payments required by this Consent Decree.

55. Stipulated Penalty Amounts – Plans, Reports, and other Deliverables.

a. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports or other plans or deliverables pursuant to Paragraph 10 of Section VI (Performance of the Work by Settling Defendant) and Paragraph 14 of Section VII (Reporting Requirements) and the attached Statement of Work:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 500	1st through 14th day
\$ 1,000	15th through 30th day
\$ 2,500	31st day and beyond

56. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 71 of Section XVIII (Covenants by Plaintiffs), Settling Defendant shall be liable for a stipulated penalty in the amount of three hundred thousand dollars (\$300,000).

57. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Section VIII (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Settling Defendant of any deficiency;

(b) with respect to a decision by the Director of the Superfund Division, EPA Region 7, under Paragraph 50.b or 51.a of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Settling Defendant's reply to EPA's Statement of Position is received until the date that the Director issues a final decision regarding such dispute; or (c) with respect to judicial review by this Court of any dispute under Section XVI (Dispute Resolution), during the period, if any, beginning on the 31st day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

58. Following EPA's determination that Settling Defendant has failed to comply with a requirement of this Consent Decree, EPA may give Settling Defendant written notification of the same and describe the noncompliance. EPA may send the Settling Defendant a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified the Settling Defendant of a violation.

59. All penalties accruing under this Section shall be due and payable to the United States within 30 days of the Settling Defendant's receipt from EPA of a demand for payment of the penalties, unless Settling Defendant invokes the Dispute Resolution procedures under Section XVI (Dispute Resolution) within the 30-day period. All payments to the United States under this Section shall indicate that the payment is for stipulated penalties and shall be made in accordance with Paragraphs 39.b and 39.c (Payment Instructions).

60. Penalties shall continue to accrue as provided in Paragraph 59 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement of the Parties or by a decision of EPA that is not appealed to this Court, accrued penalties determined to be owed shall be paid to EPA within 15 days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United States prevails in whole or in part, Settling Defendant shall pay all accrued penalties determined by the Court to be owed to EPA within 60 days of receipt of the Court's decision or order, except as provided in Subparagraph 60.c below;

c. If the District Court's decision is appealed by any Party, Settling Defendant shall pay all accrued penalties determined by the District Court to be owed to the United States into an interest-bearing escrow account within 60 days of receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every 60 days. Within 15 days of receipt of the final appellate court decision, the escrow agent shall pay the balance of the account to EPA or to Settling Defendant to the extent that they prevail.

61. If Settling Defendant fails to pay stipulated penalties when due, the Settling Defendant shall pay Interest on the unpaid stipulated penalties as follows: (a) if Settling Defendant has timely invoked dispute resolution such that the obligation to pay stipulated penalties has been stayed pending the outcome of dispute resolution, Interest shall accrue from the date stipulated penalties are due pursuant to Paragraph 60 until the date of payment; and (b) if Settling Defendant fails to timely invoke dispute resolution, Interest shall accrue from the

date of demand under Paragraph 59 until the date of payment. If Settling Defendant fails to pay stipulated penalties and Interest when due, the United States may institute proceedings to collect the penalties and Interest.

62. The payment of penalties and Interest, if any, shall not alter in any way Settling Defendant's obligation to complete the performance of the Work required under this Consent Decree.

63. Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of the United States or the State to seek any other remedies or sanctions available by virtue of Settling Defendant's violation of this Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(I) of CERCLA, 42 U.S.C. § 9622(I), provided, however, that the United States shall not seek civil penalties pursuant to Section 122(I) of CERCLA for any violation for which a stipulated penalty is provided in this Consent Decree, except in the case of a willful violation of the Consent Decree.

64. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree.

#### XVIII. COVENANTS BY PLAINTIFFS

65. Covenants for Settling Defendant by United States. In consideration of the actions that will be performed and the payments that will be made by the Settling Defendant under the terms of the Consent Decree, and except as specifically provided in Paragraphs 67, 68 and 70 of this Section, the United States covenants not to sue or to take administrative action against Settling Defendant pursuant to Sections 106 and 107(a) of CERCLA relating to the Site. Except with respect to future liability, these covenants not to sue shall take effect upon the receipt by EPA of the payments required by Paragraph 37.a (Payments for Past Response Costs) and Paragraph 38 (Payments for Future Response Costs and NRD) and any Interest or stipulated penalties due thereon under Paragraph 40 (Interest) or Section XVII (Stipulated Penalties). With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedial Action pursuant to Paragraph 34 of Section XI (Certification of Completion). These covenants are conditioned upon the satisfactory performance by Settling Defendant of their obligations under this Consent Decree. These covenants extend only to the Settling Defendant and do not extend to any other person.

66. Covenant for Settling Defendant By State of Nebraska. In consideration of and upon receipt of the payment the Settling Defendant is making pursuant to Paragraph 37.c., and except as otherwise provided in Paragraph 70 below, the State of Nebraska covenants not to further sue or to take administrative action against the Settling Defendant under any state or federal law or regulation for reimbursement of costs the State has incurred for the Site and further releases and covenants not to sue the Settling Defendant for natural resources damages related to the Site.

67. United States' Pre-certification Reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendant to perform further response actions

relating to the Site, and/or to pay the United States for additional costs of response if, (a) prior to Certification of Completion of the Work, (i) conditions at the Site, previously unknown to EPA, are discovered, or (ii) information, previously unknown to EPA, is received, in whole or in part, and (b) EPA determines that these previously unknown conditions or information together with any other relevant information indicates that the Work is not protective of human health or the environment.

68. United States' Post-certification Reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendant to perform further response actions relating to the Site, and/or to pay the United States for additional costs of response if, (a) subsequent to Certification of Completion of the Work, (i) conditions at the Site, previously unknown to EPA, are discovered, or (ii) information, previously unknown to EPA, is received, in whole or in part, and (b) EPA determines that these previously unknown conditions or information together with other relevant information indicate that the Work is not protective of human health or the environment.

69. For purposes of Paragraph 67, the information and the conditions known to EPA will include only that information and those conditions known to EPA as of the date the final ROD was signed and set forth in the final Record of Decision for the Site and the administrative record supporting the final Record of Decision and all Site data compiled by EPA from the date the final ROD was signed to the lodging date of this Consent Decree. For purposes of Paragraph 68, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date of Certification of Completion of the Work and set forth in the final Record of Decision, the administrative record supporting the final Record of Decision, the post-ROD administrative record, or in any information received by EPA pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Work.

70. General Reservations of Rights. The United States and State of Nebraska reserve, and this Consent Decree is without prejudice to, all rights against Settling Defendant with respect to all matters not expressly included within Plaintiffs' covenants not to sue. Notwithstanding any other provision of this Consent Decree, the United States reserves all rights against Settling Defendant with respect to:

- a. claims based on a failure by Settling Defendant to meet a requirement of this Consent Decree;
- b. liability arising from the past, present, or future disposal, release, or threat of release of Waste Material outside of the Site;
- c. liability based on the ownership or operation of the Site by Settling Defendant when such ownership commences after signature of this Consent Decree;
- d. liability based upon the Settling Defendant's transportation, treatment, storage, or disposal, or the arrangement for the transportation, treatment, storage, or disposal of Waste Material at or in connection with the Site, other than as provided in the final ROD, the Work, or otherwise ordered by EPA, after signature of this Consent Decree;



- e. criminal liability; and
- f. liability for violations of federal or state law which occur during or after implementation of the Work.

71. Work Takeover

a. In the event EPA determines that Settling Defendant has (i) ceased implementation of any portion of the Work, or (ii) is seriously or repeatedly deficient or late in its performance of the Work, or (iii) is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may issue a written notice ("Work Takeover Notice") to the Settling Defendant. Any Work Takeover Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Settling Defendant a period of 25 days within which to remedy the circumstances giving rise to EPA's issuance of such notice.

b. If, after expiration of the 25-day notice period specified in Paragraph 71.a, Settling Defendant has not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, EPA may at any time thereafter assume the performance of all or any portions of the Work as EPA deems necessary ("Work Takeover"). EPA will notify Settling Defendant in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Paragraph 71.b. Funding of Work Takeover costs is addressed under Paragraph 31.

c. Settling Defendant may invoke the procedures set forth in Section XVI (Dispute Resolution), Paragraph 50 (Record Review), to dispute EPA's implementation of a Work Takeover under Paragraph 71.b. However, notwithstanding Settling Defendant's invocation of such dispute resolution procedures, and during the pendency of any such dispute, EPA may in its sole discretion commence and continue a Work Takeover under Paragraph 71.b until the earlier of (i) the date that Settling Defendant remedies, to EPA's satisfaction, the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice or (ii) the date that a final decision is rendered in accordance with Section XVI (Dispute Resolution), Paragraph 50 (Record Review), requiring EPA to terminate such Work Takeover.

72. Notwithstanding any other provision of this Consent Decree, the United States and the State retain all authority and reserve all rights to take any and all response actions authorized by law.

XIX. COVENANTS BY SETTLING DEFENDANT

73. Covenant Not to Sue by Settling Defendant. Subject to the reservations in Paragraph 75, Settling Defendant hereby covenants not to sue and agrees not to assert any claims or causes of action against the United States or the State, including any department, agencies, officers, employees, contractors, or agents, with respect to the Site and this Consent Decree, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Sections 106(b)(2), 107, 111, 112, 113 or any other provision of law;

b. any claims against the United States, including any department, agency or instrumentality of the United States under CERCLA Sections 107 or 113, RCRA Section 7002(a), 42 U.S.C. § 6972(a), or state law regarding the Site and this Consent Decree; or

c. any claims arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Nebraska Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law.

74. Except as provided in Paragraph 77 (Claims Against *De Micromis* Parties), Paragraph 79 (Claims Against *De Minimis*/Ability to Pay Parties), and Paragraph 84 (Res Judicata and Other Defenses), the covenants in this Section shall not apply if the United States or the State brings a cause of action or issues an order pursuant to any of the reservations in Section XVIII (Covenants by Plaintiffs), other than in Paragraphs 70(a) (claims for failure to meet a requirement of the Consent Decree), 70(e) (criminal liability), and 70(f) (violations of federal/state law during or after implementation of the Work), but only to the extent that Settling Defendant's claims arise from the same response action, response costs, or damages that the United States or the State is seeking pursuant to the applicable reservation.

75. The Settling Defendant reserves, and this Consent Decree is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, and brought pursuant to any statute other than CERCLA or RCRA and for which the waiver of sovereign immunity is found in a statute other than CERCLA or RCRA, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States, as that term is defined in 28 U.S.C. § 2671, while acting within the scope of his or her office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, the foregoing shall not include any claim based on EPA's selection of response actions, or the oversight or approval of the Settling Defendant's plans, reports, or other deliverables or activities. The foregoing applies only to claims which are brought pursuant to any statute other than CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA.

76. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

77. Claims Against De Micromis Parties. Settling Defendant agrees not to assert any claims and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) and 113 of CERCLA) that it may have for all matters relating to the Site against any person where the person's liability to Settling Defendant with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Site, or having accepted for transport for disposal or treatment of hazardous substances at the Site, if all or part of the disposal, treatment, or transport occurred before April 1, 2001, and the total amount of material containing hazardous substances contributed by such person to the Site was less than 110 gallons of liquid materials or 200 pounds of solid materials.



78. The waiver in Paragraph 77 shall not apply with respect to any defense, claim, or cause of action that the Settling Defendant may have against any person meeting the criteria in Paragraph 77 if such person asserts a claim or cause of action relating to the Site against the Settling Defendant. This waiver also shall not apply to any claim or cause of action against any person meeting the criteria in Paragraph 77 if EPA determines:

a. that such person has failed to comply with any EPA requests for information or administrative subpoenas issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) or 9622(e), or Section 3007 of RCRA, 42 U.S.C. § 6927, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the Site, or has been convicted of a criminal violation for the conduct to which this waiver would apply and that conviction has not been vitiated on appeal or otherwise; or

b. that the materials containing hazardous substances contributed to the Site by such person have contributed significantly, or could contribute significantly, either individually or in the aggregate, to the cost of response action or natural resource restoration at the Site.

79. Claims Against De Minimis/Ability to Pay Parties. Settling Defendant agrees not to assert any claims or causes of action and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) and 113 of CERCLA) that it may have for all matters relating to the Site against any person that has entered or in the future enters into a final CERCLA Section 122(g) *de minimis* settlement, or a final settlement based on limited ability to pay, with EPA with respect to the Site. This waiver shall not apply with respect to any defense, claim, or cause of action that the Settling Defendant may have against any person if such person asserts a claim or cause of action relating to the Site against the Settling Defendant.

#### XX. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

80. Except as provided in Paragraph 77 (Claims Against De Micromis Parties) and Paragraph 79 (Claims Against *De Minimis*/Ability to Pay Parties), nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a party to this Consent Decree. Except as provided in Paragraph 77 (Claims Against De Micromis Parties) and Paragraph 79 (Claims Against *De Minimis*/Ability to Pay Parties), each of the Parties expressly reserves any and all rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a party hereto. Nothing in this Consent Decree diminishes the right of the United States, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

81. The Parties agree, and by entering this Consent Decree this Court finds, that this Consent Decree constitutes a judicially-approved settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that the Settling Defendant is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Section 113(f)(2) of CERCLA, or as may be otherwise provided by law, for "matters addressed" in this Consent

Decree. The “matters addressed” in this Consent Decree are all response actions taken or to be taken and all response costs incurred or to be incurred and natural resource damages, at or in connection with the Site, by the United States or any other person; provided, however, that if the United States exercises rights against the Settling Defendant under the reservations in Section XVIII (Covenants by Plaintiffs), other than in Paragraphs 70(a) (claims for failure to meet a requirement of the Consent Decree), 70(e) (criminal liability), or 70(f) (violations of federal/state law during or after implementation of the Work), the “matters addressed” in this Consent Decree will no longer include those response costs or response actions that are within the scope of the exercised reservation.

82. The Settling Defendant shall, with respect to any suit or claim brought by it for matters related to this Consent Decree, notify the United States and the State in writing no later than 60 days prior to the initiation of such suit or claim.

83. The Settling Defendant shall, with respect to any suit or claim brought against it for matters related to this Consent Decree, notify in writing the United States and the State within ten days of service of the complaint on the Settling Defendant. In addition, the Settling Defendant shall notify the United States and the State within ten days of service or receipt of any Motion for Summary Judgment and within ten days of receipt of any order from a court setting a case for trial.

84. Res Judicata and Other Defenses. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XVIII (Covenants by Plaintiffs).

#### XXI. ACCESS TO INFORMATION

85. Settling Defendant shall provide to EPA and the State, upon request, copies of all records, reports, documents and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as “Records”) within its possession or control or that of its contractors or agents relating to Settling Defendant’s Work activities at the Site or to Settling Defendant’s implementation of this Consent Decree, including, but not limited to, receipts, reports, correspondence, or other documents or information related to the Work. Settling Defendant shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

#### 86. Business Confidential and Privileged Documents.

a. Settling Defendant may assert business confidentiality claims covering part or all of the Records submitted to Plaintiffs under this Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), 40 C.F.R. § 2.203(b), and other federal or state law. Records determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B and by the State in accordance with Neb. Rev. Stat. § 84-712 et seq. If no claim of confidentiality accompanies

Records when they are submitted to EPA and the State, or if EPA has notified Settling Defendant that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, and Neb. Rev. Stat. § 84-712 et seq. for the State, the public may be given access to such Records without further notice to Settling Defendant.

b. The Settling Defendant may assert that certain Records are privileged under the attorney-client privilege or any other privilege recognized by state or federal law. If the Settling Defendant asserts such a privilege in lieu of providing Records, it shall provide Plaintiffs with the following: (1) the title of the Record; (2) the date of the Record; (3) the name, title, affiliation (e.g., company or firm) and address of the author of the Record; (4) the name and title of each addressee and recipient; (5) a description of the contents of the Record; and (6) the privilege asserted by Settling Defendant. If a claim of privilege applies only to a portion of a Record, the Record shall be provided to the United States and the State in redacted form to mask the privileged portion only. Settling Defendant shall retain all Records that it claims to be privileged until the United States or the State has had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in the Settling Defendants' favor.

c. No Records created or generated pursuant to the specific requirements of this Consent Decree for performance of Work shall be withheld from the United States or the State on the grounds that they are privileged or confidential.

87. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

## XXII. RETENTION OF RECORDS

88. Until 10 years after the Settling Defendant's receipt of EPA's notification pursuant to Paragraph 33.b of Section XI (Certification of Completion), the Settling Defendant shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to its liability under CERCLA with respect to the Site, provided, however, that the Settling Defendant must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. The Settling Defendant must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work, provided, however, that the Settling Defendant (and its contractors and agents) must retain, in addition, copies of all data generated during the performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

89. At the conclusion of this record retention period, Settling Defendant shall notify the United States and the State at least 90 days prior to the destruction of any such Records, and, upon request by the United States or the State, Settling Defendant shall deliver any such Records to EPA or the State. The Settling Defendant may assert that certain Records are privileged under the attorney-client privilege or any other privilege recognized by state or federal law. If the

Settling Defendant asserts such a privilege, it shall provide the Plaintiff with the following: (a) the title of the Record; (b) the date of the Record; (c) the name, title, affiliation (e.g., company or firm) and address of the author of the Record; (d) the name and title of each addressee and recipient; (e) a description of the contents of the Record; and (f) the privilege asserted by Settling Defendant. If a claim of privilege applies only to a portion of a Record, the Record shall be provided to the United States and the State in redacted form to mask the privileged portion only. Settling Defendant shall retain all Records that it claims to be privileged until the United States or the State has had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in the Settling Defendant's favor. However, no Records created or generated pursuant to the requirements of this Consent Decree shall be withheld on the grounds that they are privileged or confidential.

90. The Settling Defendant hereby certifies that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since the earlier of notification of potential liability by the United States or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Section 104(e) and 122(e) of CERCLA, 42 U.S.C. 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. 6927.

#### XXIII. NOTICES AND SUBMISSIONS

91. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Written notice as specified in this Section shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the United States, EPA, the State, and the Settling Defendant, respectively. Notices required to be sent to EPA, and not to the United States, under the terms of this Consent Decree should not be sent to the U.S. Department of Justice.

As to the United States:

Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
United States Department of Justice  
Ben Franklin Station  
P.O. Box 7611  
Washington, D.C. 20044-7611  
Re: DJ # 90-11-3-07834

As to EPA:

Steven L. Sanders  
Senior Counsel  
United States Environmental Protection Agency  
Region 7  
901 North 5<sup>th</sup> Street  
Kansas City, Kansas 66101

And

Pauletta France-Isetts  
EPA Project Coordinator  
United States Environmental Protection Agency  
Region 7  
901 North 5<sup>th</sup> Street  
Kansas City, Kansas 66101

As to the Regional Financial  
Management Officer:

John Phillips  
United States Environmental Protection Agency  
Region 7  
901 North 5<sup>th</sup> Street  
Kansas City, Kansas 66101

As to the State:

David B. Haldeman  
Waste Division Administrator  
Nebraska Department of Environmental Quality  
Suite 400, The Atrium  
1200 N Street  
P.O. Box 98922  
Lincoln, Nebraska 68509-8922

As to the Settling Defendant:

Jeff McDermott  
Settling Defendants' Project Coordinator  
Manager Environmental Site Remediation  
Union Pacific Railroad Company  
1400 Douglas Street  
STOP 1030  
Omaha, Nebraska 68179

and

David P. Young  
General Solicitor and  
National Environmental Counsel  
Union Pacific Railroad Company  
1001 McKinney Street  
Suite 900  
Houston, Texas 77002

XXIV. RETENTION OF JURISDICTION

92. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Settling Defendant for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the

construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XVI (Dispute Resolution) hereof.

XXV. APPENDICES

93. The following appendices are attached to and incorporated into this Consent Decree:

- “Appendix A” is the ROD.
- “Appendix B” is the SOW.
- “Appendix C” is the map of the Site.
- “Appendix D” is the Work Plan.

XXVI. COMMUNITY RELATIONS

94. If requested by EPA or the State, the Settling Defendant shall participate in community relations activities pursuant to the community relations plan developed by EPA. EPA will determine the appropriate role for the Settling Defendant under the community relations plan. Settling Defendant shall also cooperate with EPA and the State in providing information regarding the Work to the public. As requested by EPA or the State, Settling Defendant shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA or the State to explain activities at or relating to the Site.

XXVII. MODIFICATION

95. Schedules specified in this Consent Decree for completion of the Work may be modified by agreement of EPA and the Settling Defendant. All such modifications shall be made in writing.

96. Except as provided in Paragraph 12 (Modification of the SOW or Related Work Plans), no material modifications shall be made to the SOW without written notification to and written approval of the United States, Settling Defendant, and the Court, if such modifications fundamentally alter the basic features of the selected remedy within the meaning of 40 C.F.R. § 300.435(c)(2). Prior to providing its approval to any modification, the United States will provide the State with a reasonable opportunity to review and comment on the proposed modification. Modifications to the SOW that do not materially alter that document, or material modifications to the SOW that do not fundamentally alter the basic features of the selected remedy within the meaning of 40 C.F.R. § 300.435(c)(2), may be made by written agreement between EPA, after providing the State with a reasonable opportunity to review and comment on the proposed modification, and the Settling Defendant.

97. Nothing in this Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Consent Decree.

XXVIII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

98. This Consent Decree shall be lodged with the Court for a period of not less than 30 days for public notice and comment in accordance with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or



considerations which indicate that the Consent Decree is inappropriate, improper, or inadequate. Settling Defendant consents to the entry of this Consent Decree without further notice.

99. If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any Party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XXIX. SIGNATORIES/SERVICE

100. The undersigned representative of the Settling Defendant to this Consent Decree and the Associate Attorney General for the Environment and Natural Resources Division of the Department of Justice and the Attorney General for the State, certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such Party to this document.

101. The Settling Defendant hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree unless the United States has notified the Settling Defendant in writing that it no longer supports entry of the Consent Decree.


102. The Settling Defendant shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of it with respect to all matters arising under or relating to this Consent Decree. Settling Defendant hereby agrees to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons. The Parties agree that Settling Defendant need not file an answer to the complaint in this action unless or until the court expressly declines to enter this Consent Decree.

XXX. FINAL JUDGMENT

103. This Consent Decree and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Consent Decree. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Consent Decree.

104. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment between and among the United States the State, and the Settling Defendant. The Court enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58. The Clerk of the Court is directed to terminate this case for statistical purposes.

SO ORDERED THIS 9<sup>th</sup> DAY OF August, 2011.

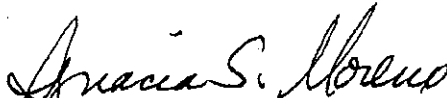
  
\_\_\_\_\_  
United States District Judge

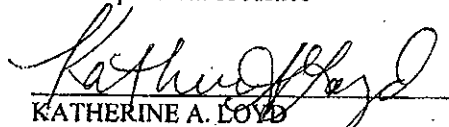


Signature Page for Consent Decree regarding the Omaha Lead Superfund Site.


FOR THE UNITED STATES OF AMERICA

5/27/11  
Date

  
IGNACIA S. MORENO  
Assistant Attorney General  
Environment and Natural Resources Division  
U.S. Department of Justice

  
KATHERINE A. LOYD  
Trial Attorney  
Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
999 18<sup>th</sup> Street, Suite 370  
Denver, Colorado 80202

DEBORAH R. GILG  
United States Attorney  
District of Nebraska

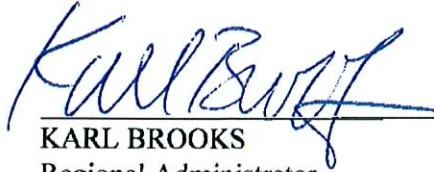
  
By: LAURIE A. KELLY  
Assistant United States Attorney  
1620 Dodge Street, Suite 1400  
Omaha, NE 68102-1506

Signature Page for Consent Decree regarding the Omaha Lead Superfund Site.

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

5/24/11

Date



KARL BROOKS  
Regional Administrator  
U.S. Environmental Protection Agency  
Region 7  
901 North Fifth Street  
Kansas City, Kansas 66101



STEVEN L. SANDERS  
Senior Counsel  
U.S. Environmental Protection Agency  
Region 7  
901 North Fifth Street  
Kansas City, Kansas 66101

Signature Page for a Consent Decree regarding the Omaha Lead Superfund Site.

FOR THE STATE OF NEBRASKA

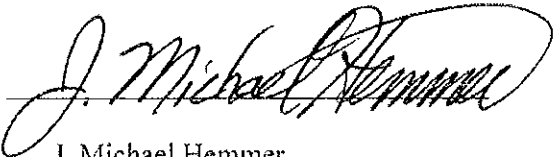
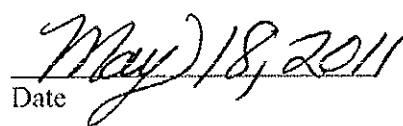
JON BRUNING  
Nebraska Attorney General

*May 20, 2011*  
Date

*Katherine J. Spohn*  
KATHERINE J. SPOHN  
Special Counsel to the Attorney General  
Nebraska Attorney General's Office  
2115 State Capitol  
Lincoln, NE 68509-8920  
Nebraska Bar Number 22979  
(402) 471-2682  
Email: katie.spohn@nebraska.gov

Signature Page for a Consent Decree regarding the Omaha Lead Superfund Site.

**FOR UNION PACIFIC RAILROAD COMPANY AND UNION PACIFIC CORPORATION**

Signature:  Date:   
Name: J. Michael Hemmer  
Title: Sr. Vice President-Law & General Counsel  
Address: 1400 Douglas Street, 19<sup>th</sup> Floor  
Omaha, Nebraska 68179

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: David P. Young  
Title: General Solicitor & National Environmental Counsel  
Address: Union Pacific Railroad Company  
1001 McKinney Street, Suite 900  
Houston, Texas 77002  
Ph. Number: 713-220-3201

APPENDIX A

FINAL RECORD OF DECISION  
DECISION SUMMARY

Omaha Lead Site  
Operable Unit Number 2

Omaha, Nebraska

May 2009





**FINAL RECORD OF DECISION**

**DECISION SUMMARY**

**OMAHA LEAD SITE  
OPERABLE UNIT NUMBER 2**

**OMAHA, NEBRASKA**

**Prepared by:**

**U. S. ENVIRONMENTAL PROTECTION AGENCY  
REGION VII  
KANSAS CITY, KANSAS**

**May 2009**

## TABLE OF CONTENTS

Site Name, Location, and Description .....	4
Site History and Enforcement Activities .....	5
Community Participation .....	9
Scope and Role of Response Action.....	10
Site Characteristics .....	14
Current and Potential Future Land Use and Resource Uses .....	17
Summary of Site Risks.....	18
Remedial Action Objective.....	22
Description of Alternatives .....	23
Summary of Comparative Analysis of Alternatives .....	30
Principal Threat Wastes .....	38
Selected Remedy.....	39
Statutory Determinations .....	48
Documentation of Significant Changes.....	54
 <b><u>Figures</u></b>	
Figure 1. OLS Locator Map.....	55
Figure 2. Boundary of Final Focus Area .....	56
Figure 3. Missouri River Flood Plain .....	57
Figure 4. OLS Final Focus Area.....	58
Figure 5. Conceptual Site Model .....	59
Figure 6. Eastern Omaha Zip Code Boundaries.....	60
Figure 7. Maximum Soil Lead Level Ranges at OLS Properties .....	61

Figure 8. Summary of Risks in Child Residents from Lead Exposure to Lead in Surface Soil...	62
Figure 9. Summary of Non-Cancer Hazard Quotients.....	63
Figure 10. Predicted Summary of Estimated Excess Cancer Risk from Arsenic .....	64
Figure 11. Cost Summary for Alternative 2.....	65
Figure 12. Cost Summary for Alternative 3.....	66
Figure 13. Cost Analysis for Excavation and Disposal .....	67
Figure 14. Cost Analysis for Excavation and Disposal – Present Worth Cost Estimate .....	68
Figure 15. Potential Chemical-Specific Federal and State ARARs.....	69
Figure 16. Potential Location-Specific Federal and State ARARs.....	72
Figure 17. Potential Action-Specific Federal and State ARARs.....	75

## **Attachment**

Responsiveness Summary

**OMAHA LEAD SITE**  
**RECORD OF DECISION**  
**DECISION SUMMARY**

SITE NAME, LOCATION, AND DESCRIPTION

The Omaha Lead Site (OLS or Site [CERCLIS ID # NESFN0703481]) includes surface soils present at residential properties, child-care centers, and other residential-type properties in the city of Omaha, Nebraska, that have been contaminated as a result of deposition of air emissions from historic lead smelting and refining operations. The OLS encompasses the eastern portion of the greater metropolitan area in Omaha, Nebraska. The Site is centered around downtown Omaha, Nebraska, where two former lead-processing facilities operated. American Smelting and Refining Company, Inc., (ASARCO) operated a lead refinery at 500 Douglas Street in Omaha, Nebraska, for over 125 years. Aaron Ferer & Sons Company (Aaron Ferer), and later the Gould Electronics, Inc., (Gould) lead battery recycling plant were located at 555 Farnam Street. Both the ASARCO and Aaron Ferer/Gould facilities released lead-containing particulates to the atmosphere from their smokestacks which were deposited on surrounding residential properties.

The OLS includes only those residential properties where the U.S. Environmental Protection Agency (EPA) determines through soil sampling that soil lead levels represent an unacceptable risk to human health. Residential properties where soil sampling indicates that soil lead concentrations are below a level of concern are not considered part of the Site. Commercial and industrial properties are also excluded from the defined Site. The EPA has established a 27.0 square-mile Final Focus Area where soil sampling of residential properties is being conducted to measure the impact of the former smelting/refining facilities on soil lead levels at individual properties. The results of the soil sampling determine whether individual properties are included within the defined OLS. For convenience, the perimeter of the Final Focus Area will be referred to as the Site boundary. The OLS is actually comprised of the individual properties that have been determined to be eligible for remedial action on the basis of soil sampling. *Figure 1* shows the general location of the OLS.

The EPA is the lead agency for this project. The Nebraska Department of Environmental Quality (NDEQ) serves as the support agency to EPA. The cleanup of residential properties at the OLS is being funded from the Superfund Trust under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA). The EPA is involved in discussions with potentially responsible parties (PRPs) for the Site seeking their participation in funding and/or performance of the selected remedy.

## SITE HISTORY AND ENFORCEMENT ACTIVITIES

### Site History

The ASARCO facility conducted lead smelting and refining operations at the 500 Douglas Street facility from the early 1870s until 1997. The ASARCO facility was located on approximately 23 acres on the west bank of the Missouri River in downtown Omaha. Aaron Ferer constructed and operated a secondary lead smelter and lead battery recycling plant from the early 1950s until 1963. In 1963, the facility was purchased by Gould, who operated until it closed in 1982. During the operational period of these facilities, lead-contaminated particulates were emitted into the atmosphere through smokestacks and other processes. The pollutants were transported downwind in various directions and deposited on the ground surface.

The Douglas County Health Department (DCHD) performed monitoring of the ambient air quality around the ASARCO facility beginning in 1984. This air monitoring routinely measured ambient lead concentrations exceeding the ambient standard for lead at that time of 1.5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The highest recorded quarterly average measured in air was  $6.57 \mu\text{g}/\text{m}^3$ .

The DCHD has compiled statistics on the results of blood lead screening of children less than seven years of age for more than 25 years. Blood lead screening of children living in zip codes located east of 45<sup>th</sup> Street nearest to the former lead-processing facilities have consistently exceeded the 10 micrograms per deciliter ( $\mu\text{g}/\text{dl}$ ) health-based threshold more frequently than children living elsewhere in the county.

In 1998, the Omaha City Council requested assistance from the EPA to address the high frequency of children found with elevated blood lead levels by the DCHD. At that time, the EPA began investigating the lead contamination in the Omaha area under the authority of CERCLA.

The EPA began sampling residential properties and properties that were used to provide licensed child-care services in March 1999. Response action was initiated under CERCLA removal authority in August 1999 through an InterAgency Agreement with the U.S. Army Corps of Engineers. From 1999 through 2002, excavation and soil replacement was completed at 257 properties by the Corps of Engineers. EPA began directly implementing the removal action in 2002, and completed excavation and soil replacement at a total of 144 properties through 2003. EPA and the Corps of Engineers completed a combined total of 310 properties in 2004. Removal action was completed by EPA and the Corps of Engineers at 773 properties in 2005 as work was transitioning to CERCLA remedial authority.

The initial removal response actions were directed at excavation and replacement of soil exceeding 400 ppm at child-care centers and residences where children with elevated blood lead levels resided. In August 2002, a second removal action was initiated at all other residential-type properties where the maximum non-foundation soil lead concentration exceeded an action level of 2,500 ppm. At properties determined to be eligible for response under either of the removal actions where the maximum mid-yard soil lead level exceeded the action level, soils exceeding the cleanup level of 400 ppm were excavated and replaced with clean soil and



disturbed areas were revegetated. Because of the potential contribution of deteriorating lead-based paint near the foundations of structures, the soil lead level in the drip zone (areas near structure foundations) alone would not trigger soil removal and replacement if all mid-yard soil lead levels at a property were less than the action level. However, if any mid-yard soil sample exceeded the action level, soil from all areas of the property exceeding the 400 ppm cleanup level would be removed and replaced, including drip zone soils if they exceeded 400 ppm. The action level which triggered response for typical residential properties under the second removal action was reduced to 1,200 ppm in November 2003, but the cleanup level remained at 400 ppm throughout all response actions at the OLS. In 2004, the two removal actions were combined into a single response, and in 2005, following issuance of the Interim Record of Decision, the action level for removal response during the transitional period was lowered to 800 ppm for consistency with the upcoming remedial response.

The OLS was proposed for the EPA's National Priorities List (NPL) on February 24, 2002. The proposed NPL listing became final on April 30, 2003. The general boundaries of the Site were estimated at the time of NPL listing by establishing a perimeter surrounding the properties that had been determined to exceed 1,200 ppm lead at that time. The area enclosed by this perimeter was approximately 8,840 acres (13.8 square miles), with a population of 65,863 (based upon 1990 U.S. Census information). Twenty public schools were located within this area. On the basis of soil sampling performed subsequent to NPL listing, a focus area was established where EPA targeted additional residential properties for soil sampling to characterize the impact from the former lead processing facilities. The original focus area boundary encompassed an area of 12,098 acres (18.9 square miles) bounded by Ames Avenue to the north, L Street to the south, 45<sup>th</sup> Street to the west, and the Missouri River to the east.

Between March 1999 and January 2004, surface soil samples were collected from 15,012 residential properties. EPA finalized an initial Remedial Investigation (RI) at the Site in 2004 which presented the results of previous site investigations. During data collection for the 2004 RI, the boundaries of the focus area were expanded to include additional areas where elevated soil lead levels were consistently found. The 2004 expanded focus area added portions of areas north to Redick Avenue, west to 52<sup>nd</sup> Street, and south to Harrison Street, encompassing a total area of 16,465 acres (25.7) square miles. The 2004 RI estimated that 16,000 residential properties could exceed 400 ppm lead; 5,600 properties could exceed 800 ppm lead; and 2,800 properties could exceed 1,200 ppm lead.

EPA issued an Interim Record of Decision (Interim ROD) for the OLS on December 15, 2004, based upon information in the Administrative Record for the Site, including the Remedial Investigation and Feasibility Study (RI/FS) released in 2004. The Interim ROD expanded the scope of the ongoing response action to include excavation and replacement of residential soils exceeding 400 ppm at typical residential and residential-type properties where the maximum non-foundation soil lead level exceeded 800 ppm, and continued removal and replacement of soils exceeding 400 ppm at child care centers and residences where children with elevated blood lead levels resided. The selected interim remedy added new elements to the response action, including stabilization of deteriorating exterior lead-based paint in cases where the continued effectiveness of the soil response was threatened, high-efficiency interior dust cleaning at eligible properties, health education, and participation in a comprehensive remedy with other agencies and organizations to address all identified lead exposure sources in the community.

In March 2005, the scope of the ongoing removal action was amended to include all elements of the Interim ROD, which continued until work commenced under CERCLA remedial authority. Removal response was discontinued when remedial response commenced. Proceeding under CERCLA remedial authority, EPA completed soil excavation and replacement (remediation) at 255 properties in 2005 for a total of 1,060 properties completed under combined removal and remedial authority. During 2006, soil remediation was completed at 1,044 properties under remedial authority. Soil remediation was completed at an additional 1,000 properties in 2007 and 800 properties in 2008. Through the close of the 2008 construction season, soil excavation and replacement under CERCLA removal and remedial authority has been completed at 4,615 residential properties.

Stabilization of deteriorating exterior lead-based paint in accordance with the interim remedy commenced in 2007 through a cooperative agreement with the city of Omaha's Lead Hazard Control Program. Stabilization was completed at 18 properties in 2007. In 2008, under both EPA and the city of Omaha contracts, stabilization of deteriorating exterior lead-based paint was completed at 1,169 properties.

During implementation of the interim remedy, EPA continued to perform soil lead characterization to support a final remedy for the OLS. In October 2008, EPA released a draft Final Remedial Investigation, which presented results of all site investigations including soil sampling performed at more than 35,000 residential properties. Based on the 2008 data set, EPA established the Final Focus Area for the Site, which defined the area of residential properties that are targeted for sampling. This area is generally bounded by Read Street to the north, 56th Street to the west, Harrison Street (Sarpy County line) to the south, and the Missouri River to the east, and encompasses 17,290 acres (27.0 square miles). The 2000 U.S. Census data for this area shows a total population of 125,650, including 14,117 children seven years of age and younger. Information from the Douglas County Assessor's Office indicates the presence of 39,783 residential properties within the Final Focus Area.

Through completion of the OLS Final Remedial Investigation, soil sampling had been completed at 37,076 residential properties, including 34,565 within the Final Focus Area's boundary. Of the residential properties sampled, the 800 ppm soil action level established by the Interim ROD<sup>1</sup> was exceeded at 4,144 properties. An additional 8,552 properties had soil lead levels between 400 ppm and 800 ppm. In total, 34.2 percent of properties sampled through completion of the 2008 RI had at least one mid-yard sample with a soil lead level exceeding 400 ppm. Based on the data trends, the OLS Final Feasibility Study (FS) estimates that soil lead levels will exceed 400 ppm at a total of 14,577 properties when soil sampling is completed at all properties within the Final Focus Area.

On the basis of spatial analysis of the data generated during the Final OLS Remedial Investigation (RI), EPA established a Final Focus Area for the OLS. Portions of the Final Focus Area extend to 56<sup>th</sup> Street to the west, the Missouri River to the east (excluding the Omaha

---

<sup>1</sup> Maximum mid-yard (non-foundation) soil lead concentrations are compared to established action levels to determine eligibility of a property for remedial action.

central business district), Read Street to the north, and Harrison Street to the south. *Figure 2* shows the boundary of the Final Focus Area and depicts the sequential expansion of the focus area since the Site was originally proposed for the NPL.

The Final Focus Area boundaries define a general area where the majority of the properties impacted by former lead processing emissions are located and soil sampling has been prioritized. The actual site, however, includes any property where soil lead levels exceed EPA criteria for initiating remedial action. The Site is composed of individual properties that exceed the established action levels, defined on a property-to-property basis, and is not defined by a discrete boundary.

### Enforcement Activities

EPA issued a general notice letter under CERCLA authority on August 4, 1999, to ASARCO, Incorporated (ASARCO), asking ASARCO to perform a time-critical removal action to address lead-contaminated soils at child-care centers and residences at the site. In a response dated August 13, 1999, ASARCO declined to perform the removal action. On August 30, 1999, EPA issued an Administrative Order (Docket Number-CERCLA-7-99-0029), ordering ASARCO to perform the necessary removal action. ASARCO responded on September 7, 1999, stating they would not comply with the UAO. EPA proceeded with a fund-lead removal action to address the threat associated with the lead contamination in the residential soils. EPA subsequently identified three additional PRPs: Union Pacific, Gould, and Aaron Ferer.

The EPA has coordinated with these four PRPs during the implementation of all response actions at the site. General notice letters were issued on June 4, 2002, to initiate discussions on the performance of the RI/FS. The four parties declined to perform the RI/FS so EPA proceeded using Superfund Trust monies.

Following completion of the Interim ROD, special notice letters were issued to the four parties on December 16, 2004, requesting payment of past costs and performance of the work under the Interim ROD. A good faith offer for performance of the work was not received. On March 31, 2005, an Administrative Order (Docket No. CERCLA-07-2005-0207) was issued with a delayed effective date to Union Pacific requesting performance of the work required by the Interim ROD. The effective date was extended several times to allow continued discussions with Union Pacific. The Administrative Order became effective on December 16, 2005. Union Pacific responded on January 3, 2006, indicating that it would not comply with all of the provisions of the Administrative Order. EPA proceeded with a fund-lead remedial action to address the threats posed by Site contamination.

In August 2005, ASARCO filed for bankruptcy protection under Chapter 11 of the Bankruptcy Code in the Southern District of Texas, Corpus Christi Division. The United States filed a proof of claim in the bankruptcy action to cover all past and future costs associated with the OLS. Numerous other sites and facilities are included in the bankruptcy case. An estimation hearing on the claim for the OLS was held in Corpus Christi, Texas in August 2007. The claim for the Omaha Lead Site has not been determined and the bankruptcy reorganization case is still ongoing.

### COMMUNITY PARTICIPATION

EPA has worked extensively with the Omaha community through a variety of communication vehicles, including but not limited to local speaking engagements, participation in citizens' groups and city council meetings, local public access television, public service announcements on local cable television, coverage on radio and television and in local and national newspapers, mass mailings of informational materials, public outreach by telephone, by conducting public meetings, and through the EPA Web site.

EPA has been performing outreach to Omaha citizens, elected officials, school officials, health officials, the media, nonprofit groups, and others since becoming involved in the project in 1998 in an effort to convey information about the hazards of lead poisoning and particularly how lead affects the health of children. The EPA has participated in numerous formal and informal meetings to explain EPA's role and commitment in Omaha, convey information about the Superfund process, and provide general information about the site and lead contamination. EPA responds to inquiries on a daily basis regarding the site and individual property owner's sampling results.

In November 2004, EPA established two Public Information Centers within the boundary of the focus area at the OLS that provide information regarding conditions at individual properties, the status of the overall EPA response, and information about other lead hazards in the community. One information center was established in the north Omaha community and a second was located in the south Omaha community. These information centers are staffed with bilingual public information specialists with direct access to the project database maintained at the EPA Regional Office.

In January 2004, a Community Advisory Group (CAG) was formed for the site. A CAG is a committee, task force, or board made up of residents affected by a Superfund site. They provide a public forum where representatives of diverse community interests can present and discuss their needs and concerns related to the site and the cleanup process. CAGs are a community initiative which functions independently of EPA, providing a constructive avenue for addressing and understanding historical information, cultural concerns, and communication approaches tailored to the site. Union Pacific Railroad Company, an Omaha-based company, supports the CAG by providing the services of a technical consultant and facilitator. EPA participates in all aspects of CAG-related activities and meetings at the OLS.

EPA routinely participates in outreach efforts at the OLS by meeting with local groups involved in lead hazard control, giving public presentations, making appearances at schools, and coordinating with local nonprofit organizations and grant recipients to support lead hazard control. EPA participates with the local work force and business community in development and procurement of remedial action contracts. EPA maintains a toll-free telephone number for citizen convenience, and has responded to many thousands of phone calls about the Site.

On July 16, 2004, EPA released for public comment a Proposed Plan describing an interim remedy for the OLS. Two public meetings were announced with the release of the Proposed Plan and conducted on August 10, 2004, in both the north Omaha and south Omaha communities within the focus area of the site. Three extensions of this comment period were granted in response to requests from community members. Additional EPA availability sessions were scheduled and conducted on October 20, 21, and 26, 2004. The comment period for the proposed interim remedy closed on November 1, 2004. EPA issued a ROD selecting an interim remedy for the OLS on December 15, 2004. Public comments received on the Proposed Plan were summarized and addressed in a Responsiveness Summary, which was attached to the Interim ROD.

On October 30, 2008, EPA placed a display advertisement in the Omaha World Herald announcing a public comment period for the Proposed Plan for the final remedy (final Proposed Plan) at the OLS through December 1, 2008. The final Proposed Plan and all supporting documents were assembled in the administrative record which was available for public review at five EPA information repositories in eastern Omaha and at the EPA Regional Office. The final Proposed Plan and supporting studies were also posted on the EPA Region 7 Web page. In response to requests from the community, the comment period was extended from December 1, 2008, to December 31, 2008 and then extended again until January 15, 2009. On November 18, 2008, two public meetings were conducted in the north Omaha community and the south Omaha community to present EPA's preferred alternative for a final remedy at the OLS and to provide an opportunity for additional public comment. All comments received by EPA during the public comment period for the OLS final Proposed Plan are summarized and addressed in the Responsiveness Summary attached to this document.

EPA will continue to work with the community in an effort to provide enhanced communication and education on lead poisoning prevention through outreach, public meetings, attendance at local gatherings, and mailings.

#### SCOPE AND ROLE OF RESPONSE ACTION

The final remedy for the OLS described in this ROD addresses soils that have been contaminated with lead from airborne deposition of historic industrial emissions from former lead smelting and refining operations. Releases of large amounts of lead-contaminated particulate matter to the atmosphere resulted in the contamination of surface soil at thousands of residential properties. EPA's response at the OLS has been directed at controlling potential exposure to lead



originating from historic lead-processing operations at residential-type properties. These types of properties include single- and multi-family dwellings, apartment complexes, child care centers, vacant lots in residential areas, schools, churches, community centers, parks, greenways, and any other areas where children may be exposed to site-related contaminated media. Residential yards contaminated solely from other sources, such as lead-based paint, cannot be remediated under CERCLA authority pursuant to 42 U.S.C §9604 and will not be addressed by this cleanup action.

The initial EPA response conducted under CERCLA removal authority involved excavation and replacement of soil exceeding 400 ppm at child care centers and residences where children with elevated blood lead levels reside. During these initial actions, soils with lead levels exceeding 400 ppm were removed and replaced with clean soil. A second removal action was later initiated to address the most highly contaminated residential-type properties with maximum mid-yard soil lead levels exceeding 2,500 ppm. As cleanups were completed at the most highly contaminated residential properties, the soil lead action level was sequentially reduced to 1,200 ppm and eventually 800 ppm so that soil cleanups could continue under CERCLA removal authority at the properties remaining with the highest mid-yard soil lead levels. During all phases of the EPA response, soil excavation and replacement continued to be prioritized at child care centers and residences where children with elevated blood lead levels reside with mid-yard soil lead levels exceeding 400 ppm.

As the soil cleanup under CERCLA removal authority was ongoing, planning for continued response under CERCLA remedial authority was proceeding. Under remedial response, the remaining properties to be addressed were separated into two Operable Units. Operable Unit 1 addressed the most highly contaminated properties addressed by the interim remedy following completion of removal response. Operable Unit 2 includes the residential properties contaminated at more moderate levels which are to be addressed by the final remedy for the OLS. Addressing the most highly contaminated properties remaining at the OLS under Operable Unit 1 has allowed the EPA response to continue while additional studies and assessment of site risk has been performed to support the final remedy for the OLS.

EPA organized the work remaining following completion of CERCLA removal response into these two operable units:

- Operable Unit 1: Response at high child impact properties and the most highly contaminated OLS properties exceeding 800 ppm soil lead.
- Operable Unit 2: Response at remaining properties that exceed risk-based soil lead levels established during final remedy selection process.

In December, 2004, EPA issued an Interim ROD under Operable Unit 1 for properties at the OLS that had not been previously addressed under CERCLA removal authority. The Interim ROD established a soil lead action level of 800 ppm for residential-type properties and maintained response authority at high child impact properties where non-foundation soil lead levels exceeded 400 ppm. For properties that were eligible for soil remediation under the Interim ROD where the mid-yard soil lead levels triggered a response, the soil lead cleanup level remained 400 ppm.

The scope of the EPA response was expanded under the 2004 Interim ROD to include: (1) stabilization of deteriorating exterior lead-based paint at properties where the continued effectiveness of the soil remediation was threatened, (2) response to interior dust at properties where interior dust lead levels exceeded appropriate criteria, (3) public health education, and (4) participation in a comprehensive remedy with other agencies and organizations that addresses all identified lead hazards in the Omaha community. Exterior lead-based paint stabilization and interior dust response are applied retroactively to properties where soil cleanups have been performed under CERCLA removal authority, as well as to properties addressed under CERCLA remedial authority.

During implementation of the interim remedy at the OLS under Operable Unit 1, EPA proceeded with remedial planning activities for Operable Unit 2. A Final RI and Final FS were developed and released in draft form in October 2008. A draft Final Baseline Human Health Risk Assessment was also released in October 2008 as an appendix to the draft Final RI. On the basis of these studies and other supporting documents in the OLS administrative record, EPA released for public comment a final Proposed Plan on October 30, 2008. The Proposed Plan presented EPA's preferred alternative for a final remedy at the OLS and proposed lowering the soil lead action level to 400 ppm for all residential-type properties impacted by the former lead-processing facilities. On the basis of information in the Final RI, a total of 14,581 properties at the OLS were estimated to be eligible for response. Through the end of the 2008 construction season, soil cleanup had been completed at 4,615 properties at the OLS, leaving an estimated 9,966 properties which would be eligible for soil remediation under Operable Unit 2.

Operable Unit 2 includes all remaining remedial response work at the OLS. Work remaining under Operable Unit 1 that has not yet been completed will be accomplished under Operable Unit 2. Properties identified with time-critical conditions, including residences with elevated blood-lead levels in children and high child-impact areas, will continue to receive prioritized response during the final remedy implemented under Operable Unit 2. The precise scope of work remaining to be completed under Operable Unit 2 is not known with certainty since sampling has not been completed to determine eligibility for soil remediation, exterior lead-based paint stabilization, and interior dust response. The projections of work remaining presented in the Final RI and Final FS are based upon trends in data collected through the completion of the 2008 construction season.

### *Comprehensive Plan*

EPA is aware that lead in the environment at the Site originates from many sources. In addition to the identified soil exposure pathway, other important sources of lead exposure at some properties at the OLS include, but is not be limited to, interior and exterior lead-based paint, lead-contaminated interior dust, children's toys, certain imported candy, jewelry, and cookware. Generally, sources other than contaminated soil cannot be remediated by EPA in the course of residential lead cleanups. CERCLA and the NCP limit Superfund authority to address interior lead-based paint. For example, CERCLA Section 104(a)(3)(B) limits EPA's authority to respond to releases within residential structures as follows:

Limitations on Response: The President [EPA] shall not provide for removal or remedial action under this section in response to a release or threat of release...from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures...

In addition, Section 101(9) of CERCLA specifically provides that the definition of “facility” does not include “any consumer product in consumer use.”

The above-cited sections of CERCLA generally limit the EPA’s authority to respond to lead-based paint inside a structure or house. However, EPA does have authority to address deteriorating exterior lead-based paint as a component of a response action to prevent recontamination of soils that have been remediated.

OSWER policy presented in the August 2003 Superfund Lead-Contaminated Residential Sites Handbook (OSWER Directive 9285.7-50) recommends against using money from the Superfund Trust Fund to address interior lead-based paint exposures, and recommends that actions to address or abate interior lead-based paint risks be addressed by others such as the U.S. Department of Housing and Urban Development (HUD), local governments, health authorities, PRPs, private organizations, or individual homeowners. The OSWER policy also recommends against using Superfund Trust money to remove interior dust solely from lead-based paint or to replace lead plumbing within residential dwellings, and recommends that the regions seek partners to address these other lead exposure risks.

EPA acknowledges the importance of addressing these other exposures in controlling overall exposure to lead hazards at residential Superfund sites. EPA will participate with other organizations such as HUD, the Agency for Toxic Substances and Disease Registry (ATSDR), state environmental departments, state and local health departments, private organizations, PRPs, and individual residents to develop and implement a comprehensive lead risk reduction strategy for the Site.

EPA clearly understands that the community desires a comprehensive remedy to address all potential sources of lead. The EPA supports a comprehensive remedy. Although EPA Superfund authority does not allow EPA to perform all of the actions necessary to address every potential source of lead exposure, the EPA remedy can provide for many elements of a comprehensive lead-reduction program. EPA can provide funds to support health education efforts to reduce the risk of lead exposure in general. Consistent with OSWER policy, EPA will not increase the risk-based soil cleanup levels as a result of any actions taken to address these other sources of exposure.

## SITE CHARACTERISTICS

Properties that comprise the OLS are generally located within a 27.0-square-mile area of eastern Omaha that has been impacted by more than 125 years of emissions from historic lead smelting and refining operations. During the course of operations, lead-contaminated particulate matter was released through stack and fugitive emissions and dispersed in a wide area surrounding the facilities. Airborne emissions were deposited on surface soils at thousands of residential properties in the impacted area. The 27.0-square-mile Final Focus Area at the OLS includes close to 40,000 residential-type properties. According to 2000 Census figures, the Final Focus Area includes 53,511 housing units with a total population of 125,650, including 14,117 children 7 years of age and younger.

The Site is located entirely within an urban area in eastern Omaha and includes only residential properties<sup>2</sup>. The NPL listing establishes that commercial and industrial properties, including the Omaha central business district, are excluded from the defined site. The Site is composed of individual residential properties in the area impacted by historic lead processing emissions where soil testing detects soil lead concentrations at levels that trigger EPA response action. Residential properties in eastern Omaha where testing does not detect soil lead concentrations above EPA action levels are not considered part of the Site.

Properties where the former ASARCO and Aaron Ferer/Gould facilities were located have been remediated during prior response actions, and are not a part of the OLS. Following remediation, the properties where both of the former lead processing facilities were located were redeveloped for beneficial use.

EPA began collecting samples from surface soils (0-1 inch below ground surface) at residential properties in eastern Omaha in 1999. This surface soil sampling has continued throughout the course of EPA response actions. In 2001, a Site Inspection report was prepared which reported the results of surface and subsurface soil sampling performed at approximately eight residential properties every tenth of a mile in sampling corridors leading from downtown Omaha in north, south, east, and west directions. Subsurface samples, collected at approximately 550 of these residences, consistently indicated a decrease in lead levels with increasing depth, consistent with airborne deposition of lead contamination. Subsurface soil sampling was discontinued on the basis of this sampling effort, and surface soil sampling has been relied upon to characterize potential exposure point concentrations at OLS residential properties.

Currently there are 34,598 properties within the Final Focus Area where soil sampling has been performed, and 2,511 properties outside the Final Focus Area that have been sampled. There are 4,360 residential properties within the Final Focus Area remaining to be sampled, and an additional 825 properties that can not be sampled, usually because of no exposed soil present on the property.

---

<sup>2</sup> The term "residential properties" used in this document includes residential-type properties such as schools, churches, parks, vacant lots in residential neighborhoods, and other non-commercial/industrial properties where residential exposure levels could occur.

Elevated soil lead levels are present in residential properties over a wide area of eastern Omaha. In general, concentrations of lead in soil are greatest at residential properties near downtown, where the former lead processing facilities were located. Concentration and frequency of elevated lead levels tend to decrease with increasing distance from the former lead smelting and refining operations. The OLS includes some of the oldest neighborhoods in the Omaha area. This area is primarily used for residential purposes and is populated with a variety of racial, ethnic, and income groups.

Soil sampling performed by EPA has demonstrated that soil lead levels measured in Council Bluffs, Iowa, are significantly lower than soil lead levels measured in eastern Omaha. The significantly lower soil lead levels in Council Bluffs can be attributed to the development of Council Bluffs in the historic flood plain of the Missouri River. The historic flood plain of the Missouri River extends more than three miles east of the former ASARCO and Gould facilities, and includes most of present-day Council Bluffs. Prior to construction of flood control improvements by the U.S. Army Corps of Engineers, which began in the late 1940s, severe flooding of the Missouri River would inundate portions of Council Bluffs located in the flood plain east of Omaha for extended periods of time. During flood events, sediment deposition and scour would either cover or remove lead contamination deposited in surface soils from the former lead-processing facilities. These impacts would significantly reduce lead concentrations in surface soils. The historic industrial lead emissions originated from the former ASARCO facility prior to implementation of flood control measures would have been altered by sediment deposition and scour during major flood events. These flood plain effects would have significantly reduced lead levels remaining in surface soils in the historic Missouri River flood plain immediately east of Omaha. Much of the housing in Council Bluffs located in the historic floodplain of the Missouri River was constructed following implementation of flood control measures, and the soil disturbance caused by housing construction would further reduce soil lead levels in surface soils. *Figure 3* depicts the flood plain of the Missouri River located between the east and west bluffs in the vicinity of Council Bluffs.

EPA has established a Final Focus Area shown in *Figure 4*. This Final Focus Area is based on a geospatial analysis of existing soil lead data, and includes the area where the frequency of residential properties with soil lead above 400 ppm exceeds 5 percent (i.e., at least 1 in 20 homes has a soil lead level of potential concern). Lead speciation studies have determined that the historic lead smelting and refining operations in eastern Omaha are a significant source of lead contamination at residential properties throughout the Final Focus Area. In some instances, residential properties that are outside the Final Focus Area boundary have been sampled in efforts to identify the extent of contamination. Properties located outside the Final Focus Area boundary are considered a part of the OLS if soil sampling has detected soil lead levels exceeding the final EPA soil lead action level.

*Figure 5* presents a general conceptual model of how smelter-related contaminants that have been released to the environment at the OLS might result in exposure of humans. The environmental medium of chief concern is surface soil that has been impacted by wet or dry deposition of metal-containing airborne particulates released from the smelters. The human



population of chief concern is residents in the area of the OLS, now or in the future, including both children and adults. Residents might be exposed to smelter-related contaminants in Site soils by a number of different pathways including ingestion, inhalation, and dermal contact with contaminated soil or dust, and ingestion of home-grown produce that may have taken up contaminants from the soil.

At smelter sites, contaminants of concern (COCs) typically include a range of different metals and metalloids. At the OLS, Baseline Human Health Risk Assessments performed in 2004 and 2008 have identified lead as the primary COC at the Site. The primary route of exposure to lead at the OLS is ingestion of surface soil and dust contaminated with lead. Exposure to lead-contaminated soils has contributed to an increased incidence of childhood blood lead poisoning in areas near the former lead processing facilities. The frequency of elevated blood lead levels in children living within the OLS has consistently exceeded the frequency of elevated blood lead levels in children living in other parts of Douglas County. The latest available data from the Douglas County Health Department for 2007 indicates that 209 of the 259 children (81 percent) in Douglas County with measured elevated blood lead levels exceeding 10 µg/dL reside within the seven zip-code area approximating the OLS site.

Soil lead investigations at the OLS have determined that lead contamination in undisturbed areas generally remains limited to the upper few inches of soil. In impacted areas that have been disturbed, soil mixing that has occurred with underlying soils has, in some cases, resulted in a significant reduction in lead concentrations detected in surface soils. The inconsistent pattern of soil disturbance since airborne deposition of industrial emissions from the former lead processing facilities began more than 125 years ago is a significant factor in the variation in lead levels observed at the OLS. The variation in soil lead levels at the OLS can be significant both between nearby or adjacent properties, and within individual properties.

Soil sampling at residential properties at the OLS has been performed in accordance with the Superfund Lead-Contaminated Residential Sites Handbook. This sampling approach involves collection of multiple samples at individual residential properties which helps assure that contaminated areas are identified if varying soil lead conditions are present. Four composite soil samples are generally collected from mid-yard areas at each property. At a typical residential property, the front yard and back yard are each divided in half. Five individual aliquots are collected at 0 to 1 inch depth from each of the four quadrants and combined to form the four composite samples. An additional four-aliquot composite sample is generally collected from the drip zone area (6 to 30 inches from the foundation wall) by combining one aliquot collected from exposed soil on each side of the residence. Additional samples are collected from garden areas and play zones if present on a property.

The volume of contaminated soil that must be removed to attain cleanup goals also varies significantly from property to property. The size of the yard at individual properties is highly variable. Due to the variation in surface soil lead concentrations, the number of quadrants that require excavation to achieve cleanup goals can vary from a single quadrant to the entire yard. In addition, the depth of excavation can vary from quadrant to quadrant. Although elevated soil lead concentrations are generally limited to the upper few inches of soil, excavation of 6 to 12

inches of soil in remediated quadrants is typically performed to assure that cleanup goals are met. The variation in areal extent and depth of excavation results in a range of soil volume that must be removed from individual properties. On average, approximately 50 tons of soil is removed from each residential property to achieve cleanup goals.

#### CURRENT AND POTENTIAL FUTURE LAND USE AND RESOURCE USES

Land use at the properties which comprise the OLS is residential and residential-type parcels. Since the Site is defined to include only residential and residential-type properties, commercial and industrial properties within the Final Focus Area are not considered part of the Site. The OLS is located entirely within the city limits of Omaha, Nebraska, where local zoning ordinances control land use. The site is bordered by adjacent Omaha neighborhoods and commercial areas to the north and west, and developed areas within the city of Bellevue, Nebraska, in Sarpy County to the south, and the Missouri River to the east. The continued residential use of property can be reasonably assumed for the majority of the thousands of properties that comprise the Site through local zoning control. It is possible that, at some point in the future, interest will arise in converting some of the current residential properties to nonresidential use.

Also located within the general area of affected residential properties are numerous nonresidential properties, including the Omaha central business district. As noted above, certain nonresidential properties such as parks and schools are included in the remedy as residential-type properties. Commercial properties including the Omaha central business district and industrial properties are not included in the site definition and soil sampling is not performed at properties with this type of land use.

Groundwater is not affected by lead-contaminated soils at the impacted residential properties that comprise the Site. Potential groundwater impacts related to the ASARCO and Aaron Ferer/Gould facilities were mitigated through placement of a cap over remediated areas. Soil lead contamination at the OLS has remained very stable, exhibiting little or no vertical migration or leaching after more than 125 years since former lead smelting/refining operations began. Since lead in surface soils at the OLS is not considered readily leachable under normal circumstances, local groundwater quality is not threatened by lead-contaminated surface soils. Shallow groundwater beneath the OLS discharges directly to the Missouri River and is not useable as a potable water source due to poor quality and low productivity. The municipal water supply is readily available and used by Omaha residents, and domestic use of local groundwater is controlled by City Ordinance. Groundwater is not addressed by this ROD due to the lack of potential impact on groundwater quality and the absence of potential receptors.

Surface water is also not affected by lead-contaminated soils at the OLS. The most prominent surface water feature potentially affected by site contaminants is the Missouri River immediately east of the Site. Available data indicate that public health is not threatened by potential Site impacts on surface water quality in the Missouri River. Sampling results of water and sediment in the Missouri River immediately adjacent to the ASARCO and Aaron Ferer/Gould facilities has not detected elevated levels of lead or other smelter-related contamination. Public drinking water intakes which supply the cities of Omaha and Council Bluffs are located upstream of the OLS.

Future use of surface water and groundwater resources should not be affected by lead-contaminated soils at the Site or the remedial action described in this ROD.

## SUMMARY OF SITE RISKS

### *Human Health Risks from Lead*

The primary chemical of concern (COC) for human health at the OLS is lead. *Figure 7, Table 1* summarizes the range of maximum non-foundation soil lead levels detected during OLS investigations at 34,217 sampled properties in the Final Focus Area. *Figure 7, Table 2* summarizes the number and percentage of sampled OLS properties within the Final Focus Area with maximum non-foundation soil lead levels falling within specified ranges.

The human health risk assessment for lead focused on young children seven years of age and younger (0 to 84 months) who are OLS residents. Young children are most susceptible to lead exposure because they have higher contact rates with soil or dust, absorb lead more readily than adults, and are more sensitive to the adverse effects of lead than are older children and adults. The effect of greatest concern in children is impairment of the nervous system, including learning deficits, lowered intelligence, and adverse effects on behavior.

In accordance with EPA's recommended risk assessment approach for lead, potential health risks to children from lead were evaluated using EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model. The IEUBK model uses measures or estimates of lead concentrations in environmental media (soil, dust, water, air and food) to estimate the probability that a child's blood lead level might exceed a health-based standard of 10 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ). For convenience, the probability that a child will have a blood lead level above 10  $\mu\text{g}/\text{dL}$  is referred to as "P10." The EPA's health protection goal is that there should be no more than a 5 percent chance of exceeding a blood lead level of 10  $\mu\text{g}/\text{dL}$  in a given child or group of similarly exposed children (i.e.,  $\text{P10} \leq 5$  percent). The basis for this goal is that health effects associated with childhood lead exposure have been determined to occur at or below a blood lead level of 10  $\mu\text{g}/\text{dL}$ .

The IEUBK model was used to evaluate risks to children from lead at 28,478 residential properties within the Final Focus Area. Residential properties where soil has already been remediated by EPA were not included in the risk assessment. Inputs to the IEUBK model are summarized below.

- At each property evaluated, the concentration of lead in soil was based on the average of all surface soil samples collected from the main part of the yard. Samples of soil from the drip zone were not included because it is not considered likely that children will routinely be exposed in the drip zone. The measured mean concentration value was adjusted to account for the fact that children are mainly exposed to finer (smaller) particles of soil, in which lead is somewhat more concentrated than in the bulk soil sample.

- The concentration of lead in indoor dust was estimated from the concentration of lead in outdoor soil. During the Final Baseline Human Health Risk Assessment, the relationship between soil and dust was based on data from 98 properties at the OLS where paired soil and dust samples were collected. The average concentration of lead in indoor dust was estimated by the following equation:  $C(\text{dust}) = 42 \text{ ppm} + 0.74 \cdot C(\text{soil})$ . This equation indicates that, on average, 74 percent of the mass of indoor dust is derived from soil. The amount of lead in indoor dust is the sum of the lead from soil and other (nonsoil) sources. The average contribution from nonsoil sources is estimated to be 42 mg/kg, suggesting that releases from indoor lead-based paint are, on average, not excessive. Based on these findings, the percent of lead from soil is not a constant, but may range from less than 50 percent when soil levels are low to over 90 percent when soil levels are high.
- The extent of lead absorption from soil was based on measurements performed in animals (2 samples) and in an *in vitro* system that is known to yield reliable estimates of absorption in animals (47 samples). Taken together, the data indicated that absorption of lead from Site soils is about 80 percent of that from readily absorbable forms of lead. *In vitro* data for 94 indoor dust samples indicated the same value (80 percent) was appropriate for estimating absorption of lead from indoor dust.
- The concentration of lead in water was based on data collected at 98 properties at the OLS. This included measures of both “first-flush” water (water drawn in the morning before water use begins), and “post flush water” (water drawn after the pipes have been flushed). Concentration values were typically low, and the average for the Site was 1.36 µg/L.
- The concentration of lead in air was based on measurements performed at 5 air monitoring stations in the OLS. Because the concentration of lead in air decreased after the smelters ceased operation, only data from 2000-2003 were used. The average value was 0.036 µg/m<sup>3</sup>.
- All other model inputs were default values recommended for use by EPA.

Lead in soil and dust may arise from a number of different sources, including not only deposition from historic smelter emissions but also releases from indoor and outdoor lead-based paint, historic releases from vehicles using leaded gasoline, and others. The risk assessment is based on the total level of lead in soil and dust. Direct ingestion of lead-based paint chips does not serve as an input to the IEUBK model at the OLS. Indirect exposure to lead from lead-based paint and other potential sources of lead is accounted for in the IEUBK model through the use of

total lead levels measured in soil and dust to derive model inputs. The IEUBK model does not separate the risk estimated from various sources, but rather determines impacts on blood lead levels resulting from exposure to all lead sources that contribute to the total lead levels measured in soil, dust, food, water, and air.

The results of the IEUBK model calculations are summarized in *Figure 8*. As seen, of the 28,478 properties evaluated, a total of 19,445 homes (68 percent) are predicted to have P10 values at or below the health-based goal of 5 percent, and 9,033 properties (32 percent) have values that exceed the goal. Of these 9,033 properties, 3,177 have P10 values between 5 percent and 10 percent; 3,051 properties have P10 values between 10 percent and 20 percent; and 2,805 properties have P10 values greater than 20 percent. The location of properties with P10 values greater than the health-based goal of 5 percent were widespread across the OLS Final Focus Area and were found within all zip codes with the exception of 68117 (which only had 2 properties). *Figure 6* shows zip code boundaries in eastern Omaha.

These results indicate that a number of homes or parcels within the Final Focus Area have soil lead levels that are of potential health concern to children who may reside there now or in the future.

#### *Risks to Residents from Other (Non-Lead) Contaminants of Potential Concern (COPCs)*

Risks to area residents (children and adults) from exposure to other (non-lead) smelter-related contaminants in soil were evaluated in accordance with standard risk assessment methods recommended by EPA for use at Superfund sites. Chemicals that were evaluated included aluminum, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, manganese, mercury, thallium, vanadium, and zinc. Risks were evaluated for both children and adults who have central tendency exposure (CTE) and reasonable maximum exposure (RME). Non-cancer risks are expressed in terms of a Hazard Quotient (HQ). HQ values less than or equal to one are not of concern, while values above one are of potential concern. The results are shown in *Figure 9*. As indicated, estimated non-cancer risks from most COPCs in surface soils for residential scenarios, including both children (age 0-7 years) and adults (age 8-30 years), are below a level of potential concern ( $HQ \leq 1$ ). An exception is arsenic, which results in non-cancer risks for an RME child at about 10 percent of the properties. Estimated cancer risks from arsenic are shown in *Figure 10*. Cancer risks are within EPA's risk range of  $1E-04$  to  $1E-06$  for the CTE resident, but about 5% of properties exceed the risk range ( $> 1E-04$ ) for an RME resident. These properties are a subset of the properties that are of concern for non-cancer effects in children.

The distribution and sources of arsenic was the focus of separate independent studies that are included as Appendix D in the Remedial Investigation. Two studies by the National Exposure Research Laboratory (NERL) concluded that the high levels of arsenic found with limited frequency at OLS properties are not related to the widespread lead contamination from former lead smelting/refining operations. Arsenic data were also evaluated by the Laboratory for



Environmental and Geological Studies (LEGS). LEGS also concluded that the arsenic contamination did not correlate with elevated soil lead levels at the OLS and the predominant source of arsenic in the high concentration samples was arsenic trioxide, a form commonly used as a rodenticide. Based on these results, arsenic is not considered a contaminant of concern for the Record of Decision.

#### *Risks to Ecological Receptors*

EPA has determined that a formal ecological risk assessment is not necessary at the OLS. With respect to terrestrial receptors (birds, mammals, plants), the Site is urban and is not considered to be suitable habitat for most species of native plants and animals. With respect to aquatic receptors, available data suggest that there are no detectable releases from the Site to the Missouri River, so an evaluation of risks to aquatic receptors is not needed.

#### *Determination of Preliminary Remediation Goal for Lead*

In accordance with EPA policy, the Preliminary Remedial Goal (PRG) for lead in soil at residential properties is derived using the IEUBK model. The PRG is the soil concentration of lead that yields a P10 value of 5 percent. If only default values are used as inputs to the IEUBK model, the model yields a PRG value of approximately 400 ppm.

When reliable site-specific data are available, the IEUBK model may incorporate those inputs to derive a site-specific PRG that may be different from the value based on default input parameters. As described previously, several types of site-specific data are available for evaluating lead risks at the OLS, including the soil-dust relationship, the bioavailability of lead in soil and dust, and the levels of lead in air and water. When best estimates of the site-specific inputs are used, the resulting PRG for lead in soil at the OLS is 298 ppm measured by ICP analysis in the fine fraction of soil or 247 ppm measured by XRF in bulk soils.

In considering these values based on site-specific inputs, it is important to understand that IEUBK model predictions are subject to some uncertainty since site-specific model inputs can vary over a range of values. To investigate the potential impact of these uncertainties, EPA performed a number of alternative PRG calculations using different combinations of IEUBK model inputs for the bioavailability term and the soil-dust relationship. The resulting PRG values ranged from 251 ppm to 442 ppm, measured in fine fraction by ICP analysis or ranged from 208 ppm to 366 ppm measured in bulk soil by XRF.

#### *Determination of the Final Remediation Goal for Lead*

Final cleanup levels for lead in residential soil at Superfund sites generally are based on a consideration of the PRG derived by the IEUBK model results, taking the uncertainty in the value into account, and also considering the nine criteria in accordance with the CERCLA regulations contained in the National Contingency Plan (NCP). Under most circumstances, EPA selects a residential soil lead cleanup level which is within the range of 400 ppm to 1,200 ppm.

EPA is selecting a soil action level for lead in residential soils at the site of 400 ppm as measured in bulk samples using XRF instrumentation. This soil action level is near the lower end of the typical 400 ppm to 1,200 ppm residential risk range, is near the upper end of the site-specific PRG range (measured in bulk soil by XRF), and is consistent with the Interim Record of Decision. The cleanup of surface soils at or above 400 ppm is anticipated to reduce child blood lead levels to meet the Remedial Action Objective and provide a protective remedy for the community. Additional activities include health education, operation of a local lead hazard registry, providing equipment and training to OLS residents for high-efficiency cleaning of home interiors contaminated through tracking of soils, and addressing loose and flaking exterior lead-based paint to protect the remedy effectiveness to provide further protection of human health at the OLS. The final response action selected in this ROD is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

The application of the action level also requires consideration of the depths of excavation and other risk management elements. Under the Interim Record of Decision, EPA applied the 400 ppm action level to the first one foot and also established a not-to-exceed cleanup level of 1,200 ppm at depths below one foot. Due to the distribution of lead contamination in the soil profile at the OLS, Region 7 has determined that backfilling of excavated areas to original grade with clean material after reaching a residual soil lead level less than 400 ppm in the upper foot, or a residual concentration of less than 1,200 ppm at a depth greater than one foot, combined with other elements of the selected remedy, is protective of human health. These OLS cleanup criteria are based upon a risk-management determination made by Region 7 in consideration of site-specific conditions at the OLS and the experience gained in remediating over 4,600 properties using this strategy. Under the Interim Record of Decision, EPA applied the 400 ppm action level to the first one foot and also established a not-to-exceed cleanup level of 1,200 ppm at depths below one foot. More than 98 percent of the post-remediation quadrants met the 400 ppm action level at all depths. The 1,200 ppm is also protective for occupational exposure of utility workers or other construction workers that could potentially contact subsurface soils following soil remediation. Five-year review procedures will apply to any eligible properties where soil remediation does not achieve the action or cleanup levels specified in this Final Record of Decision.

#### REMEDIAL ACTION OBJECTIVE

Consistent with Agency policy established in the EPA Residential Sites Handbook, a single Remedial Action Objective (RAO) has been established for Operable Unit 2 at the site, as follows:

The Remedial Action Objective is to reduce the risk of exposure of young children to lead in (or derived from) outdoor yard soil such that, given typical exposures to lead in air, water and food, the IEUBK model predicts there is no greater than a 5 percent chance an individual child, or group of similarly exposed children, will develop a blood-lead concentration exceeding 10 µg/dL.

This RAO is based on the understanding that current and reasonably anticipated future land use at the site is residential. Under residential land use conditions, the most susceptible receptor is a young child (age 7 and younger). As described in the final human health risk assessment, the IEUBK model was used to evaluate risks to children from lead in soil, dust (which is linked to soil), water, air, and diet. Of these exposure media, the largest exposure comes from soil and dust. The final remedy for the OLS will effectively control the contribution of the soil/dust exposure pathway, and enable achievement of the RAO.

### DESCRIPTION OF ALTERNATIVES

Three alternatives were developed in the Final OLS FS to meet the identified Remedial Action Objective. The alternatives were developed to specifically address residential soil contamination resulting from industrial lead processing operations and include:

- Alternative 1: No Action
- Alternative 2: Excavation and Soil Replacement with Health Education and Institutional Controls
- Alternative 3: Excavation and Soil Replacement with Phosphate Stabilization, Health Education and Institutional Controls

#### *Description of Remedy Components*

##### *Alternative 1: No Action*

The EPA is required by the NCP, 40 CFR § 300.430(e)(6) to evaluate the No Action Alternative. The No-Action Alternative may be appropriate at some sites where a removal action has already occurred that reduced risks to human health and the environment. Although a response action to address lead-contaminated soils is ongoing at the OLS, excessive residual risks to human health remain, as documented in the BHHRA. Under the No-Action Alternative, the ongoing remedial action would cease. The concentrations of metals in residential yard soils would remain at levels that present an unacceptable risk to human health, particularly for young children residing at the OLS. The No-Action Alternative is therefore not protective of human health.

##### *Alternative 2: Excavation and Soil Replacement with Health Education and Institutional Controls*

- Excavation and Replacement of Soils Exceeding 400 ppm Lead
- Stabilization of Deteriorating Exterior Lead-Based Paint
- Response to Lead-Contaminated Interior Dust
- Health Education

- Operation of a Local Lead Hazard Registry as a type of Institutional Control and Development of an Institutional Control and Assurance Plan
- Participation in a Comprehensive Remedy Addressing Identified Lead Exposure Sources

Under this alternative, residential properties with at least one non-foundation sample greater than 400 ppm lead would be eligible for remedial action. The remedial action would include excavation and disposal of contaminated soil in all quadrants, drip zones, play zones, and other areas that exceed 400 ppm lead in surface soils. Excavation would continue until the lead concentration at the exposed surface of the excavation is less than 400 in the initial one foot below the surface, or less than 1,200 ppm at depths greater than one foot. A visual barrier would be placed when the 1,200 ppm not-to-exceed cleanup level at depth is exceeded below one-foot. Excavated soil would be disposed of either in a soil repository constructed for this purpose, used as beneficial fill in an industrial land use project, if appropriate, or transported to a solid waste landfill and used as daily cover or disposed of. Yards where only the drip zone soil exceeds 400 ppm lead would not be addressed under this action.

To date, soil remediation had been completed at 4,615 properties during previous response under CERCLA removal and remedial authority. Based on soil sampling completed and relying on trends for unsampled properties, the OLS Final Feasibility Study estimates that 9,966 additional properties with maximum non-foundation soil lead levels exceeding 400 ppm would become eligible for soil remediation under the final remedy.

This alternative includes stabilization of deteriorating exterior lead-based paint in cases where EPA determines that the continued effectiveness of the soil remediation is threatened. Lead-based paint stabilization would only be performed at properties which are also eligible for soil remediation under this alternative. EPA has developed a protocol to determine eligibility for exterior lead-based paint that is described in the OLS Recontamination Study. This protocol would be applied under this alternative to determine if structures at individual properties are eligible for exterior lead-based paint stabilization due to a threat to the continued effectiveness of soil remediation. Stabilization of structures involves preparation of surfaces to remove loose and flaking lead-based paint using lead-safe procedures, followed by priming and painting of all previously painted surfaces. Lead-based paint stabilization performed under this alternative would be voluntary to homeowners.

Alternative 2 provides for response to interior lead-contaminated dust at properties where soil remediation is performed. Interior dust wipe samples would be collected from floors in accordance with HUD interior wipe sampling protocol, and compared to EPA/HUD wipe sample criteria for floors to determine if the property is eligible for interior dust response. At eligible properties, residents would be provided a HEPA-equipped household vacuum cleaner and given training on its importance and operation and maintenance. In addition, residents would be provided health education pertaining to household lead exposure hazards, and actions that are necessary to lower potential lead exposure inside the home. Interior lead-contaminated dust response would be voluntary to homeowners.

A public health education program would be implemented to provide additional protection of human health. Elements of the public health education program include continued operation of the OLS Public Information Centers, providing public service announcements on local cable television, and funding to local agencies and organizations for outreach and education directed at lead hazards in the Omaha community.

This alternative includes a lead hazard registry which is a type of institutional control that provides additional protection of human health by making information available to the public about conditions at individual OLS properties. The lead hazard registry will provide interested parties with on-line access to lead hazard information at individual properties which includes the status of EPA investigations and response actions and other lead hazard information including HUD-funded lead hazard control and abatement activities.

This alternative includes participation in a comprehensive remedy with public and private partners involved in health education, outreach, lead abatement, and other lead hazard control activities.

*Alternative 3: Excavation and Soil Replacement, Phosphate Stabilization with Health Education and Institutional Controls*

- Phosphate Stabilization of Soils at Levels 400 ppm to 500 ppm
- Excavation of Soils Exceeding 500 ppm
- Stabilization of Deteriorating Exterior Lead-Based Paint
- Response to Lead-Contaminated Interior Dust
- Health Education
- Operation of a Local Lead Hazard Registry as a type of Institutional Control and Development of an Institutional Control and Assurance Plan
- Participation in a Comprehensive Remedy Addressing Identified Lead Exposure Sources

This alternative involves a combination of excavation and phosphate treatment of lead-contaminated soils at residential-type properties that have maximum mid-yard soil lead levels above 400 ppm. A Bench Scale Treatability Study was performed during implementation of the interim remedy at the OLS to evaluate the potential effectiveness of phosphate treatment on lead in OLS soils. The Treatability Study concluded that the most successful soil amendment reduced the in vitro bioaccessability of lead in the three tested OLS soil types from 15 to 26 percent. For the purpose of this alternative, it is assumed that a 20 percent reduction in lead bioavailability can be achieved using phosphate stabilization on OLS soils, and that application of phosphate treatment to soil lead concentrations ranging from 400 to 500 ppm would successfully achieve the Remedial Action Objective for soil lead. This alternative assumes that phosphate treatment is applied to residential properties with a high mid-yard soil lead concentration in the range of 400 to 500 ppm.



Under Alternative 3, residential properties with a high mid-yard soil lead level exceeding 500 ppm would be remediated by conventional excavation and soil replacement similar to Alternative 2. This alternative includes all other activities described in Alternative 2, including exterior lead-based paint stabilization, interior dust response, health education, operation of a local lead registry, and participation in a comprehensive remedy with public and private partners to address all identified lead exposure sources in the community.

*Common Elements and Distinguishing Features of Each Alternative*

With the exception of the No-Action Alternative, each alternative includes the common elements of deteriorated exterior lead-based paint stabilization, interior dust response, health education, operation of a local lead hazard registry, and participation in a comprehensive remedy that addresses all identified sources of lead exposure in the Omaha community. These elements will be unchanged regardless of the approach that is selected in the final remedy for soil remediation.

Both action alternatives are similar in their attainment of key applicable or relevant and appropriate requirements (ARARs). The key distinguishing features of the action alternatives relate to the number of yards to be excavated and the use of phosphate stabilization to treat contaminated soils instead of excavation and soil replacement.

Under both action alternatives, excavation and soil replacement will be performed at properties where the maximum non-foundation soil lead level exceeds 500 ppm. Under Alternative 2, excavation and soil replacement will be applied at all properties eligible for remedial action, including those properties with maximum non-foundation soil lead levels between 400 and 500 ppm. Under Alternative 3 however, phosphate treatment would be applied to properties with a maximum non-foundation soil lead level between 400 and 500 ppm, and excavation and replacement would be applied to properties with maximum non-foundation lead concentrations exceeding 500 ppm.

Stabilization of deteriorating lead-based paint and interior dust response, common to both Alternatives 2 and 3, are not considered stand-alone actions, but rather are ancillary components of the principal elements of each alternative involving excavation and soil replacement and soil treatment. Stabilization of deteriorating lead-based paint is performed at eligible properties to help assure the long-term effectiveness of soil remediation under both action alternatives. Lead-based paint stabilization is performed to prevent remediated soils near structure foundations from becoming recontaminated by loose and flaking paint falling to the ground and mixing with soils. This action is not taken to control the potential for direct exposure to peeling lead-based paint or lead-based paint chips that fall to the ground, but these lead hazards are also mitigated by stabilizing deteriorating lead-based paint to protect the continued effectiveness of the soil remedy.

Likewise, interior dust response is related to soil remediation and is included in each action alternative to address this potential exposure source which partially originates from tracking of outdoor contaminated soils and migration of fine particulates in outdoor soils to indoor areas

through blowing and other transport mechanisms. Interior dust response would be performed during implementation of soil remediation to address indoor impacts from yard soils. Actions would not be taken to address deteriorating lead-based paint or interior dust if not for the presence of outdoor soils exceeding health-based levels.

Human health protection under all alternatives is increased through state and federal lead hazard disclosure requirements. In accordance with CERCLA requirements, property owners are provided results of soil sampling performed both during initial characterization of soil lead levels at individual properties and following excavation to confirm that cleanup goals have been met. Sampling data transmittals constitute a lead hazard record under Federal HUD and TSCA regulations, which must be disclosed by property owners to buyers prior to purchase, and must be disclosed by landlords to tenants upon lease signing and renewal. State real estate rules require that property owners must disclose sampling results to buyers as information pertaining to potential environmental hazards prior to purchase. State and federal lead hazard disclosure requirements represent an informational tool which assures that buyers and tenants of OLS properties are provided with records of soil lead levels at individual properties. When transmitting sampling results and other information concerning potential lead hazards at individual properties, property owners are advised by EPA that the provided information constitutes records that must be retained to comply with state and Federal disclosure requirements.

Alternative 2 involves the excavation of all properties exceeding 400 ppm. This alternative represents a final remedy for the estimated 14,577 properties (including previous response) that would be excavated and restored. This alternative does not rely upon treatment in any way to potentially address any of the contaminated site properties. Under Alternative 2, approximately 50 tons of contaminated soil would be removed from each of the remaining 9,966 properties for a total of approximately 500,000 tons, and transported off-site for final management or use as beneficial fill.

Alternative 3 includes a combination of excavation and treatment to achieve remedial action objectives. This alternative also constitutes a final remedy for the 4,615 remediated and estimated 9,966 remaining properties at the Site contaminated at levels above 400 ppm. Phosphate treatment would be applied to an estimated 3,234 properties with maximum non-foundation soil lead levels between 400 and 500 ppm. Under Alternative 3, excavation and replacement of contaminated soils would be performed for an estimated 6,732 residential properties where maximum non-foundation soil lead levels exceed 500 ppm, which is the highest lead concentration in OLS soils that can be effectively treated as demonstrated by the OLS Phosphate Treatability Study. Off-site management or beneficial use of approximately 50 tons of soil per excavated property, or approximately 337,000 tons total, would be required. Treated soils would remain on-site at individual properties where phosphate treatment is applied.

The primary distinction between alternatives involves the reliance upon a proven, conventional approach to remediation involving the excavation and replacement of contaminated soils versus consideration of a promising, yet unproven technology to reduce risks in existing soils to acceptable levels. Phosphate stabilization has been demonstrated in some studies to reduce bioavailability by as much as 50 percent, thereby reducing risks associated with contaminated

soils, but the effectiveness of this technology under conditions at the OLS remains uncertain. Soil type and chemistry can be expected to impact the effectiveness of this type of technology. For this reason, a treatability study was conducted to evaluate the short-term effectiveness of this technology applied to OLS. The long-term effectiveness and reliability of phosphate treatment is much less assured than the conventional approach of excavation and soil replacement.

Significant differences also exist between excavation and treatment with regard to management of untreated waste and treatment residuals. Excavation and replacement of contaminated soil requires final management of untreated waste in a disposal cell or possible use as beneficial fill. If treatment is applied to contaminated properties, treated materials would remain at the surface in treated areas. Residual risks associated with direct contact with the treated soil would be reduced through the treatment process to acceptable levels. If the effectiveness of treatment decreased over time, residual risks of treated soil could increase to unacceptable levels. Long-term monitoring of treatment levels would be required to assure the continued effectiveness of the remedy.

The residual health hazard associated with excavated soil would be controlled through engineering controls by any of the final management options. Excavated soils placed in a solid waste landfill or a soil repository constructed for this purpose would be isolated from potential exposure as a result of placement inside a contained facility.

Efforts to date have been unsuccessful in identifying a beneficial use for the excavated materials that has the support of government jurisdictions at the local, state, and federal levels. If a beneficial use of the material cannot be arranged, the excavated soils must be disposed of in an engineered repository or in an existing solid waste landfill.

The construction of a repository or disposal in an existing solid waste landfill has a significant monetary cost. The 2004 OLS FS estimated the cost of final management in a soil repository at approximately \$1 per ton, excluding transport and land acquisition. Excavated materials are currently being hauled to a solid waste landfill for use as daily cover at a cost of approximately \$15 per ton. Use of the material as beneficial fill avoids costs associated with repository construction or disposal fees, but still involves transportation costs that could potentially be offset by the value of the material as fill.

If proven successful, soil treatment would potentially eliminate future operation and maintenance costs since there would be no future action required to provide long-term protection of the remedy. Although excavation and soil replacement would also avoid operation and maintenance costs for remediated properties, some long-term costs may be associated with operation and maintenance of the soil repository or landfill. Operation and maintenance costs could continue to be incurred in perpetuity. These long-term costs could potentially be avoided if beneficial use of excavated soils could be identified and implemented.

During the 2004 evaluation of alternatives which supported the interim Remedial Action, the cost analysis indicated that the use of soil treatment could result in significant capital cost savings compared to soil excavation and replacement. The 2004 OLS FS estimated the net cost of yard excavation and replacement at \$11,000 per property, compared to \$3,000 per property for phosphate treatment. However, an updated cost analysis was performed during the 2008 OLS Final FS which indicated that costs had significantly increased for phosphate treatment. While the estimated cost of excavation and soil replacement was increased to \$13,000, the estimated cost of phosphate treatment increased to more than \$35,000 per property, due in large part to a nearly 500 percent increase in the cost of phosphoric acid. This increased treatment cost results in total capital costs for the Alternative 3 of \$356.9 million which significantly exceeds the total capital cost of \$235.3 million for Alternative 2. Projected over a ten-year implementation period with a 7 percent discount rate for both action alternatives, the total present worth for Alternative 3 of \$250.6 million significantly exceeds the present worth for Alternative 2 of \$165.3 million.

Excavation and replacement of contaminated soils is the conventional approach to lead-contaminated soil remediation and uses readily available equipment and standardized procedures. Removal and replacement of lead-contaminated soils is easily implementable and provides immediate protection and permanence by removing hazardous soils to prevent potential human exposure. By comparison, treatment of lead-contaminated residential soils uses an innovative technology for remediating a portion of the contaminated soils, and partially satisfies the CERCLA preference for treatment remedies. However, phosphate treatment has not been applied on a full-scale basis at sites similar to the OLS. Long-term effectiveness and reliability are uncertain with phosphate treatment, and significant short-term risks and implementation challenges may exist for this alternative.

#### *Expected Outcomes of Each Alternative*

Both excavation of contaminated soils and successful implementation of phosphate treatment would allow for unrestricted future use of remediated properties. Residential use of these properties could continue under either approach. Both excavation and replacement of contaminated soils and soil treatment are readily implementable.

The time frame to achieve cleanup goals would be similar for both approaches. Excavation, soil replacement, and resodding of a single property can be performed in a period of several days, but one to two weeks of implementation time is typical due to scheduling of contractors. By comparison, soil treatment could take from several days to a week for the soil additions to have their intended effects, after which soil neutralization and resodding would be performed resulting in a typical implementation time of two to three weeks per property. Both approaches to site remediation will take a number of years to implement due to the large number of properties involved. Funding levels would control the number of properties that could be completed each year, which would control the project period. This analysis assumes that funding levels are sufficient to complete either Alternative 2 or Alternative 3 in a period of ten years.

## SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

The NCP requires EPA to evaluate selected remedial alternatives considering nine criteria. The nine criteria are grouped into two threshold criteria, five balancing criteria, and two modifying criteria. The two threshold criteria are overall protection of human health and the environment and compliance with ARARs. Generally, alternatives must satisfy the two threshold criteria or they are rejected without further considering the remaining criteria. The five balancing criteria include long-term effectiveness and permanence, reduction in toxicity, mobility, and volume achieved through treatment, implementability, short-term effectiveness, and cost. The two modifying criteria consist of state and community acceptance.

### *Threshold Criteria*

#### Overall Protection of Human Health and the Environment

Overall protection of human health and the environment is evaluated through a composite of factors and addresses whether each alternative provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled through treatment, engineering controls, and/or institutional controls.

The No-Action Alternative would not affect existing conditions at the site. The No-Action Alternative does not address any of the identified risks for human health and is not considered protective of human health and the environment.

Protection of human health and the environment is addressed to varying degrees by Alternatives 2 and 3. In excavated areas, Alternatives 2 and 3 both provide a level of protectiveness by removal of contaminated soils from the exposure pathway and replacement with clean soil. Excavation and soil replacement eliminates the risk of exposure through direct contact with lead-contaminated surface soil in remediated areas. Additional protection of human health is provided under Alternatives 2 and 3 through public health education and the lead registry institutional control.

Alternative 3 provides protection through *in situ* treatment for soil lead levels between 400 and 500 ppm by immobilizing lead and reducing its bioavailability. However, the safety and long-term effectiveness of the treatment technology must be demonstrated for lead-contaminated soils at the OLS. The protectiveness of soil treatment is less assured compared to conventional soil excavation and replacement.

The common components of Alternatives 2 and 3 including health education, operation of a local hazardous waste registry, and participation in a comprehensive remedy that addresses all identified lead exposure sources enhance the level of human health protection provided by excavation/replacement and soil treatment. The nine-criteria analysis of Alternatives 2 and 3 will focus on the principal elements of these alternatives. Deteriorating lead-based paint



stabilization and interior dust response may affect attainment of the nine criteria, but these actions are considered ancillary to the principal components of excavation/replacement and soil treatment.

Exposure to lead in house dust would potentially be reduced at remediated properties under Alternatives 2 and 3 by providing high-efficiency household vacuum equipment and training and education to participating residents. Primary health education programs under Alternatives 2 and 3 would provide further, ongoing risk reduction for Alternatives 2 and 3.

Change in future land use could present additional risks and threaten protectiveness if adequate controls are not in place to assure that appropriate actions are taken prior to a land use change. Both Alternatives 2 and 3 are protective for residential land use, and soil remediation would be performed under both alternatives for all OLS properties where residential use is presently occurring. If future land use were to change from residential to commercial or industrial, the soil remediation would remain effective since the exposure level would be less under both of these alternate land uses.

Conversely, a change in land use from commercial or industrial to residential could result in unacceptable levels of exposure without effective controls since the EPA remedy addresses only properties that are currently in residential use. Certain commercial or industrial properties which are not a part of the OLS could include exposed soil with elevated lead levels which would be unsuitable for residential use. Local zoning ordinances are in place to prevent future residential use of commercial or industrial properties without appropriate investigation and response to potentially contaminated soils. Change in land use from commercial or industrial to residential would require a zoning change recommended after review by the Omaha Planning Department and passed by the Omaha City Council. New partial residential use at properties currently zoned for commercial or industrial use would require a conditional use permit issued following review by the Omaha Planning Department. The review conducted in both cases by the Omaha Planning Department would include an assessment of data available in the Omaha lead hazard registry, which is operated by the Omaha Lead Hazard Control Program within the City Planning Department. This review would identify the need for soil lead investigation and potential response which would be required prior to the zoning change or issuance of a conditional use permit to allow residential use.

In general, permanence of the different alternatives is potentially similar. Alternative 2 provides permanence through removal and containment of contaminated soils that exceed 400 ppm lead. Alternative 3 provides permanence through a combination of immobilization of phosphate-treated contaminated soils and excavation and soil replacement. However, the permanence of soil treatment would have to be supported by ongoing soil testing to determine if the treatment maintains its effectiveness over time.

### Compliance with ARARs

Section 121(d) of CERCLA and the NCP at § 300.430(f)(1)(ii)(B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate federal and state requirements, standards, criteria, and limitations which are collectively referred to as ARARs, unless such ARARs are waived under CERCLA § 121(d)(4).

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than Federal requirements may be applicable.

Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or state environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than Federal requirements may be relevant and appropriate.

Compliance with ARARs addresses whether a remedy will meet all of the ARARs of other federal and state environmental statutes or provides a basis for invoking a waiver.

A detailed evaluation of ARARs for each alternative is presented in the 2009 OLS Final Feasibility Study. Under certain circumstances, final management of excavated soils must comply with Subtitle D requirements for disposal of solid waste under the Resource Conservation and Recovery Act of 1976 (RCRA). Testing of excavated soil for hazardous waste characteristics has consistently demonstrated that the material can be managed as a nonhazardous solid waste; therefore, Subtitle C requirements under RCRA do not apply to final management of excavated soils. Siting requirements under Nebraska state statutes could control establishment of local soil repository, but no location has yet been identified to serve this purpose. Remediation of individual properties and operation of staging areas for excavated soil comply with stormwater discharge requirements under the National Pollution Discharge Elimination System (NPDES) and Nebraska Title 119 requirements, however these requirements are not directly applicable due in part to the relatively small size of work areas. Fugitive dust emissions from individual properties and staging areas comply with Nebraska Title 129 Air Quality Regulations. Transportation of excavated materials complies with Department of Transportation Hazardous Material Transportation Requirements. Lead hazard regulations under the Department of Housing and Urban Development do not constitute ARARs for the CERCLA response at the OLS, but are in the category of To Be Considered criteria.

Both Alternatives 2 and 3 meet the identified federal and Nebraska ARARs. The No-Action Alternative has no ARARs with which to comply.

*Balancing Criteria*Long-Term Effectiveness and Permanence

Long-term effectiveness and permanence refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup levels have been met. This criterion includes the consideration of residual risk that will remain onsite following remediation and the adequacy and reliability of controls.

Alternative 3 reduces risk through a combination of treatment and soil replacement, while Alternative 2 achieves risk reduction through soil replacement only. Alternatives 2 and successful application of Alternative 3 would provide long-term effectiveness for remediated properties. Residual risk levels are greater under Alternative 3 because the phosphate treatment component of this remedy leaves moderate levels of treated lead in yards with maximum mid-yard lead concentrations between 400 and 500 ppm. Soil excavation and replacement are effective engineering controls for properties with maximum non-foundation soil lead levels exceeding 500 ppm under Alternative 3 and for all remediated soils under Alternatives 2. The No-Action Alternative provides no effectiveness for the protection of public health and the environment over the long term.

At some properties, deteriorating lead-based paint on exterior surfaces of structures can threaten the long-term effectiveness and permanence of soil excavation and replacement. If not maintained, exterior lead-based paint can deteriorate and fall to the ground and mix with soils near the foundations following the soil cleanup, thereby increasing the lead concentration in remediated areas. Alternatives 2 and 3 provide for stabilization of deteriorating lead-based paint at properties where EPA determines that the continued effectiveness of the soil remedy is threatened. EPA recognizes that exterior paint stabilization can control the potential for deteriorating lead-based paint to recontaminate remediated soils for some period of time, but that since lead-based paint is not permanently removed from structures, additional maintenance of painted surfaces will eventually be required to protect remediated soils. EPA cannot provide ongoing maintenance of OLS properties in perpetuity, and instead relies upon property owners to assume responsibility for future property maintenance. Recent action by the Omaha City Council to include deteriorating lead-based paint as a nuisance under the Omaha municipal code will help assure continuing maintenance of painted surfaces by property owners, which in turn will help provide long-term effectiveness of soil remediation.

A long-term monitoring program would be required to assess the long-term effectiveness of phosphate stabilization under Alternative 3. The program would include soil chemistry monitoring including bioaccessability measurements to assess the effects of natural weathering and the long-term stability of the lead-phosphate minerals formed during phosphate treatment.

Alternatives 2 and 3 include establishment of a local lead hazard registry which is a form of institutional control. The lead registry provides easily accessible information to community members about potential lead hazards at individual properties. The local lead hazard registry will become a permanent resource for community members, raising awareness, and providing information about conditions at individual OLS properties. EPA anticipates that this institutional control will remain operational following completion of EPA response activities, which helps assure long-term effectiveness and permanence of the final remedy.

In general, permanence of the different alternatives for remediated properties is similar. Alternative 2 provides permanence through complete removal and containment of contaminated soils at or above 400 ppm lead concentrations. Alternative 3 provides permanence through a combination of soil treatment and removal and replacement of excavated soils.

#### Reduction of Toxicity, Mobility or Volume Through Treatment

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy. This criterion addresses the statutory preference for selecting remedial actions that employ treatment technologies that permanently and significantly reduce toxicity, mobility, or volume of the contaminants.

The No-Action Alternative involves no treatment and would not reduce toxicity, mobility, or volume of Site contaminants. Alternative 2 and the excavation component of Alternative 3 do not involve treatment, but would significantly reduce the mobility of the contaminated surface soils during final management due to the engineering features designed to contain the contaminated soils in a soil repository or secure landfill, or use as beneficial fill in a controlled setting.

Alternative 3 is the only alternative that involves treatment, and would reduce the toxicity and mobility of contaminants through phosphate stabilization of soils with lead concentrations between 400 ppm and 500 ppm lead. Alternative 3 uses treatment as a principle element of the cleanup, which is preferable under the CERCLA statute and the NCP. Phosphate stabilization transforms the lead in contaminated soils into a form that is less leachable and less bioavailable. The reduced leachability reduces the mobility of the lead in the environment. The reduced bioavailability lowers the toxicity of site contaminants to exposed individuals.

Excavation and replacement of contaminated soils reduces the mobility of contaminants in residual soils that remain in excavated areas of individual properties by providing a clean soil barrier above the exposed surface of the excavation. This barrier provides physical protection against migration of residual contaminants through erosion or other forces. Soils treated in Alternative 3 remain at the surface and are not afforded this same protection against potential migration.

### Short-Term Effectiveness

This criterion addresses the period of time needed to implement the remedy, and any adverse impacts that may be posed to workers, the community, and the environment during construction and operation of the remedy until the cleanup is completed and the final level of protection has been achieved.

Excavation and soil replacement under Alternatives 2 and 3 proceed on a property-by-property basis. The amount of time required to complete excavation and soil replacement at any particular property largely depends on scheduling of contractors and weather conditions. Typically, contaminated soils can be excavated and removed in one to two days. Backfilling of excavated areas can typically be completed in one day or less. Sodding can be accomplished in several hours; however, availability of sod can be affected by wet or freezing conditions. Overall, excavation, backfilling, and sodding can generally be completed within one to two weeks at each property. With multiple crews providing various services, work can progress at a number of properties simultaneously.

The time required to achieve cleanup levels through soil treatment is dependent upon the time required to achieve effectiveness of the treatment technology on site soils. Typically, reagents are tilled into the soil and allowed to remain in place for a period of several days to a week or more until cleanup levels are achieved. Treated soils are then neutralized, if necessary, and resodded. The time required to implement a soil treatment remedy may vary from two to three weeks due to the additional time required for treatment to achieve effectiveness. Soil treatment could proceed at multiple properties simultaneously.

The overall time required to implement each alternative is dependent upon the number of work crews that are deployed to remediate properties simultaneously. With adequate resources at full deployment, it is anticipated that multiple crews could remediate from 1,000 to 2,000 properties per year, using either treatment or soil excavation and replacement. At this rate, remediation of the remaining eligible properties to be addressed under Alternatives 2 and 3 could be completed in five to ten years.

The excavation and soil replacement components of Alternatives 2 and 3 involve short-term risks to Site workers and community members related to use of earth moving equipment on small residential properties and the transport of excavated contaminated soils, clean backfill, and sod along public roadways. Since more material is excavated and transported under Alternative 2, risks to workers, residents, and community members associated with excavation and transport through residential neighborhoods would be somewhat greater than Alternative 3.

Alternative 3 would present an additional risk to site workers handling phosphoric acid and other potentially hazardous reagents during soil treatment activities. This risk would also apply to residents and community members that must avoid contact with the soil reagents. Tanker trucks of phosphoric acid would be transported through public roadways in densely populated neighborhoods. Staging and distribution facilities in these neighborhoods would be required to store and dispense reagents for treatment of individual yards. Contact with low-pH soils during treatment must be prevented for a several-day period until soils are neutralized by adding lime.



The low pH soils could potentially cause chemical burns or other adverse affects to individuals that contact treated soils. Fencing installed to prevent access to treated areas would not assure protection of pets, small animals, birds, and other wildlife. Application of phosphoric acid to yards would pose additional short-term safety risks to workers involved in rototilling of reagents into soils.

Short-term risks also exist for workers involved in stabilization of deteriorated exterior lead-based paint under Alternatives 2 and 3. Workers are required to adhere to lead-safe work practices to protect themselves and residents/community members from exposure to lead-based paint during stabilization. Stabilization of deteriorated paint poses additional safety risks to workers because of tools used to prepare surfaces for painting and ladders and lift equipment used to access surfaces to be stabilized.

### Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as the availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

All evaluated alternatives are readily implementable once access is granted to enter properties to perform remediation. Excavation, backfilling, sodding, and material transportation are proven and straightforward technologies. Excavation and replacement of contaminated soils is performed using conventional earth-moving equipment and hand tools, and can be readily performed by trained operators and laborers. Similar operations have been underway at the OLS during previous CERCLA removal and remedial response actions beginning in 1999. Coordination with local and state governments has been established.

The treatment portion of Alternative 3 would require additional planning to successfully implement. The procedures for soil treatment are anticipated to be straightforward and readily implementable. Application of phosphoric acid and lime to residential properties would utilize standard and readily available lawn-maintenance equipment. Logistical considerations for transporting and staging large quantities of phosphoric acid and lime may present challenges in older residential neighborhoods at the OLS, but these could be overcome with proper planning and equipment.

Soil treatment could offer potential implementation advantages relative to excavation and treatment at some properties. Soil excavation and replacement requires heavy equipment that must be transported in and out of residential neighborhoods. Residential properties often do not provide ready access for the types of equipment used to remove and replace soil, and much of the work must be performed by hand. Considerable damage can occur to residential properties through the use of heavy construction equipment even when care is taken to protect property features. Soil treatment typically utilizes smaller, more manageable equipment that is less likely to damage residential properties

## Cost

This criterion addresses the direct and indirect capital cost of the alternatives. Operation and maintenance costs incurred over the life of the project, as well as present worth costs, are also evaluated.

Costs associated with Alternative 3 are higher than for Alternative 2, in large part because soil treatment involves the additional cost of soil reagents. Alternative 2 utilizes a straightforward, earthwork approach to soil remediation without additional costs associated with handling and use of soil reagents such as phosphoric acid, potassium chloride, and lime. Additional costs would also be incurred under Alternative 3 for the ongoing soil analysis program that would be required to assure the continued protectiveness of the remedy. The cost of phosphate treatment for an individual property is estimated at \$35,000 in the OLS Final FS, compared to a unit cost of \$13,000 per property for conventional excavation and soil replacement.

A detailed cost analysis for Alternatives 2 and 3 is presented in the OLS Final FS. The total capital costs for Alternatives 2 and 3 are estimated at \$235.3 million and \$356.9 million, respectively. The present worth cost for Alternative 2 is estimated at \$165.3 million. The present worth cost for Alternative 3 is estimated at \$250.6 million. No costs are associated with the No-Action Alternative. Cost summaries for Alternatives 2 and 3 are presented in *Figure 11* and *Figure 12*.

Alternatives 2 and 3 both require final management of excavated soils. The availability of final management options will affect the capital costs of each alternative. The unit cost assumed for excavation and soil replacement in the OLS Final FS includes final management of excavated material. A constructed soil repository for final management of excavated soils would require ongoing operation and maintenance. The 2004 FS estimated the present value of operating and maintaining a soil repository using a 7 percent discount rate over a period of 20 years at approximately \$71,000.

## *Modifying Criteria*

### State Acceptance

This criterion addresses the state of Nebraska's preferences or concerns about the OLS remedial action alternatives. EPA is the lead agency and has coordinated all Site activities with NDEQ throughout this project. NDEQ has expressed support for a comprehensive approach to lead exposure sources at the Site. NDEQ opposes institutional controls that would place notices or restrictions on individual residential properties. DHHSS also provided comments on the 2008 OLS Proposed Plan. These and the NDEQ comments received are presented and addressed in the attached Responsiveness Summary. A letter of concurrence supporting the selected final remedy for the OLS has been received from NDEQ.

### Community Acceptance

EPA encouraged public review and comment on the preferred cleanup by publicly announcing the release and availability of the Final Proposed Plan for the OLS with supporting documents in the Administrative Record. To provide the community with an opportunity to submit written or oral comments, EPA initially released the OLS Final Proposed Plan on October 30, 2008, initiating a public-comment period originally scheduled to end December 1, 2008. Two public meetings were held on November 18, 2008, in north and south Omaha, Nebraska, to present EPA's preferred final remedy for the OLS and respond to questions and receive public comment. Upon receiving requests from members of the public and various stakeholders, EPA extended the public-comment period on two occasions: initially to December 31, 2008, and ultimately to January 15, 2009.

The community generally supports the interim remedy being selected by EPA, although some community members would prefer to see additional resources directed toward a comprehensive lead-risk-reduction program that addresses all sources of lead contamination including lead-based paint. Most community members understand that there are limits to EPA's authority under Superfund, and are supportive of EPA working in concert with other agencies and organizations to implement a comprehensive program addressing all identified sources of lead exposure. Some community members expressed reservations about the safety and long-term effectiveness of soil treatment to address lead contamination. The community strongly desires the cleanup to be completed in as brief a period of time as possible.

### PRINCIPAL THREAT WASTES

Principal threat wastes are source materials that require remediation based on toxicity, mobility, and the potential to create unacceptable human health or ecological risks. The principal threat wastes are generally those source materials considered to be highly toxic or highly mobile which generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. Conversely, nonprincipal threat wastes are those source materials that can be reliably contained and that would present only a low risk in the event of exposure. Surface soil containing chemicals of concern that are relatively immobile in air or groundwater are generally not considered to constitute principal threat wastes.

Residential soils at the OLS were contaminated through decades of emissions from historic lead-smelting and refining operations. Other sources of lead, including lead-based paint and leaded gasoline, also contribute to total soil lead levels at some OLS properties. Although the lead-contaminated soils can be readily and reliably contained, they do present a very significant risk in the event of exposure. Exposure of young children to a very small amount of contaminated soil can result in an elevated blood lead level exceeding 10 µg/dl. For this reason, lead-contaminated residential soils are considered principal threat wastes at the OLS.

The NCP at § 300.430(a)(1)(iii)(A) establishes a preference for treatment to be used to address principal threat wastes when practicable. Treatment will not be employed for the final remedy for the OLS due to lack of effectiveness demonstrated in the OLS Treatability Study and the uncertainty in the long-term effectiveness of phosphate treatment applied to lead-contaminated soils at the OLS. Phosphate treatment has traditionally been used in other applications to

stabilize lead-containing materials prior to disposal. This technology has not been applied to residential properties intended for unrestricted future use. By comparison, excavation and soil replacement involve conventional earthwork technologies that are well-demonstrated and effective for eliminating Site risks present at the OLS.

## SELECTED REMEDY

### *Summary of the Rationale for the Selected Remedy*

EPA is selecting Alternative 2, excavation and replacement of soils exceeding 400 ppm, for the final remedy at the OLS. Excavation and soil replacement is a proven, effective approach for remediation of lead-contaminated soils. In contrast, phosphate treatment has not been successfully applied on a large scale for remediation of lead-contaminated soils. The location of the OLS in a densely populated, urban environment including many Environmental Justice communities raises additional concerns about the application of an unproven remediation approach at the OLS. By contrast, excavation and soil replacement has been successfully conducted at the OLS during previous CERCLA removal and remedial response which began in 1999. Implementation of this final remedy will essentially continue the EPA response at the remaining properties with soil lead levels exceeding the final cleanup level for the Site.

The selected remedy also represents the most cost-effective alternative for remediation of lead-contaminated soils at the OLS. The cost of conventional excavation and soil replacement is estimated at \$13,000 per property in the OLS Final FS. This cost estimate is based upon contracting experience gained by EPA during site-specific procurement actions for similar work at the OLS. The cost estimated in the OLS Final FS for phosphate treatment exceeds \$35,000 per property. This is an estimated cost based on projected labor, material, and equipment necessary to perform the work. Since this technology has not been applied previously to full-scale soil remediation, there is no precedential cost information available for reference. However, more than \$15,000 of the cost per property is related to the cost of soil additives including, most significantly, phosphoric acid. It is clear that the cost of phosphate treatment significantly exceeds the cost of conventional excavation and soil replacement. Given the uncertainties associated with the long-term effectiveness of phosphate treatment, and the additional need for soil monitoring to assure the continued effectiveness of the technology, the selected remedy involving excavation and soil replacement represents the most cost-effective alternative for the final remedy at the OLS.

### *Description of the Selected Remedy*

EPA's selected final remedy for the OLS includes the following elements:

- Excavation and Replacement of Soils Exceeding 400 ppm Lead
- Stabilization of Deteriorating Exterior Lead-Based Paint
- Response to Lead-Contaminated Interior Dust
- Health Education
- Operation of a Local Lead Hazard Registry as a type of Institutional Control
- Participation in a Comprehensive Remedy Addressing Identified Lead Exposure Sources

The selected final remedy continues the ongoing remedial response being implemented under the December 15, 2004, Interim ROD for the OLS with the following modifications:

- Under the previous interim remedy, properties were eligible for soil remediation if the maximum non-foundation soil lead level exceeded 800 ppm. Child care centers and properties where children with elevated blood lead levels reside (high child impact properties) were eligible for soil remediation under the interim remedy if the maximum non-foundation soil lead level exceeded 400 ppm. The final remedy for the OLS will lower the soil lead action level, which determines eligibility for soil remediation, to 400 ppm for all residential and residential-type properties. By lowering the soil lead action level to 400 ppm for all residential properties, the distinction between high child impact properties and typical residential properties is no longer necessary to determine eligibility for response. High child impact properties will continue to be prioritized for response.
- Soil sampling will continue to determine eligibility for remedial action at properties inside the Final Focus Area where sampling has not been performed. Due to the low frequency of properties exceeding the final EPA soil lead action level outside the boundary of the Final Focus Area, additional soil sampling will generally be discontinued beyond the Final Focus Area boundary following the final remedy selection and performed only if warranted based on property-specific circumstances. Lead-based paint assessments will continue to be offered at all properties which are eligible for soil remediation, and interior dust wipe sampling will be offered at all properties following soil remediation.
- The preferred alternative includes an institutional control involving the operation of a local lead hazard registry which will contain information about the status of EPA investigation and response and other lead hazards identified at individual Omaha properties. The lead hazard registry will provide access to property-specific lead hazard information both on-line and through the Omaha Lead Hazard Control Program and other agencies and organizations involved in lead hazard control efforts in Omaha. The final remedy includes establishing the lead hazard registry with necessary hardware, software, technical assistance, and personnel to provide for operation through completion of the final remedial action. EPA anticipates that the lead hazard registry will continue to operate following completion of EPA response activities through an alternate funding mechanism.
- The interim remedy included high efficiency interior cleaning at residences where elevated levels of lead were identified in interior dust. Under the final remedy, participating residents at eligible properties will be offered high-efficiency household vacuum equipment, training on maintenance and the importance of proper usage, and education on mitigation of household lead hazards. Interior dust response will be offered on a voluntary basis to residents at properties where soil remediation is performed and interior floor wipe sampling indicates that HUD criteria are exceeded.

Elements of EPA's selected final remedy are described below:

### Excavation

The final remedy involves the excavation and removal of soil, backfilling excavated areas with clean soil, and restoring the grass lawn. Excavation will be performed at an estimated 9,966 properties where soil remediation has not been performed under previous response actions. All residential and residential-type properties with a maximum non-foundation soil lead level exceeding 400 ppm will be eligible for soil remediation. High child impact areas, which include child care centers and properties where a child with an elevated blood lead level resides, will be prioritized for remedial action under the final remedy.

Soil will be excavated using lightweight excavation equipment and hand tools in the portions of the yard where the surface soil exceeds 400 ppm lead. Excavation will continue in all quadrants, play zones, and drip zone areas exceeding 400 ppm lead until the residual lead concentration measured at the exposed surface of the excavation is less than 400 ppm in the initial foot, or less than 1,200 ppm at depths greater than one foot. Soils in garden areas will be excavated until reaching a residual concentration of less than 400 ppm in the initial two feet from the original surface, or less than 1,200 ppm at depths greater than two feet. Creation of raised-bed gardens may be considered as an option for remediation of garden areas where removal of contaminated soil to achieve cleanup criteria is not practicable.

EPA estimates that 9,966 residential properties where soil remediation has not been performed will have at least one mid-yard quadrant exceeding 400 ppm soil lead and will become eligible for remedial action under the final remedy. These properties are in addition to the 4,615 properties where soil remediation has been completed under previous EPA response actions. On average, approximately 50 tons of soil have been removed from individual properties to achieve the cleanup goal of 400 ppm. If the tonnage removed per property under the final remedy remains the same, a total of approximately 500,000 tons of lead-contaminated soil would require excavation and disposal. The quantity of soil requiring removal at each individual property under the final remedy may be somewhat reduced since more moderately contaminated soils will be remediated by this action relative to previous response actions which addressed the most highly contaminated properties at the OLS.

After confirmation sampling has verified that cleanup goals have been achieved, excavated areas will be backfilled with clean soil to original grade and a grass lawn will be restored. Clean fill and topsoil will be used to replace the excavated soils, returning the yard to its original elevation and grade. EPA will not utilize soil from any protected Loess Hills area as backfill for the OLS. After the topsoil has been replaced, a grass lawn will be established through sodding. Hydroseeding or conventional seeding may be considered for very large properties such as parks, or for unoccupied properties, in lieu of sodding. Conventional seeding or hydroseeding will be applied at residential properties only at the request of the homeowner and when circumstances assure that a quality grass cover can be effectively established from seed. For example, sod must be used in sloped areas of properties where grass seed would be subject to erosion.



High child impact properties will continue to be prioritized for remedial action under the final remedy. When a child residing within the Site is identified with an elevated blood lead level through the ongoing blood screening program for children, the status of sampling and response at the child's residence will be checked. If sampling results indicate any non-foundation sample exceeding 400 ppm, the property will be prioritized for remedial action.

Soil sampling performed to guide response decisions will be conducted in accordance with procedures described in the Superfund Lead-Contaminated Residential Sites Handbook. Residential yards will be divided into a number of sections and one multi-aliquot composite sample will be collected from each section. The number of sections in each yard will depend upon the size of the yard. For properties less than 5,000 square feet, separate sections will generally be designated for each half of the front yard, each half of the back yard, and the drip zone area surrounding the residence. For properties greater than 5,000 square feet, the lot will generally be divided into sections no larger than approximately 1/4 acre.

At typical residences, a five-aliquot composite sample will be collected from each mid-yard section. A four-aliquot composite sample will typically be collected from the drip zone of the house within 6 to 30 inches from the exterior walls. A separate composite sample will be collected from any play areas or vegetable gardens present on individual properties.

With the exception of certain samples collected for quality control purposes, soil samples will be analyzed for lead content using X-Ray fluorescence spectrography (XRF) instruments. Sampling results will be compared to a 400-ppm-soil-lead action level. If one or more mid-yard sections exceed the appropriate action level, the property will be eligible for EPA response.

In the process of identifying appropriate options for soil remediation at individual properties, the conditions of existing vegetation, the use patterns of the property, and current drainage patterns within and adjacent to a property will be evaluated. Following soil remediation, properties will be restored to preremediation conditions. Installation of landscaping features including mulch, crushed stone, landscaping cloth, sand, wood chips or other forms of vegetation may be considered in remediated areas where grass cover cannot be established.

During remediation activities, clean access to the residence will be provided for residents and visitors at all times. Clean access will provide access to entryways of the home that avoids contact with potentially contaminated soil. Sidewalks will be thoroughly cleaned at the conclusion of each workday to provide as clean an entry as possible to the residence. In the absence of a sidewalk, placement of plywood, pallets, plastic, or other temporary measures may be used to control exposure and prevent tracking of soil into the residence. All residents will be required to stay away from active construction areas during remediation activities. Exposed excavation areas or stockpiled soils will be protected to prevent accidents and exposure.

Water application will be used, as necessary, to minimize the potential for fugitive dust emissions. Application rates will be regulated to control dust during excavation, yet prevent the development of muddy conditions. The objective will be to minimize airborne dust and avoid the production of mud that could be transported off-site on vehicle tires and other mobile equipment. Tank trucks will be used for dust suppression if outdoor faucets and hydrants from private residences and public areas are not available for water supply sources.

### Final Management of Excavated Materials

Three options are available under the final remedy for final management of excavated soils. The first option is to transport the contaminated soil to an off-site Subtitle D solid waste landfill for use as daily cover and/or disposal. This option is currently being used for the ongoing interim remedy at the Site.

A second option is to use the soil excavated from the residential yards as beneficial fill in a commercial, industrial, or public works construction project. Lead-contaminated soils at the Site are considered a risk to human health only in residential settings. In certain instances, excavated soils could be safely used as beneficial fill in a controlled setting without creating an unacceptable risk to human health. Constructed engineering features may be necessary to protect filled areas. Coordination with other agencies, particularly at the state and local level, are required for an acceptable beneficial use to be identified and implemented. The value associated with the beneficial use of excavated materials could potentially offset the costs to transport and place the materials, resulting in a cost-effective solution to final management of contaminated soils.

A third option involves constructing an off-site repository on publicly or privately owned land. Significant design and site preparation may be required for construction of the facility. This option is limited by the availability of land and willingness of landowners to maintain such a facility.

### Stabilization of Loose and Flaking Exterior Lead-Based Paint

The final remedy continues the exterior lead-based paint stabilization program that was developed and implemented under the interim remedy to protect remediated soils from recontamination that could result from deteriorating exterior lead-based paint. Under the final remedy, the lead-based paint assessment protocol which was presented in the October 2008 Draft Final Lead-Based Paint Recontamination Study Report prepared for the OLS, will be finalized as presented and utilized to determine eligibility for exterior lead-based paint stabilization at properties where soil remediation is performed. If the exterior lead-based paint assessment determines that the continued protectiveness of the soil remediation is threatened by deteriorating exterior lead-based paint, the owner of the property will be offered stabilization of painted surfaces on structures located on the property. Exterior lead-based paint stabilization will be provided on a voluntary basis to homeowners.

Not all homes will be determined to be eligible for stabilization. Only those homes where the lead-based paint assessment determines that the continued effectiveness of soil remediation is threatened will be eligible for paint stabilization. Loose and flaking lead-based paint will be removed from painted surfaces using lead-safe practices, which include wet scraping and collection of paint chips using plastic sheeting. All previously painted surfaces will be primed and repainted. Reasonable efforts will be made to match existing house color, unless the homeowner expresses an alternate preference that does not increase cost.

EPA's preference is to perform lead-based paint stabilization at eligible properties prior to soil remediation. However, soil remediation has been completed at a large number of properties where structures will be eligible for lead-based paint stabilization. Soil remediation was performed at many of these properties before stabilization of lead-based paint was included in the scope of the remedy. Lead-based paint stabilization was added to the EPA response in the December 2004 Interim ROD, and stabilization of properties could not commence until eligibility protocols and criteria were developed. These factors resulted in a significant number of properties where soil remediation was performed prior to lead-based paint stabilization. During the final remedy, EPA will attempt to complete stabilization at remediated properties and to proceed with stabilization at properties prior to soil remediation.

### Interior Dust Response

At homes where soil remediation is performed, wipe samples will be collected from floors in accordance with HUD protocol for assessing interior lead hazards. Residences where floor wipe samples exceed appropriate EPA/HUD standards will be eligible for interior dust response. At eligible properties, residents will be provided HEPA-equipped household vacuums and provided training on the importance, use, and maintenance of the HEPA vacuum for interior dust cleaning. Health education will also be provided to residents to inform them of the presence of household lead hazards and measures that can be taken to reduce or control exposure. The interior dust response will be provided on a voluntary basis to residents following soil remediation at properties where wipe sampling has determined eligibility.

### Health Education

Due to the presence of a number of identified lead hazards at the OLS, a health education program will be performed to raise awareness and mitigate exposure. An active educational program is ongoing and would be continued under the final remedy in cooperation with agencies and organizations that could include ATSDR, NDHHS, DCHD, local nongovernmental organizations, and other interested parties throughout the duration of the EPA remedial action. The following, although not an exhaustive list, indicate the types of educational activities that may be conducted at the Site:

- Support for in-home assessments for children identified with elevated blood lead levels.
- Development and implementation of prevention curriculum in schools.
- Support for efforts to increase community-wide blood lead monitoring.
- Physicians' education for diagnosis, treatment, and surveillance of lead exposure.
- Operation of EPA Public Information Centers to distribute information and respond to questions about the EPA response activities and lead hazards in the community.
- Use of mass media (television, radio, internet, print media, etc.) to distribute health education messages.
- Development and distribution of informational tools such as fact sheets, brochures, refrigerator magnets, etc., to inform the public about lead hazards and measures that can be taken to avoid or eliminate exposure.

### Participation in Comprehensive Program Addressing All Potential Lead Sources

The final remedy at the OLS includes participation with other agencies and organizations in a comprehensive approach directed at addressing all potential lead exposure sources at the Site. EPA is aware that lead in the environment at the OLS originates from many sources. In addition to the soil exposure pathway, other important sources of lead exposure are interior and exterior lead-based paint and lead-contaminated interior dust (originating from soil and other sources), children's toys, cookware, jewelry, imported candies, and others. Typically, sources other than exterior soil lead contamination resulting from historic industrial operations at the OLS would not be addressed by EPA in the course of residential soil lead cleanups. CERCLA and the NCP limit Superfund authority to address interior sources of exposure. CERCLA generally limits EPA's authority to respond to lead-based paint inside a structure or house. However, EPA has authority to conduct response actions addressing deteriorating lead-based paint that threatens the continued effectiveness of soil remediation, and also to address lead-contaminated interior dust which results at least in part from migration of exterior soils to the interior of a structure.

The Office of Solid Waste and Emergency Response (OSWER) policy recommends against using money from the Superfund Trust Fund to address interior lead-based paint exposures, and recommends that actions to control or abate interior lead-based paint risks be addressed by others such as HUD, local governments, health authorities, PRPs, private organizations, or individual homeowners. OSWER policy also recommends against using money from the Superfund Trust Fund to remove interior dust solely from lead-based paint or to replace lead plumbing within residential dwellings, and recommends that the EPA Regions seek partners to address these other lead exposure risks.

Controlling alternate lead exposure sources will not affect the remedial action determined to be necessary to control risk associated with contaminated residential soils at the OLS. EPA policy specifically directs that soil cleanup levels should not increase as a result of any action taken to address other sources of lead exposure.

EPA acknowledges the importance of addressing these other exposures in realizing an overall solution to the lead problems at residential Superfund sites. The EPA is committed to partnering with other organizations such as ATSDR, HUD, state environmental departments, state and local health departments, private organizations, PRPs, and individual residents, and to participate in a comprehensive lead-risk reduction strategy that addresses lead risks from all potential lead-exposure sources. EPA can perform assessments of these other lead hazards as part of the investigative activities and can provide funds to support health education efforts to reduce the risk of lead exposure in general.

### Institutional Controls

An institutional control in the form of a local lead hazard registry is included in the final remedy to help assure the continued protectiveness of properties remediated in accordance with this ROD. The lead hazard registry will provide interested parties with on-line access to lead hazard information at individual properties which includes the status of EPA investigations and response actions and other lead hazard information including HUD-funded lead hazard control and abatement activities. Information available through the lead hazard registry will include initial soil lead sampling results from individual quadrants and residual soil lead levels remaining at properties following soil remediation. EPA will notify residents and property owners about the information that is available through the lead hazard registry as part of the transmittal sent at the completion of soil remediation at individual properties. Residents and property owners will receive a second notification when the lead hazard registry is complete and fully operational at the conclusion of the OLS remedial action. The final notification will describe information available through the lead hazard registry and again advise property owners that records of potential lead hazards received from EPA should be retained for compliance with state and Federal disclosure requirements.

EPA intends to sample all residential properties in the Final Focus Area and to perform soil remediation at those properties that are determined to be eligible on the basis of this soil sampling. EPA will make best efforts to obtain voluntary access to perform soil sampling and soil remediation at eligible properties from property owners. In the event EPA is unable to secure voluntary access to perform soil sampling or soil remediation, EPA intends to advise property owners of CERCLA authority which allows EPA to take these actions without owner consent, and of EPA's strong preference to perform work under voluntary access. In some instances when voluntary access cannot be obtained, EPA may elect to use CERCLA enforcement authority to obtain access for EPA to take necessary actions to protect human health and the environment. At the conclusion of the remedial action at the OLS, EPA anticipates that soil sampling and remediation will be completed at all eligible properties which would eliminate the need for permanent restrictions on use of properties or other forms of institutional controls beyond the lead hazard registry to assure protection of human health. If EPA is unable to perform soil sampling and/or any necessary remedial action at certain properties, the need for additional institutional controls to restrict use or control potential exposure may be reassessed. The potential need for additional institutional controls will be evaluated during implementation of the final remedy in an Institutional Control and Assurance Plan (ICIP).

Excavated soils are currently transported to a RCRA Subtitle D land disposal facility where they are disposed of or used for daily cover. The operating permit and closure plan for the landfill will assure that the excavated materials continue to be managed properly. If an alternate final management strategy becomes available for excavated material involving construction and operation of a soil repository or use of excavated materials for beneficial fill, institutional controls may be required to control future land use at the site of the final management facility.

At this time, it is not possible to anticipate the precise need for institutional controls, or the type of institutional controls that may be deemed appropriate under these circumstances. These potential institutional control requirements, and other presently unforeseen needs for institutional controls, will be assessed in the event that they arise during implementation of the final remedy.

Stabilization of deteriorating exterior lead-based paint and interior dust response will be offered to owners of eligible properties on a voluntary basis. EPA does not intend to consider the use of CERCLA enforcement authority to perform these actions in the event that property owners elect not to participate in these programs. Institutional controls will not be imposed on remediated properties where assessment and/or implementation of lead-based paint stabilization or interior dust response is not performed.

#### *Summary of the Estimated Remedy Costs*

Capital costs associated with implementation of the final remedial action are presented in *Figure 13*.

The information in this cost summary table is based on the best available information regarding the anticipated scope of the selected remedial action. Changes in the cost elements are likely to occur as a result of new information and data collected during the design and implementation of the remedial alternative. Major changes, if they arise, may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Differences (ESD), or an amendment to this ROD. This is an order-of-magnitude engineering cost estimate that is expected to be accurate within +50 to -30 percent of the actual project cost.

A present worth analysis was performed to evaluate a project duration of ten years. *Figure 14* projects the present value costs associated with implementation of the selected remedial action over a ten-year period. Capital costs are divided evenly between years for this analysis. Actual distribution of funding requirements may vary due to fiscal scheduling, contracting strategies, or other considerations.

#### *Expected Outcomes of the Selected Remedy*

The selected remedy will provide human health protection at individual remediated properties and within the overall Omaha community. EPA has demonstrated an achievable pace of performing soil remediation at 1,000 properties per year. With adequate funding, EPA believes lead-based paint stabilization and interior dust response can also be completed at this pace. At this pace, approximately ten years will be required to complete remedial action at the estimated 10,000 properties eligible for future response under the OLS final remedy. Human health protection from lead-contaminated soils would be provided under the final remedy for 1,000 individual properties per year for ten years. Increased funding levels could increase the number of properties completed per year and reduce the total project period.



The purpose of the remedial action is to control risks posed by direct contact with lead-contaminated soil and dust. The results of the Final Baseline Human Health Risk Assessment indicate that individual children or groups of similarly exposed children at the OLS are at risk of developing elevated blood lead levels exceeding 10 µg/dL if exposure to soil lead levels exceeding 400 ppm is not controlled or eliminated. This remedy will remove and replace soils exceeding 400 ppm in the upper 12 inches at residential OLS properties, which will reduce the risk of exposure of young children to lead in outdoor yard surface soil such that the IEUBK model predicts there is no greater than a 5 percent chance an individual child, or group of similarly exposed children, will develop a blood lead concentration exceeding 10 µg/dL. Excavation will continue until reaching a residual soil lead level of less than 400 ppm in the upper 12 inches of soil, or less than 1,200 ppm at depth greater than 12 inches. Soil remediation performed under the selected remedy, in combination with a local lead hazard registry and health education, will assure protection of human health at remediated properties, and at all properties within the OLS upon completion of remedial action.

Implementation of the final remedy will result in a positive socioeconomic impact within the OLS. Negative effects on quality of life and property values resulting from the impact of former lead-smelting and refining operations will be relieved by the selected remedy. The implementation of remedial action will benefit the impacted community, creating hundreds of jobs and service-related income for many residents over a period of years in economically disadvantaged areas within the OLS.

Concurrent with the selected remedy, the EPA will work with other parties to implement a comprehensive program to address lead exposure hazards in media that are beyond CERCLA authority. EPA will participate in a comprehensive program to the limit of CERCLA authority to address all potential lead exposure sources in the community and will work with other agencies, organizations, and interested parties to identify resources and mechanisms to address identified exposure sources.

#### STATUTORY DETERMINATIONS

EPA's primary legal authority and responsibility at Superfund sites is to conduct response actions that achieve protection of human health and the environment. Section 121 of CERCLA also establishes other statutory requirements and preferences that include compliance with federal and state applicable or relevant and appropriate requirements (ARARs), cost effectiveness, and the use of permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable. Additionally, the statute includes a preference for remedies that utilize treatment to reduce the mobility, toxicity, and volume of contaminants. The following sections discuss how the selected alternative meets these statutory requirements.

### *Protection of Human Health and the Environment*

The selected remedy will protect human health and the environment at remediated properties by achieving the Remedial Action Objectives through conventional engineering controls, institutional controls, and health education. Risks associated with lead-contaminated soils at the Site are caused by the potential for direct contact with contaminated soils. The selected remedy controls this direct exposure pathway through excavation and replacement of lead-contaminated soils at the residential properties. Protectiveness of soil excavation and replacement is enhanced through a public health education program and an institutional control in the form of a local lead hazard registry. The implementation of the selected remedy will not pose unacceptable short-term risks or cross-media impacts.

### *Compliance with ARARs*

In general, selected remedies should comply with ARARs unless waivers are granted. The selected remedy is expected to meet all chemical-, action-, and location-specific ARARs and does not involve any waivers. A comprehensive list of chemical-specific ARARs identified in the OLS Final FS is presented in *Figure 15*. Location-specific ARARs for the OLS are presented in *Figure 16*, and action-specific ARARs for the OLS are presented in *Figure 17*. Key ARARs are discussed below.

### Chemical Specific ARARs – To Be Considered Criteria

- Lead-Based Paint Hazard Regulations: Residential Lead-Based Hazard Reduction Act, 42 U.S.C. Section 4851 et seq.; Toxic Substances Control Act, 15 U.S.C. Section 2601 et seq.; Lead-Based Paint Hazard Regulations, 40 CFR Part 745.

These statutes and regulations identify lead-based paint hazards in various media. Pursuant to the Superfund Lead-Contaminated Residential Sites Handbook, the regulations defining lead-based paint hazards do not constitute ARARs for CERCLA remedy selection, but are used as “To Be Considered” criteria. For interior dust response under the final remedy, floor dust wipe sample levels will be compared to lead levels found in 40 CFR Part 745.65. These regulations identify a level of concern of 40 micrograms/square foot ( $\mu\text{g}/\text{ft}^2$ ) for lead in wipe samples collected from floor surfaces inside homes. Although the regulations also identify soil lead levels that represent a lead-based paint hazard, site-specific soil cleanup levels are developed and utilized at CERCLA sites using the IEUBK model in accordance with EPA policy.

- Superfund Lead-Contaminated Residential Sites Handbook (OSWER Directive 9285.7-50), August 2003.
- EPA Revised Interim Soil Lead Guidance For CERCLA Sites And RCRA Corrective Action Facilities, August 1994, and 1998 Clarification, OSWER Directive 9355.4-12, August 1994, and OSWER Directive 9200.2-27P, August 1998.

These guidance documents recommend using the Integrated Exposure Uptake Biokinetic Model (IEUBK) on a site-specific basis to assist in developing cleanup goals.

#### Location-specific ARARs

- The Endangered Species Act (16 U.S.C., section 1531, 50 CFR part 200, 30 CFR Part 402).

No federal or threatened and endangered species have been identified at the Site to date.

- The National Historic Preservation Act (16 U.S.C.), and the regulation at 33 CFR part 800.

No affected properties have been identified to date that are eligible for or included on the National Register of Historic Places.

- The National Archeological and Historic Preservation Act (16 U.S.C., and 36 CFR part 65).

These requirements provide for recovery and preservation of artifacts which may be discovered during implementation of response actions. No such items have been identified to date.

- Protection of Wetlands, Executive Order 11990; 40 CFR, part 6, appendix A.

The remedial action will be designed to avoid adversely impacting wetlands wherever possible including minimizing wetlands destruction and preserving wetland values.

- Protection of Floodplains, Executive Order 11988; 40 CFR part 6, appendix A.

If a repository is constructed, it will be designed to avoid adversely impacting any floodplain areas and consider flood hazards and floodplain management.

#### Action-Specific ARARs

- Subtitle D of the Resource Conservation and Recovery Act (RCRA), Section 1008, section 4001, et seq., 42 U.S.C. 6941, et seq., State or Regional Solid Waste Plans and implementing federal and state regulations.

All excavated soil disposed of in a sanitary landfill will comply with Subtitle D requirements. If other disposal alternatives are used, Subtitle D of RCRA may be applicable.

- Occupational Safety and Health Act, 29 CFR part 1910 will be applicable to all actions.

- Subtitle C of RCRA, 42 U.S.C. section 6901, et seq., 40 CFR part 260, et seq. and implementing federal and state regulations for contaminated soils that exhibit the characteristic of toxicity and are considered RCRA hazardous waste.

Subtitle C of RCRA is potentially applicable for the removal of soils contaminated with heavy metals, particularly if these soils exceed the TCLP regulatory threshold. Any wastes exceeding the TCLP regulatory threshold will undergo treatment on-site in accordance with the substantive requirements of RCRA before being transported to a sanitary landfill or a repository. Wastes will not be stored on site for longer than 90 days after excavation. To date, no excavated soils have failed TCLP analysis.

- Department of Transportation (DOT) regulations, 49 CFR parts 107, 171-177.

DOT hazardous material transportation regulations are applicable for transportation of the contaminated soils to the current disposal facility.

- Clean Water Act, Stormwater Runoff Requirements, 40 C.F.R. part 122.26.

If the construction work at a property requires excavation resulting in a land disturbance of greater than 1 acre and less than 5 acres, then the stormwater runoff requirements may be applicable and the substantive stormwater requirements must be met to prevent erosion, including best management practices. EPA anticipates this situation to arise infrequently, if at all, because most of the properties affected by this action will require work on less than an acre of land.

In addition, if a repository is constructed for final management of excavated soil, compliance with these regulations will be required during construction and management of the repository.

- The Lead Safe Housing Rule, 24 CFR part 35.

While these regulations only apply to federally owned property or housing receiving federal assistance, it may be relevant and appropriate to apply these regulations when addressing exterior lead-based paint on a property to prevent the recontamination of the soil when a soil cleanup is being performed.

The state of Nebraska identified the following ARARs:

- Title 129 - Nebraska Air Quality Regulations
- Title 128 - Rules and Regulations Governing Hazardous Waste Management in Nebraska
- Title 132 - Integrated Solid Waste Management Regulations

- Title 119 - Rules and regulations Pertaining to the National Pollutant Discharge Elimination System
- Title 178 - Chapter 23, Nebraska Rules on Lead-Based Paint Activities.

#### Action-Specific ARARs - To Be Considered Criteria

EPA Guidance, Renovate Right. Important Lead Hazard Information for Families, Child Care Providers, and Schools, EPA-740-F-08-002, March, 2008.

It may be appropriate to consider this guidance when addressing exterior lead-based paint on a property to prevent the recontamination of the soil when a soil cleanup is being performed

- Nebraska Voluntary Cleanup Program (VCP) Remediation Goals.

The Nebraska VCP remediation goals include a cleanup level of 400 ppm for lead in soil for residential exposures based on EPA's IEUBK model.

#### *Cost Effectiveness*

The selected remedy is a cost-effective, permanent solution to lead-contaminated residential soils at the Site. Excavation and replacement of contaminated soils has the highest level of short- and long-term effectiveness and permanence of the alternatives evaluated. Treatment technologies evaluated for this remedy have significantly higher costs and have not been demonstrated to assure long-term effectiveness and permanence for remediation of residential soils at this time. Although not achieved through treatment, the selected remedy does result in reduced mobility of site contaminants through engineering controls. The selected remedy relies on conventional engineering methods that are easily implemented. Contaminated soils are removed and replaced, thereby providing a permanent remedy for remediated soils that will not be subject to future costs associated with residual risks.

#### *Utilization of Permanent Solutions and Alternate Treatment Technologies*

The selected remedy utilizes a well-demonstrated approach to remediation of contaminated soils that will provide a permanent remedy for remediated soils. Removal and replacement of contaminated soils permanently removes Site contaminants as a potential source of exposure. No alternate treatment technologies were identified that have been demonstrated to provide long-term effectiveness at this time. The selected remedy best satisfies the statutory mandates for permanence and treatment.

The selected remedy ensures long-term effectiveness and permanence through removal and replacement of contaminated soils. Treatment technologies evaluated for the OLS final remedy have not demonstrated long-term effectiveness and permanence, and have not been applied full scale at any CERCLA site. Although toxicity and volume of contaminated soils is unchanged by the final remedy, the mobility of contamination is reduced by the final remedy through final management of excavated soils. The treatment alternative evaluated in the final remedy

selection is intended to reduce the mobility and toxicity of lead contamination through phosphate stabilization, although the long-term effectiveness of the evaluated treatment technology has not been demonstrated. Both action alternatives evaluated can be implemented in similar time periods, and both have short-term risks associated with use of heavy earth-moving equipment on small residential properties and transportation of materials and equipment through densely populated neighborhoods.

EPA has concluded that the selected remedy is protective, compliant with ARARs, cost-effective, and provides the best balance of trade-offs for utilizing permanent solutions and alternative treatment technologies to the extent practicable for the Site.

#### *Preference for Treatment as a Principal Element*

The selected remedy does not utilize treatment as a principal element. A treatability study was performed to evaluate the potential short-term effectiveness of various treatment approaches for reducing the toxicity of lead-contaminated soils at the OLS. The Treatability Study demonstrated that even the most effective treatment method resulted in limited reduction in lead bioavailability in OLS soils. The long-term effectiveness and permanence of the treatment results have not been demonstrated. The selected remedy does not satisfy the statutory preference for treatment as a principal element due the lack of proven effectiveness and permanence of the treatment alternatives evaluated. The selected remedy will reduce the mobility of contaminants of concern at the Site and control the potential for future exposure through removal and final management in a facility providing containment through engineering controls.

#### *Five-Year Review Requirements*

After remedial action, the vast majority of properties will allow for unlimited use and unrestricted exposures and will not be subject to a five-year review requirements. Properties will be subject to the statutory five-year review requirement where the action or cleanup levels are exceeded. In addition, a policy review will be conducted at least once every five years to ensure that the local lead hazard registry is being maintained on all properties at the OLS with property-specific information. An Institutional Control and Assurance Plan (ICIP) will be developed during implementation of the final remedy to assess the need for additional institutional controls that may arise at certain OLS properties. The ICIP will specifically include a provision that requires periodic review of the operational status and effectiveness of the lead hazard registry and land use changes. Prior to completion of the remedial action, non-remediated OLS properties where soil remediation has not yet been performed with soil lead levels that do not provide for unlimited use and unrestricted exposure will be subject to periodic five-year reviews in accordance with section 121 (c) of CERCLA and the NCP § 300.430(f)(5)(iii)(C).

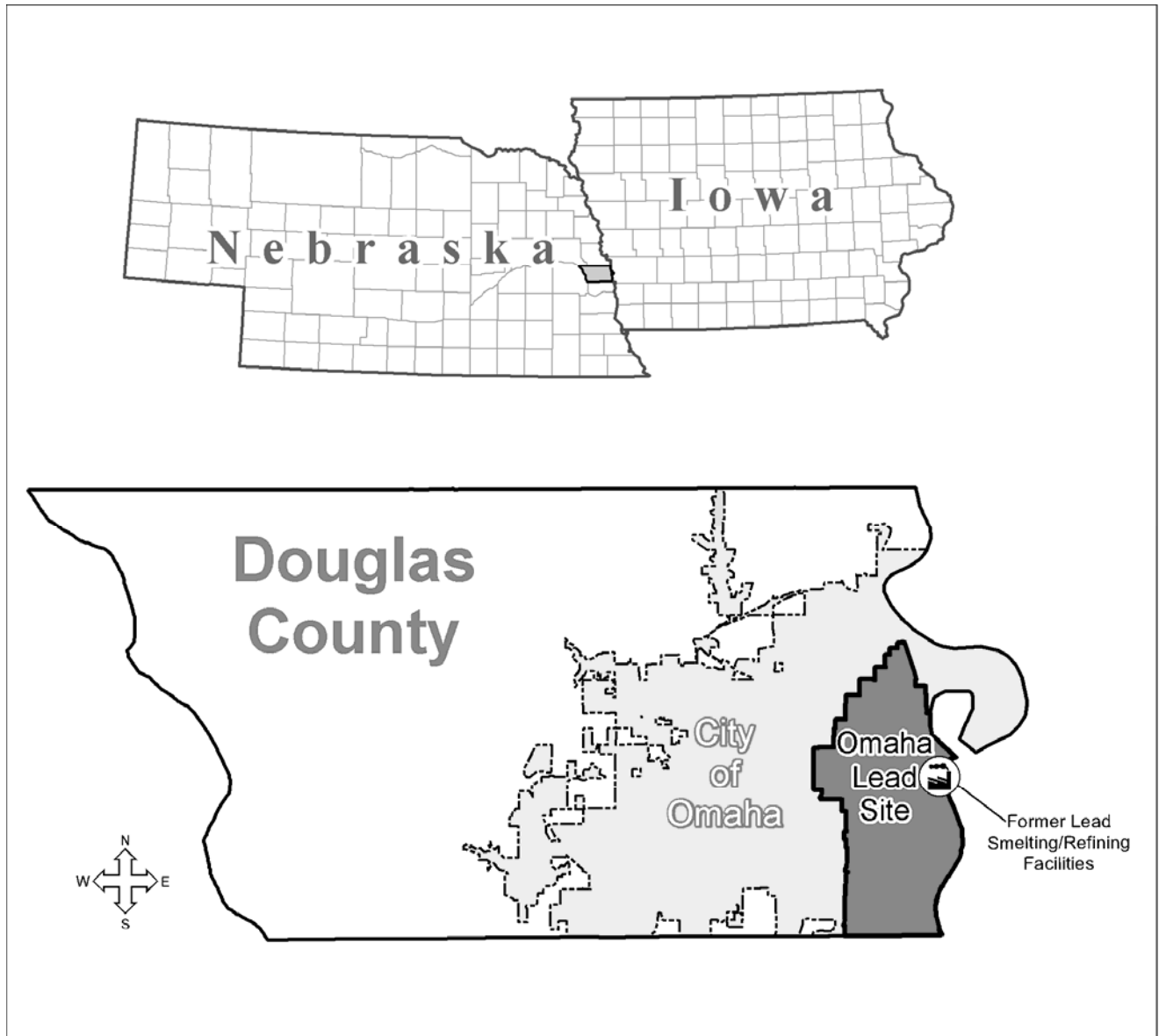


#### DOCUMENTATION OF SIGNIFICANT CHANGES

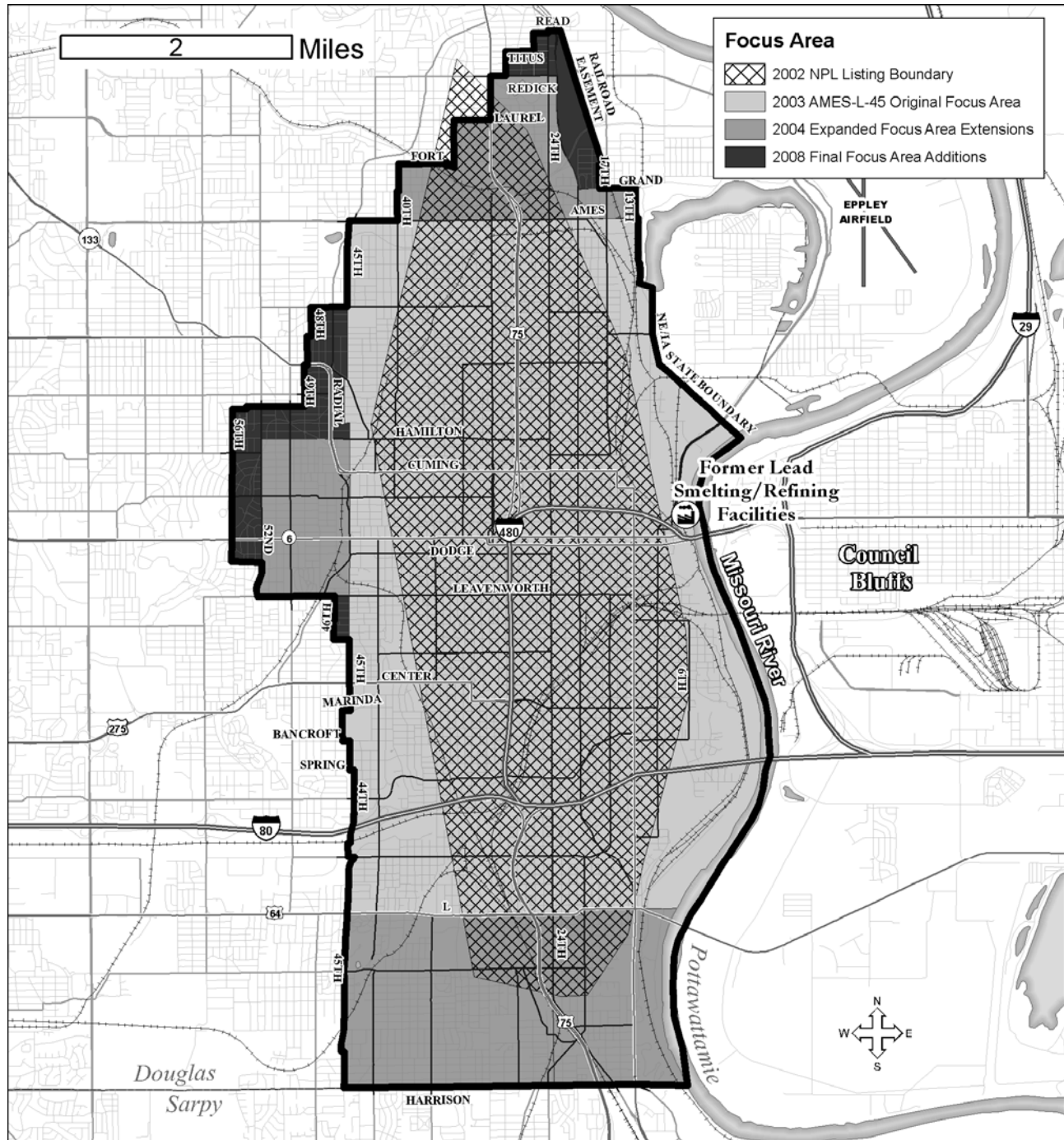
The Proposed Plan for the final remedy at the OLS was released for public comment in October 2008. The Proposed Plan identified Alternative 2 as the preferred alternative for soil remediation. EPA reviewed all written and verbal comments submitted during the public comment period. It was determined that no significant changes to the remedy, as identified in the Proposed Plan, were necessary or appropriate.

**FIGURES**

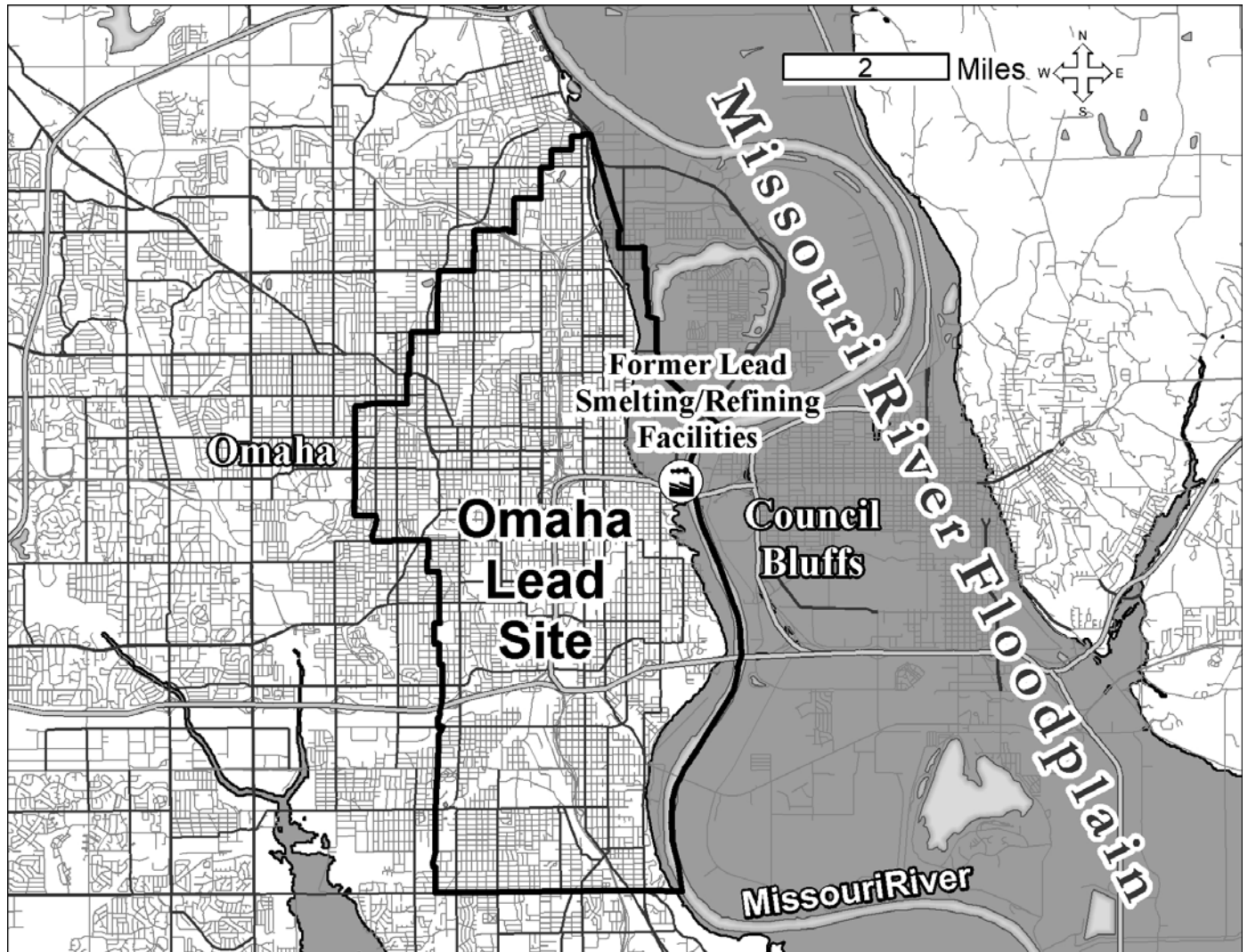
**Figure 1  
OLS Locator Map**



**Figure 2**  
**Boundary of Final Focus Area**

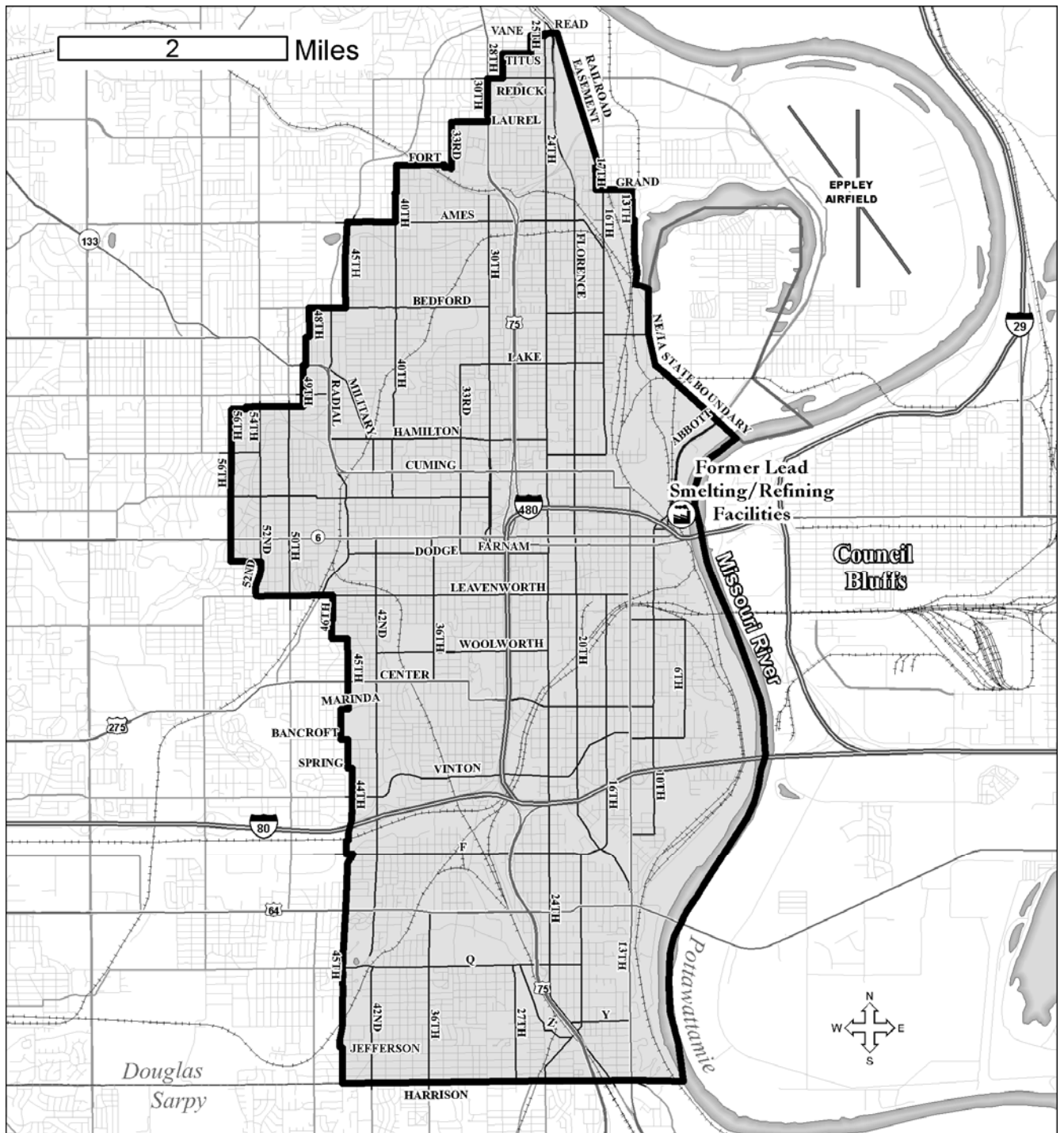


**Figure 3**  
**Missouri River Flood Plain**

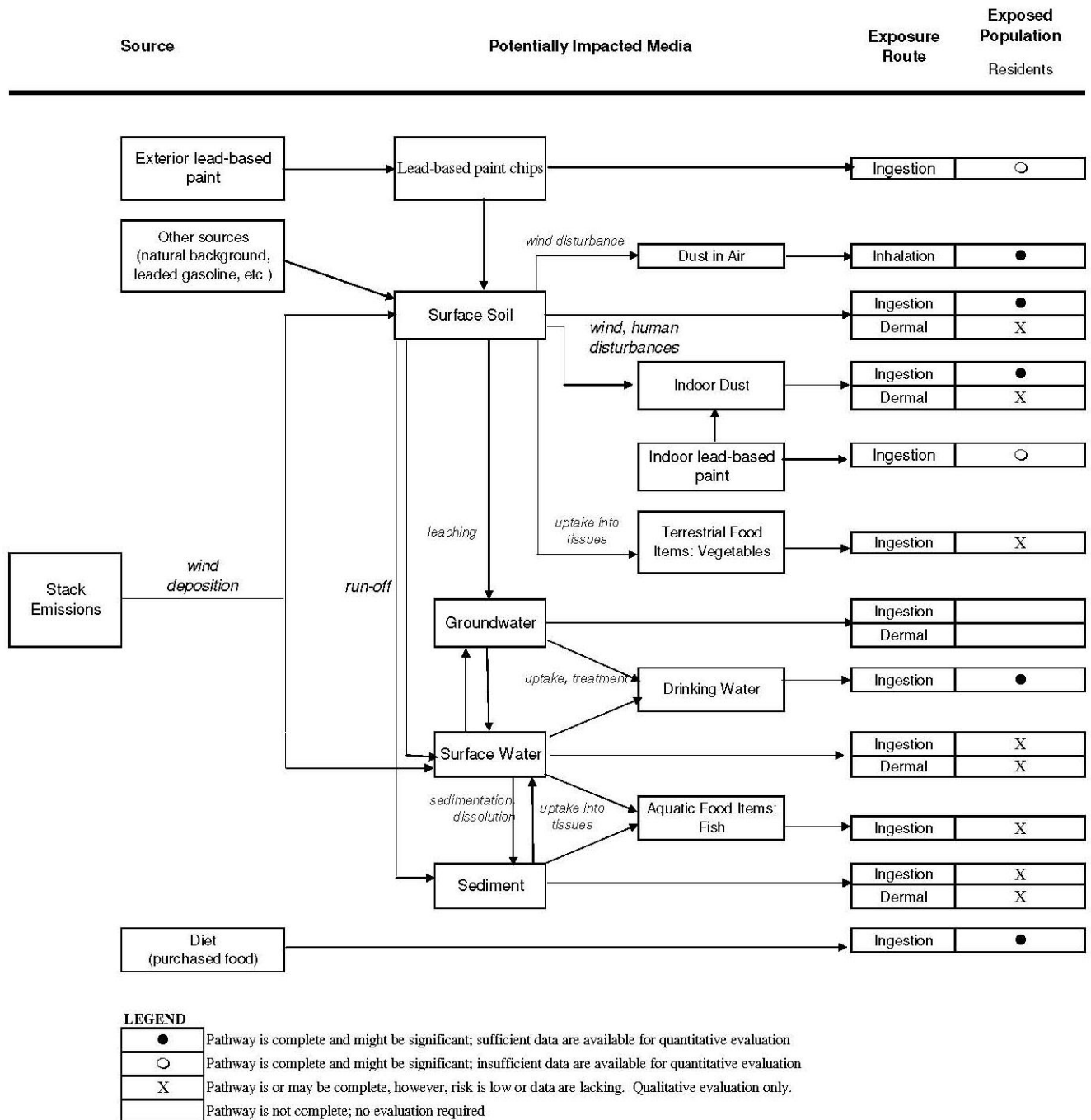




**Figure 4**  
**OLS Final Focus Area**

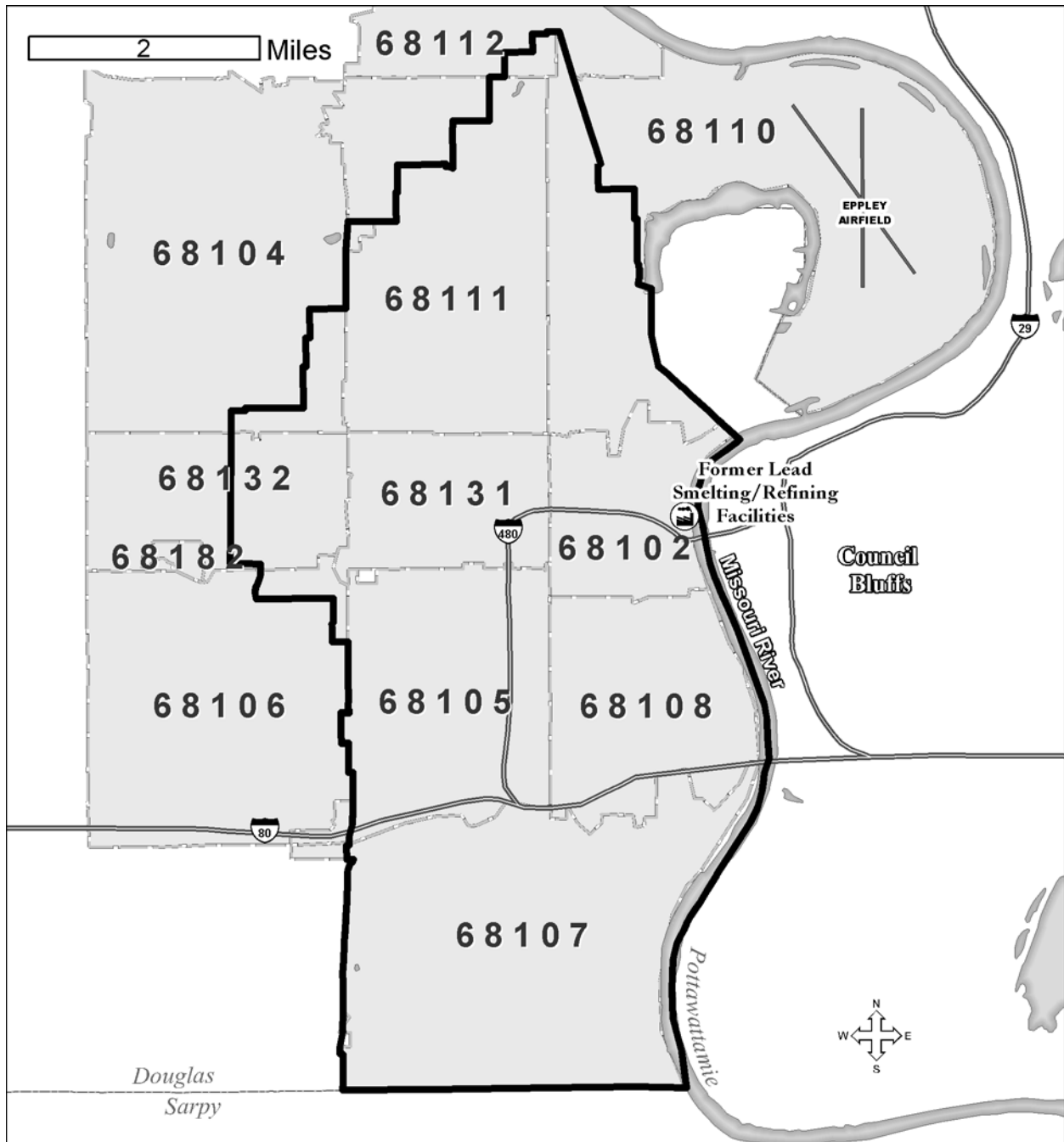


**Figure 5**  
**Conceptual Site Model**





**Figure 6**  
**Eastern Omaha Zip Code Boundaries**



**Figure 7**

<b>Table 1. OLS Non-Foundation Soil Lead Concentrations, parts per million (ppm)</b>		
Concentration Range	Number of Properties	Percentage of total properties
> 5,000	77	0.23 percent
2,000 - 5,000	532	1.6 percent
1,200 – 2,000	1,197	3.5 percent
800 – 12,000	2,296	6.7 percent
400 – 800	8,369	24.5 percent
< 400	21,746	63.6 percent

<b>Table 2. OLS Non-Foundation Soil Lead Level Exceedences, parts per million (ppm)</b>		
Concentration Range	Number of Properties	Percentage of total properties
> 5,000	77	0.23 percent
>2,000	609	1.8 percent
>1,200	1,806	5.3 percent
>800	4,102	12.0 percent
>400	12,471	36.4 percent

**Figure 8**  
**Summary of Risks to Child Residents (0-84 months)**  
**From Lead Exposure to Lead in Surface Soil**

ZIP CODE	NUMBER OF PROPERTIES EVALUATED	ESTIMATED NUMBER AND PERCENT OF PROPERTIES WITHIN THE SPECIFIED P10 RANGE					TOTAL NUMBER AND PERCENT OF PROPERTIES WHERE P10 EXCEEDS 5%
		≤ 5%	>5% to ≤10%	>10% to ≤20%	>20% to ≤50%	>50%	
68102	71	45	6	9	11	0	26
		63%	8%	13%	15%	0%	37%
68104	27	21	3	3	0	0	6
		78%	11%	11%	0%	0%	22%
68105	4,953	3,585	518	463	343	44	1,368
		72%	10%	9%	7%	1%	28%
68106	165	147	7	7	3	1	18
		89%	4%	4%	2%	1%	11%
68107	7,069	5,762	587	424	258	38	1,307
		82%	8%	6%	4%	1%	18%
68108	3,324	1,468	499	653	625	79	1,856
		44%	15%	20%	19%	2%	56%
68110	2,170	1,011	332	384	381	62	1,159
		47%	15%	18%	18%	3%	53%
68111	7,295	5,422	766	634	421	52	1,873
		74%	11%	9%	6%	1%	26%
68112	162	115	17	20	8	2	47
		71%	10%	12%	5%	1%	29%
68117	2	2	0	0	0	0	0
		100%	0%	0%	0%	0%	0%
68131	1,955	1,019	286	312	269	69	936
		52%	15%	16%	14%	4%	48%
68132	1,285	848	156	142	110	29	437
		66%	12%	11%	9%	2%	34%
ALL	28,478	19,445	3,177	3,051	2,429	376	9,033
		68%	11%	11%	9%	1%	32%

P10 = Probability of exceeding a blood lead value of 10 µg/dL (%).

**Figure 9**  
**Summary of Non-Cancer Hazard Quotients**

**Panel A. CTE Receptor**

ANALYTE	TOTAL NUMBER OF PROPERTIES	NUMBER OF PROPERTIES WITHIN THE SPECIFIED RISK RANGE							
		Non-Cancer Hazard Quotient (HQ) for Ingestion and Dermal Exposure							
		Child				Adult			
		≤1	2 - 5	>5	Max	≤1	2 - 5	>5	Max
Aluminum	219	214	0	0	0.08	214	0	0	0.01
Antimony	2,843	2,843	0	0	0.9	2,843	0	0	0.09
Arsenic	3,046	2,970	71	5	8	3,046	0	0	0.8
Cadmium	3,046	3,046	0	0	0.06	3,046	0	0	0.01
Cobalt	214	214	0	0	0.2	214	0	0	0.02
Chromium III	3,046	3,046	0	0	0.001	3,046	0	0	0.0001
Chromium VI	3,046	3,046	0	0	0.08	3,046	0	0	0.01
Copper	214	214	0	0	0.1	214	0	0	0.02
Iron	214	214	0	0	0.3	214	0	0	0.03
Manganese	219	214	0	0	0.1	214	0	0	0.01
Mercury	2,832	2,830	1	1	6	2,832	0	0	0.6
Thallium	3,046	3,040	6	0	4	3,046	0	0	0.4
Vanadium	214	214	0	0	0.04	214	0	0	0.00
Zinc	27,737	27,737	0	0	0.1	27,737	0	0	0.01

**Panel B. RME Receptor**

ANALYTE	TOTAL NUMBER OF PROPERTIES	NUMBER OF PROPERTIES WITHIN THE SPECIFIED RISK RANGE							
		Non-Cancer Hazard Quotient (HQ) for Ingestion and Dermal Exposure							
		Child				Adult			
		≤1	2 - 5	>5	Max	≤1	2 - 5	>5	Max
Aluminum	219	214	0	0	0.2	214	0	0	0.03
Antimony	2,843	2,841	2	0	2.5	2,843	0	0	0.3
Arsenic	3,046	2,736	253	57	24	3,038	8	0	3
Cadmium	3,046	3,046	0	0	0.2	3,046	0	0	0.02
Cobalt	214	214	0	0	0.5	214	0	0	0.1
Chromium III	3,046	3,046	0	0	0.003	3,046	0	0	0.0003
Chromium VI	3,046	3,046	0	0	0.2	3,046	0	0	0.03
Copper	214	214	0	0	0.4	214	0	0	0.04
Iron	214	214	0	0	0.8	214	0	0	0.1
Manganese	219	214	0	0	0.3	214	0	0	0.04
Mercury	2,832	2,829	1	2	17	2,831	1	0	1.8
Thallium	3,046	3,029	16	1	11	3,046	0	0	1.1
Vanadium	214	214	0	0	0.1	214	0	0	0.01
Zinc	27,737	27,737	0	0	0.4	27,737	0	0	0.04

**Figure 10**  
**Summary of Estimated Excess Cancer Risk from Arsenic**

ZIP CODE	NUMBER OF PROPERTIES EVALUATED	ESTIMATED NUMBER AND PERCENT OF PROPERTIES WITHIN THE SPECIFIED RISK RANGE							
		Estimated Excess Cancer Risk from Ingestion and Dermal Exposure							
		CTE				RME			
		≤1E-06	>1E-06 to ≤1E-05	>1E-05 to ≤1E-04	>1E-04	≤1E-06	>1E-06 to ≤1E-05	>1E-05 to ≤1E-04	>1E-04
68102	6	1	5	0	0	0	1	5	0
		17%	83%	0%	0%	0%	17%	83%	0%
68104	7	1	5	1	0	0	1	5	1
		14%	71%	14%	0%	0%	14%	71%	14%
68105	466	49	373	44	0	1	51	372	42
		11%	80%	9%	0%	0%	11%	80%	9%
68106	33	6	22	5	0	0	6	23	4
		18%	67%	15%	0%	0%	18%	70%	12%
68107	800	94	674	32	0	0	105	664	31
		12%	84%	4%	0%	0%	13%	83%	4%
68108	276	15	257	4	0	0	15	257	4
		5%	93%	1%	0%	0%	5%	93%	1%
68110	259	15	241	3	0	0	16	240	3
		6%	93%	1%	0%	0%	6%	93%	1%
68111	800	69	697	34	0	0	79	690	31
		9%	87%	4%	0%	0%	10%	86%	4%
68112	6	0	5	1	0	0	0	5	1
		0%	83%	17%	0%	0%	0%	83%	17%
68131	172	19	145	8	0	0	24	140	8
		11%	84%	5%	0%	0%	14%	81%	5%
68132	221	15	188	18	0	1	20	184	16
		7%	85%	8%	0%	0%	9%	83%	7%
ALL	3046	284	2612	150	0	2	318	2585	141
		9%	86%	5%	0%	0%	10%	85%	5%

**Figure 11**  
**Cost Summary for Alternative 2-Evacuation and Disposal**  
**Omaha Lead Site**

<b>Cost Estimate Component</b>	<b>Quantity</b>	<b>Unit Cost</b>	<b>Total Price</b>
Mobilization	1	\$50,000	\$50,000
Obtain Soil and LBP Access/Soil Sampling	5,210	\$400	\$2,084,000
Property Access/Indoor Dust Wipe Sampling	7,160	\$100	\$716,000
Material Movement (excavation, transport, backfill, dust suppression, and sodding)	9,966	\$13,000	\$129,558,000
Post Cleanup Reports	9,966	\$100	\$996,600
Paint Assessment	11,683	\$210	\$2,453,430
Exterior Lead-based Paint Stabilization	5,522	\$4,000	\$22,088,000
Purchase/Instructions - HEPAVAC	1,432	\$440	\$630,080
Preparation of Health and Safety Plan	40	\$100	\$4,000
Preparation of QA/Sampling Plan	60	\$100	\$6,000
Contingencies/Design/Permitting/Construction Services			\$71,463,000
Subtotal			\$230,049,110
Establish/Maintain Information Registry for 10 years	10	\$100,000	\$1,000,000
Public Health Education for 10 years	10	\$250,000	\$2,500,000
Maintain 2 Public Information Centers for 10 years	10	\$156,000	\$1,560,000
Information dissemination via Mass Media for 10 years	10	\$150,000	\$1,500,000
Subtotal			\$6,560,000
Total			\$236,609,110
<b>TOTAL PRESENT WORTH COST</b>			<b>\$165,213,000</b>



**Figure 12**  
**Cost Summary for Alternative 3-Evacuation and Disposal**  
**Omaha Lead Site**

Cost Estimate Component	Quantity	Unit Cost	Total Price
Mobilization	1	\$50,000	\$50,000
Obtain Soil and LBP Access/Soil Sampling	5,210	\$400	\$2,084,000
Property Access/Indoor Dust Wipe Sampling	7,160	\$100	\$716,000
Material Movement (excavation, transport, backfill, dust suppression, and sodding)	6,245	\$13,000	\$81,185,000
Post Cleanup Reports	6,245	\$100	\$624,500
Phosphoric Acid Treatment	3,721	\$35,596	\$132,452,716
Paint Assessment	11,683	\$210	\$2,453,430
Exterior Lead-based Paint Stabilization	5,522	\$4,000	\$22,088,000
Purchase/Instructions - HEPA VAC	1,432	\$440	\$630,080
Long Term Monitoring Program for 372 Phosphate Treated Properties; 6 mo and Yrs 2, 5, 10, 15 and 20	2,232	\$344	\$767,808
Long Term Monitoring Reports	6	\$9,600	\$57,600
Preparation of Health and Safety Plan	40	\$100	\$4,000
Preparation of QA/Sampling Plan	60	\$100	\$6,000
Contingencies/Design/Permitting/Construction Services			\$108,522,600
Subtotal			\$351,641,734
Establish/Maintain Information Registry for 10 years	10	\$100,000	\$1,000,000
Public Health Education for 10 years	10	\$250,000	\$2,500,000
Maintain 2 Public Information Centers for 10 years	10	\$156,000	\$1,560,000
years	10	\$150,000	\$1,500,000
Subtotal			\$6,560,000
Total			\$358,201,734
<b>TOTAL PRESENT WORTH COST</b>			<b>\$250,506,000</b>

**Figure 13**  
**Alternative 2 – Cost Analysis for Excavation and Disposal**  
**Omaha Lead Site Final FS Report**

Cost Estimate Component	Quantity	Units	Unit Cost	Capital Cost	Annual Cost
<b>CAPITAL COSTS</b>					
Mobilization <sup>(1)</sup>	1	Mob	\$50,000	\$50,000	
Obtain Soil and LBP Access/Soil Sampling <sup>(1)</sup>	5,210	Properties	\$400	\$2,084,000	
Property Access/Indoor Dust Wipe Sampling	7,160	Properties	\$100	\$716,000	
Material Movement (excavation, transport, backfill, dust suppression, and sodding) <sup>(2)</sup>	9,966	Properties	\$13,000	\$129,558,000	
Post Cleanup Reports <sup>(1)</sup>	9,966	Properties	\$100	\$996,600	
Paint Assessment	11,987	Properties	\$210	\$2,517,270	
Exterior Lead-based Paint Stabilization <sup>(2)</sup>	6,312	Properties	\$4,000	\$25,248,000	
Purchase/Instructions - HEPAVAC	1,432	Properties	\$350	\$501,200	
Preparation of Health and Safety Plan	40	HR	\$100	\$4,000	
Preparation of QA/Sampling Plan	60	HR	\$100	\$6,000	
<b>DIRECT CAPITAL COST SUBTOTAL</b>				\$161,681,070	
Bid Contingency (15%)				\$24,252,200	
Scope Contingency (10%)				\$16,168,100	
<b>TOTAL DIRECT CAPITAL COST</b>				\$202,101,370	
Permitting and Legal (2%)				\$4,042,000	
Construction Services (10%)				\$20,210,100	
<b>CONSTRUCTION COSTS TOTAL</b>				\$226,353,470	
Engineering Design (3%)				\$6,790,600	
<b>TOTAL CAPITAL COST</b>				\$233,144,000	
<b>TOTAL ANNUAL CAPITAL COSTS<sup>3</sup></b>				\$23,314,400	
<b>ANNUAL COSTS</b>					
<b>Year 1</b>					
Information Dissemination via Mass Media, Including Television	1	LS	\$150,000		\$150,000
Establish Information Registry	1	LS	\$100,000		\$100,000
Public Health Education	1	LS	\$250,000		\$250,000
Maintain 2 Public Information Centers	1	LS	\$156,000		\$156,000
HEPAVAC instructions	1,432	HR	\$90		\$128,880
<b>Year 2-10</b>					
Information Dissemination via Mass Media, Including Television	1	LS	\$150,000		\$150,000
Maintain Information Registry	1	LS	\$100,000		\$100,000
Public Health Education	1	LS	\$250,000		\$250,000
Maintain 2 Public Information Centers	1	LS	\$156,000		\$156,000
<b>TOTAL PRESENT WORTH COST</b>				\$168,479,000	

7 percent discount rate used to calculate present worth.

HR - Hours

LS - Lump Sum

PT - Feet

EA - Each

1 - BVSPC 2004 (Ref. 25)

2 - Costs Provided by EPA based on historical costs at the OLS

3 - Total Annual Capital Costs each year for 10 years

**Figure 14**  
**Alternative 2 – Cost Analysis for Excavation and Disposal**  
**Present Worth Cost Analysis**  
**Omaha Lead Site Final FS Report**

Year	Annual Capital Costs	Annual Costs	Total Annual Costs	Intermittent Costs Include:
1	\$22,849,500	\$784,880	\$23,634,400	
2	\$22,849,500	\$656,000	\$23,505,500	
3	\$22,849,500	\$656,000	\$23,505,500	
4	\$22,849,500	\$656,000	\$23,505,500	
5	\$22,849,500	\$656,000	\$23,505,500	
6	\$22,849,500	\$656,000	\$23,505,500	
7	\$22,849,500	\$656,000	\$23,505,500	
8	\$22,849,500	\$656,000	\$23,505,500	
9	\$22,849,500	\$656,000	\$23,505,500	
10	\$22,849,500	\$656,000	\$23,505,500	
11		\$0	\$0	
12		\$0	\$0	
13		\$0	\$0	
14		\$0	\$0	
15		\$0	\$0	
16		\$0	\$0	
17		\$0	\$0	
18		\$0	\$0	
19		\$0	\$0	
20		\$0	\$0	
21		\$0	\$0	
22		\$0	\$0	
23		\$0	\$0	
24		\$0	\$0	
25		\$0	\$0	
26		\$0	\$0	
27		\$0	\$0	
28		\$0	\$0	
29		\$0	\$0	
30		\$0	\$0	
Total Annual Costs			\$235,184,000	
Present Worth of Annual Costs			\$165,213,000	

**Figure 15**  
**Potential Chemical-Specific Federal and State ARARs**

Potential Federal Chemical-Specific ARARs			
Authority	Citations	Synopsis	Requirement
A. Applicable Requirements	None		
B. Relevant and Appropriate	None		
1. Safe Drinking Water Act	National Primary Drinking Water Standards 40 CFR Part 141 Subpart B and G	Establish maximum contaminant levels (MCLs), which are health based standards for public waters systems.	Required to meet MCLs.
2. Safe Drinking Water Act	National Secondary Drinking Water Standards 40 CFR Part 143	Establish secondary maximum contaminant levels (SMCLs) which are non-enforceable guidelines for public water systems to protect the aesthetic quality of the water.	SMCLs may be relevant and appropriate if groundwater is used as a source of drinking water.
3. Safe Drinking Water Act	Maximum Contaminant Level Goals (MCLGs) 40 CFR Part 141, Subpart F	Establishes non-enforceable drinking water quality goals.	The goals are set to levels that produce no known or anticipated adverse health effects. The MCLGs include an adequate margin of safety.
4. Clean Water Act	Water Quality Criteria 40 CFR Part 131 Water Quality Standards	Establishes non-enforceable standards to protect aquatic life.	May be relevant and appropriate to surface water discharges, or may be a TBC.
5. Clean Air Act	National Primary and Secondary Ambient Air Quality Standards 40 CFR Part 50	Establishes standards for ambient air quality to protect public health and welfare.	Requires air emissions to meet clean air standards.
6. National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122, 125	Determines maximum concentrations for the discharge of pollutants from any point source into waters of the United States.	Requires non point discharge to meet NPDES permit standards.
C. To Be Considered			
1. EPA Revised Interim Soil-lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities	Office of Solid Waste and Emergency Response (OSWER) Directive 9355.4-12, August 1994 OSWER Directive 9200.4-27P, August 1988	Establishes screening levels for lead in soil for residential land use, describes development of site-specific preliminary remediation goals, and describes a plan for soil-lead cleanup at CERCLA sites.	This guidance recommends using the EPA Integrated Exposure Uptake Biokinetic Model (IEUBK) on a site-specific basis to assist in developing cleanup goals.
2. EPA Strategy for Reducing Lead Exposures	EPA, February 21, 1991	Presents a strategy to reduce lead exposure, particularly to young children.	The strategy was developed to reduce lead exposure to the greatest extent possible. Goals of the strategy are to 1) significantly reduce the incidence above 10 µg Pb/dL in children; and 2) reduce the amount of lead introduced into the environment.

3. Human Health Risk Assessment		Evaluates baseline health risk due to current site exposures and establish contaminant levels in environmental media at the site for the protection of public health because ARARs are not available for contaminants in soils.	The risk assessment approach using this data should be used in determining cleanup levels because ARARs are not available for contamination in soils.
4. Superfund Lead-Contaminated Residential Sites Handbook	EPA OSWER 9285.7-30, August 2003.	Handbook developed by EPA to promote a nationally consistent decision making process for assessing and managing risks associated with lead contaminated residential sites across the country.	Use the available data to determine what has been done nationally to assess local risks.
5. Toxic Substances and Control Act (TSCA)	Lead-Based Paint Poisoning Prevention in Certain Residential Structures 40 CFR Part 745	Establishes EPA requirements for addressing lead-based paint poisoning prevention in certain residential structures.	Identifies and sets requirements for maximum amount of lead in dust samples collected from windows sills and floors. Impose requirements on the seller or lessor of target housing to disclose to the purchaser or lessee the presence of any known lead-based paint hazards, provide available records and reports, and attach specific disclosure and warning language to the sales or leasing contract.
6. Lead-Based Paint Poisoning Prevention Act; Residential Lead-Based Paint Hazard Reduction Act	Lead-Based Paint Poisoning Prevention in Certain Residential Structures 24 CFR Part 35	Establishes HUD requirements for addressing lead-based paint poisoning prevention in certain residential structures.	Identifies and sets requirements for maximum amount of lead in dust samples collected from windows sills, window troughs and floors. Establishes requirements for seller or lessor of target housing to disclose the presence of any known lead-based paint and/or lead-based paint hazards to purchaser or lessee and provide available records and reports. Sets requirements for amount of lead in paint.
Potential State Chemical-Specific ARARs			
Authority	Citations	Synopsis	Requirement
A. Applicable Requirements	None		
B. Relevant and Appropriate Requirements			
1. Nebraska Surface Water Quality Standards	Nebraska Department of Environmental Quality - Title 117	Regulates the discharge of constituents from any point source, including stormwater, to surface waters of the state. Provides for maintenance and protection of public health and aquatic life uses of surface water and groundwater.	Required for protection of wetlands, streams, lakes, and impounded waters from the runoff from toxic discharges.
2. Nebraska Safe Drinking Water Act	Nebraska Rev. Stat. 71-5301 et seq. and Title 179, Chapter 2	Establishes drinking water standards (MCLs), monitoring standards, and other treatment requirements.	Required to meet MCLs.

3. Nebraska Air Pollution Control Rules and Regulations	Nebraska Department of Environmental Quality - Title 129	Establishes Ambient Air Quality Standard and regulates emissions of contaminants into the air.	Required to meet ambient air quality standards.
C. To Be Considered			
1. Human Health Risk Assessment Report (HHRA)		Evaluates baseline health risk due to current site exposures and established contaminant levels in environmental media at the site for the protection of public health.	The risk assessment approach using this data should be used in determining cleanup levels because ARARs are not available for contaminants in soils.
2. Nebraska Voluntary Cleanup Program (VCP) Remediation Goals		The VCP remediation goals include a cleanup number of 400 ppm for lead in soil for residential exposures based on EPA's IEUBK model.	Nebraska VCP goals should be considered in establishing soil lead cleanup levels.



**Figure 16**  
**Potential Location-Specific Federal and State ARARs**

Potential Federal Location-Specific ARARs			
Authority	Citations	Synopsis	Requirement
A. Applicable Requirements			
1. Historic project owned or controlled by a federal agency	National Historic Preservation Act; 16 U.S.C. 470, et.seq; 40 CFR § 6.301; 36 CFR Part 1.	Property within areas of the Site is included in or eligible for the National Register of Historic Places.	The remedial alternatives will be designed to minimize the effect on historic landmarks.
2. Site within an area where action may cause irreparable harm, loss, or destruction of artifacts.	Archeological and Historic Preservation Act; 16 U.S.C. 469, 40 CFR 6.301.	Property within areas of the site contains historical and archaeological data.	The remedial alternative will be designed to minimize the effect on historical and archeological data.
3. Site located in area of critical habitat upon which endangered or threatened species depend.	Endangered Species Act of 1973, 16 U.S.C. 1531-1543; 50 CFR Parts 17; 40 CFR 6.302. Federal Migratory Bird Act; 16 U.S.C. 703-712.	Determination of the presence of endangered or threatened species.	The remedial alternatives will be designed to conserve endangered or threatened species and their habitat, including consultation with the Department of Interior if such areas are affected.
4. Site located within a floodplain soil.	Protection of Floodplains, Executive Order 11988; 40 CFR Part 6.302, Appendix A.	Remedial action will take place within a 100-year floodplain.	The remedial action will be designed to avoid adversely impacting the floodplain in and around the soil repository to ensure that the action planning and budget reflects consideration of the flood hazards and floodplain management.
5. Wetlands located in and around the soil repository.	Protection of Wetlands; Executive Order 11990; 40 CFR Part 6, Appendix A.	Remedial actions may affect wetlands.	The remedial action will be designed to avoid adversely impacting wetlands wherever possible including minimizing wetlands destruction and preserving wetland values.
6. Structures in waterways in and around the soil repository.	Rivers & Harbors Act, 33 CFR Parts 320-330.	Placement of structures in waterways is restricted to pre-approval of the U.S. Army Corps of Engineers.	The remedial action will comply with these requirements.
7. Water in and around the soil repository.	Clean Water Act, (Section 404 Permits) Dredge or Fill Substantive Requirements, 33 U.S.C. Parts 1251-1376; 40 CFR Parts 230,231.	Capping, dike stabilization construction of berms and levees, and disposal of contaminated soil, waste material or dredged material are examples of activities that may involve a discharge of dredge or fill material. Four conditions must be satisfied before dredge and fill is an allowable alternative.	<ol style="list-style-type: none"> <li>1. There must not be a practical alternative.</li> <li>2. Discharge of dredged or fill material must not cause a violation of State water quality standards, violate applicable toxic effluent standards, jeopardize threatened or endangered species or injure a marine sanctuary.</li> <li>3. No discharge shall be permitted that will cause or contribute to significant degradation of the water.</li> <li>4. Appropriate steps to minimize adverse effects must be taken.</li> </ol> <p>Determine long- and short-term effects on physical, chemical, and biological components of the aquatic ecosystem.</p>

8. Area containing fish and wildlife habitat in and around the soil repository.	Fish and Wildlife Conservation Act of 1980, 16 U.S.C. Part 2901 <i>et seq.</i> ; 50 CFR Part 83 and 16 U.S.C. Part 661, <i>et seq.</i> Federal Migratory Bird Act, 16 U.S.C. Part 703.	Activity affecting wildlife and non-game fish.	Remedial action will conserve and promote conservation of non-game fish and wildlife and their habitats.
B. Relevant and Appropriate Requirements			
1. 100-year floodplain	Location Standard for Hazardous Waste Facilities- RCRA; 42 U.S.C. 6901; 40 CFR 264.18(b).	RCRA hazardous waste treatment and disposal.	Facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout during any 100-year/24 hour flood.
C. To Be Considered	None		
Potential State Location-Specific ARARs			
Authority	Citations	Synopsis	Requirement
A. Applicable Requirements			
1. Solid waste management regulations	Nebraska Department of Environmental Quality – Title 132 – Integrated Solid Waste Management Regulations	Requires permits for proper identifications and disposal of solid waste in solid waste disposal areas.	Requires specified procedures for the location, design, operation, and ground water monitoring, closure, disposal, post closure, and financial assurance for solid waste disposal facilities. Requires specific procedures for special waste management.
2. Siting Procedures and Policies	Nebraska State Statutes 13-1701 to 13-1714	Policies and procedures are required in order to get approval for a solid waste disposal.	Requires approvals by local jurisdictions prior to the development of a site as a solid waste disposal area.
3. Flood-plain Management Act	Nebraska State Statutes 13-1001 to 31-1031 and Title 258	Policies and procedures for construction or disposal in flood plains.	Governs certain activities occurring in flood plains
4. Nebraska Nongame and Endangered Species Act	Nebraska State Statutes 37-801 to 37-811 and Title 163 Chapter 4, 012	Policies and procedures to ensure protection of Threatened and Endangered species Requires consultation with Nebraska Game and Parks Commission.	Requires actions which may affect threatened or endangered species and their critical habitat.
B. Relevant and Appropriate Requirements	None		
C. To Be Considered.			
1. Hazardous waste handling, transport and disposal regulations	Nebraska Department of Environmental Quality – TITLE 128 Nebraska Hazardous Waste Regulations	Requires operating permits for proper identifications, handling, transport, and disposal of hazardous materials.	Supplement the federal RCRA regulations and define state permitting requirements.
2. Siting Procedures and Policies	Nebraska State Statutes 81-1521.08 to 81-1521.23	Policies and procedures are required in order to get approval for a hazardous waste management facility.	Requires approvals by local jurisdictions prior to the development of a site as a hazardous waste management facility.

**Figure 17**  
**Potential Action-Specific Federal and State ARARs**

Potential Federal Action-Specific ARARs			
Authority	Citations	Synopsis	Requirement
A. Applicable Requirements			
1. Disposal of Solid Waste in a Permanent Repository and closure of the Repository.	Subtitle D of RCRA, Section 1008, Section 4001, <u>et seq.</u> , 42 U.S.C. ' 6941, <u>et seq.</u>	State or Regional Solid Waste Plans and implementing federal and state regulations to control disposal of solid waste. The yard soils disposed in the repository may not exhibit the toxicity characteristic and therefore, are not hazardous waste. However, these soils may be solid waste.	Contaminated residential soils will be consolidated from yards throughout the site into a single location. The disposal of this waste material should be in accordance with regulated solid waste management practices.
2. Disposal of Hazardous Waste in the Permanent Repository and Designation as a Corrective Action Management Unit (CAMU).	Subtitle C of RCRA, Section 3001 <u>et seq.</u> , 42 U.S.C. ' 6921, <u>et seq.</u> and implementing regulations at 40 CFR Subpart S, Corrective action for solid waste management units and temporary units, 40 CFR ' 264.522	RCRA defines CAMUs to be used in connection with implementing remedial measures for corrective action under RCRA or at Superfund sites. Generally, a CAMU is used for consolidation or placement of remediation wastes within the contaminated areas at the facility. Placement of wastes in a CAMU does not constitute land disposal of hazardous waste and does not constitute creation of a unit subject to minimum technology requirements.	The RCRA requirements of Subtitle C are not applicable to the disposal of residential yard soils in the repository. Residential yard soils contaminated from smelter fall out are not excluded from regulation under the RCRA exclusion for extraction, beneficiation and mineral processing. Therefore, yard soils exhibiting a RCRA toxicity characteristic would be regulated under Subtitle C of RCRA. However, because of the CAMU regulation, these residential soils are remediation wastes and may be disposed without triggering RCRA disposal requirements. The remedial action will comply with the requirements of the CAMU rule.
B. Relevant and Appropriate Requirements			
1. NPDES Storm Water Discharge for Permanent Repository.	40 CFR Part 122, ' 122.26	Establishes permitting process and discharge regulations for storm water	Required management of repository where waste materials come into contact with storm water. Also required during construction of the repository.
2. Transportation of excavated soils.	DOT Hazardous Material Transportation Regulations, 49 CFR Parts 107, 171-177	Regulates transportation of hazardous wastes.	Relevant and appropriate for the excavation alternative which would transport wastes on-site.
C. To Be Considered	None		

Potential State Action-Specific ARARs			
Authority	Citations	Synopsis	Requirement
A. Applicable Requirements			
1. Fugitive dust control measures to be utilized during excavation activities	Nebraska Department of Environmental Quality – TITLE 129 Air Quality Regulations, Chapter 32	Requires operating and construction permits to provide that reasonable measures be used to prevent particulate emissions from leaving the premises. Also, sets ambient air quality standards for a number of air constituents.	Recommend that excavation of yard soils be handled in such a manner as to control fugitive emissions, such as use of a water spray during excavation or transportation. May be used in monitoring ambient air quality during implementation for lead and other particulates.
2. Solid waste management regulations	Nebraska Department of Environmental Quality – TITLE 132 – Integrated Solid Waste Management Regulations	Requires permits for proper identifications and disposal of solid waste in solid waste disposal areas.	Requires specified procedures for the location, design, operation, and ground water monitoring, closure, post closure, and financial assurance for solid waste disposal facilities. Requires specific procedures for special waste management.
3. Siting Procedures and Policies	Nebraska State Statutes 13-1701 to 13-1714	Policies and procedures are required in order to get approval for a solid waste disposal area.	Requires approvals by local jurisdictions prior to the development of a site as a solid waste disposal area.
B. Relevant and Appropriate Requirements			
1. Nebraska Surface Water Quality Standards	Nebraska Department of Environmental Quality - TITLE 117	Regulates the discharge of constituents from any point source, including stormwater, to surface waters of the state. Provides for maintenance and protection of public health and aquatic life uses of surface water and groundwater.	Required for protection of wetlands, streams, lakes, and impounded waters from the runoff from toxic discharges.
2. Rules and Regulations pertaining to the issuance of permits under the National Pollutant Discharge Elimination System	Nebraska Department of Environmental Quality - TITLE 119	Defines and issues permits for the discharge of constituents from any point source, including storm water, to surface waters of the state. Establishes development of an approved action plan and discharge regulations for storm water	Required for protection of wetlands, streams, lakes, and impounded waters from the runoff from toxic discharges. Required of management of repository where waste materials come into contact with storm water. Also required during construction of the repository. Monitoring program shall be implemented to ensure compliance with discharge regulations.

C. To Be Considered			
1. Hazardous waste handling, transport and disposal regulations	Nebraska Department of Environmental Quality – TITLE 128 Nebraska Hazardous Waste Regulations	Requires operating permits for proper identifications, handling, transport, and disposal of hazardous materials.	Supplement the federal RCRA regulations and define state permitting requirements.
2. Siting Procedures and Policies	Nebraska State Statutes 81-1521.08 to 81-1521.23	Policies and procedures are required in order to get approval for a hazardous waste management facility	Requires approval by local jurisdictions prior to the development of a site as a hazardous waste management facility.
3. Nebraska Voluntary Cleanup Program (VCP) Remediation Goals		The VCP remediation goals include a cleanup number of 400 ppm for lead in soil for residential exposures based on EPA's IEUBK model.	Nebraska VCP goals should be considered in establishing soil lead cleanup levels.

**APPENDIX B**

**STATEMENT OF WORK**

**Omaha Lead Site Remedial Action**

**Health Education and Community Involvement**

**Omaha, Douglas County, Nebraska**

**May 31, 2011**



## **TABLE OF CONTENTS**

<b>I.</b>	<b>PURPOSE .....</b>	<b>3</b>
<b>II.</b>	<b>DESCRIPTION OF REMEDIAL DESIGN .....</b>	<b>3</b>
<b>III.</b>	<b>DESCRIPTION OF REMEDIAL ACTION .....</b>	<b>3</b>
<b>IV.</b>	<b>CLEAN-UP STANDARDS .....</b>	<b>6</b>
<b>V.</b>	<b>SCOPE OF WORK.....</b>	<b>7</b>
<b>VI.</b>	<b>TASKS FOR WORK COMPLETION .....</b>	<b>21</b>

**STATEMENT OF WORK FOR  
HEALTH EDUCATION AND COMMUNITY INVOLVEMENT  
AT THE  
OMAHA LEAD SUPERFUND SITE  
OMAHA, DOUGLAS COUNTY, NEBRASKA**

**I. PURPOSE**

The purpose of this Statement of Work (SOW) for the Omaha Lead site (OLS or Site) is to set forth requirements for implementation of education and community involvement portions of the final Record of Decision (ROD) for the Site which was signed by the United States Environmental Protection Agency (EPA), Region 7 on May 13, 2009. The Settling Defendant shall follow the ROD, this SOW, the approved Work Plan and any additional guidance provided by EPA in designing, implementing, and submitting deliverables for the Work required by the Consent Decree at the Site.

**II. DESCRIPTION OF THE REMEDIAL ACTION**

The Work to be performed pursuant to this SOW and Consent Decree (CD) will conform to those portions of the Remedial Action described in the 2009 final ROD that address health education and community involvement activities.

The Settling Defendant shall contract the Omaha Healthy Kids Alliance (OHKA) to provide health education and community outreach activities at a total cost of \$ 3.15 million over a period of approximately five years.

**A. Health Education Remedial Design**

Due to the presence of a number of identified lead hazards at the OLS, a health education program will be performed through OHKA to raise awareness and reduce exposure. An active educational program is ongoing and would be continued under the final remedy. OHKA will continue implementation of its current program, and expand it, consistent with the Work Plan incorporated into the SOW as Appendix D to the CD. OHKA will work in cooperation with EPA and, to the extent appropriate, other agencies and organizations that could include ATSDR, NDHHS, DCHD, local non-governmental organizations, and other interested parties for the five-year period addressed by the Work Plan. Health education activities performed pursuant to this SOW shall focus on educating Omaha residents about preventing lead poisoning and the promotion of activities that support limiting exposures to lead from the various sources present in Omaha while EPA's remedial actions are ongoing. The following, although not an exhaustive list, indicate the types of educational activities that OHKA may conduct at the Site:

- Support for in-home assessments for children identified with elevated blood lead levels.
- One-on-one teaching and educational materials for families (educational and teaching materials to be in the native language of the family being educated).
- Assistance in educating parents/guardians within the Site about lead hazards.
- Development and implementation of prevention curriculum in schools.
- Assistance in increasing awareness of childhood lead poisoning and methods of prevention.
- Support for efforts to increase community-wide blood lead monitoring.
- Physicians' education for diagnosis, treatment, and surveillance of lead exposure.
- Use of mass media (television, radio, internet, print media, etc.) to distribute health education messages.
- Development and distribution of informational tools such as fact sheets, brochures, refrigerator magnets, etc., to inform the public about lead hazards and measures that can be taken to avoid or eliminate exposure.

### III. SCOPE OF WORK

The Work to be performed pursuant to this SOW and CD will consist of health education and community involvement activities, as generally set forth in the Work Plan. Further, this SOW incorporates by reference the Performance Standards identified and defined in Section 3.0, page 6, of the Work Plan.

#### A. Health Education and Community Involvement Work Scope

Settling Defendant, through OHKA, has developed a basic scope of work describing five years of health education and community involvement programs as presented in the Work Plan. OHKA will provide EPA and Settling Defendant an annual report describing application of the settlement funds.

#### B. Project Coordination

Settling Defendant, through OHKA, will coordinate its education and community involvement efforts with the EPA to ensure that the EPA is kept informed of key aspects concerning work status. This includes existing or potential problems and any changes that may be required to effectively manage the project. All key aspects concerning how OHKA will manage the delivery of its education and community involvement efforts are described in the Work Plan.

1. **Progress Reports.** OHKA will provide annual progress reports to the EPA Project Coordinator (3 copies) and the State (2 copies) with a copy to Settling Defendant, consistent with the schedule established in the Work Plan. The progress reports shall include the following:

- a. describe work performed during the reporting period;

- b. identify all work plans, reports and other deliverables required by the CD completed and submitted during the previous year;
- c. describe all actions, including, but not limited to, implementation of work plans, which are scheduled for the next year;
- d. include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays;
- e. provide any modifications to the work plans or other schedules that Settling Defendant, through OHKA, has proposed to EPA or that have been approved by EPA during the reporting period;
- f. an annual cost accounting consisting of a summary of the funds expended on remedial activities during the preceding year and total costs on the project;
- g. a description of all activities undertaken in performance of the Work which supports the Community Relations Plan during the reporting period and an outline of those to be undertaken in the next reporting period, including all contacts with representatives of the State government;
- h. changes in personnel during the reporting period; and
- i. A signed completion certification statement – “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

## 2. Community Involvement and Communication

OHKA shall participate in community involvement activities consistent with Settling Defendant’s scope of work, as approved by EPA. However, in implementing the Work, the Settling Defendant, through OHKA, shall notify the EPA Project Coordinator in advance of any media contact, to the extent possible, and immediately inform the EPA Project Coordinator following any media contact, including advising the EPA Project Coordinator regarding the details of the information requested and provided by the media.

## 3. Language Translation Expertise

Settling Defendant may include, as part of OHKA’s educational and community activities, translation of Site documents, in coordination with EPA. Some property owners may not be able to communicate in English or read documents/forms/surveys written in English.

Therefore, the Settling Defendant may include in OHKA's work scope the translation of all appropriate information (written or verbal) into a language that the property owner and resident(s) can understand.

#### 4. Community Relations

The Settling Defendant, through OHKA, shall provide community relations support to EPA in keeping the public informed of planned and ongoing response activities. If requested by EPA, or the State of Nebraska, Settling Defendant, through OHKA, shall participate in public information meetings to inform residents and other interested parties about the activities to be undertaken pursuant to the ROD, and assist in the preparation of community relations materials including press releases, fact sheets and updates. Coordination with other community groups will also be a major activity of the community relations function of the project and OHKA's work scope. OHKA will host community events/meetings to provide information concerning the Site in coordination with EPA and at various times over the five-year period addressed by the Work Plan.

#### 5. Annual Cost Accounting Report

As required by Paragraph 1.f., above, Settling Defendant, through OHKA, shall include in its annual progress report to EPA, the State of Nebraska, and Settling Defendant, documentation of the funds expended performing the Work during the preceding year and in total. The report shall list costs incurred and provide all documents which support those costs (i.e., contracts, invoices, payments, etc.). EPA shall review the report and, after consultation with the State, approve the report. Only costs incurred to complete Work identified in the Consent Decree, this SOW, and the Work Plan will be allowable. Costs which are not considered applicable or appropriate will be denied by EPA as contributing toward the total expenditure.

#### 6. Final Report

In lieu of the fifth annual progress report, the Settling Defendant, through OHKA, shall, within 60 days after the end of the five years funded by Settling Defendant, submit a Final Report to the EPA (3 copies) and the State (2 copies), with a copy to Settling Defendant. The Final Report shall document that OHKA completed its education and community involvement work consistent with the Work Plan. The Report shall include, but not be limited to the following elements.

##### a. Introduction

A short general description of the Site and remedy implemented, including the Site location and description as defined by the final ROD, history of OHKA's involvement and the specific education and community involvement activities undertaken during the 5 year period funded by Settling Defendant.

##### b. Chronology of Events

This section shall provide a summary of the major actions taken by OHKA in implementing the Work Plan.

c. Summary of Work Plan Costs

The final costs for OHKA's implementation of the Work Plan shall be included in this section. Presentation of this information may be in tabular or narrative form.

d. A Signed Completion Certification Statement

Settling Defendant shall require that the Final Report contain the following statement, signed by a responsible official of OHKA:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If, after review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of OHKA's work was not completed in accordance with the Consent Decree and this SOW, EPA will notify Settling Defendant in writing of the activities that must be undertaken by Settling Defendant, through OHKA to complete the actions required by the Work Plan.

7. Submissions and Due Dates

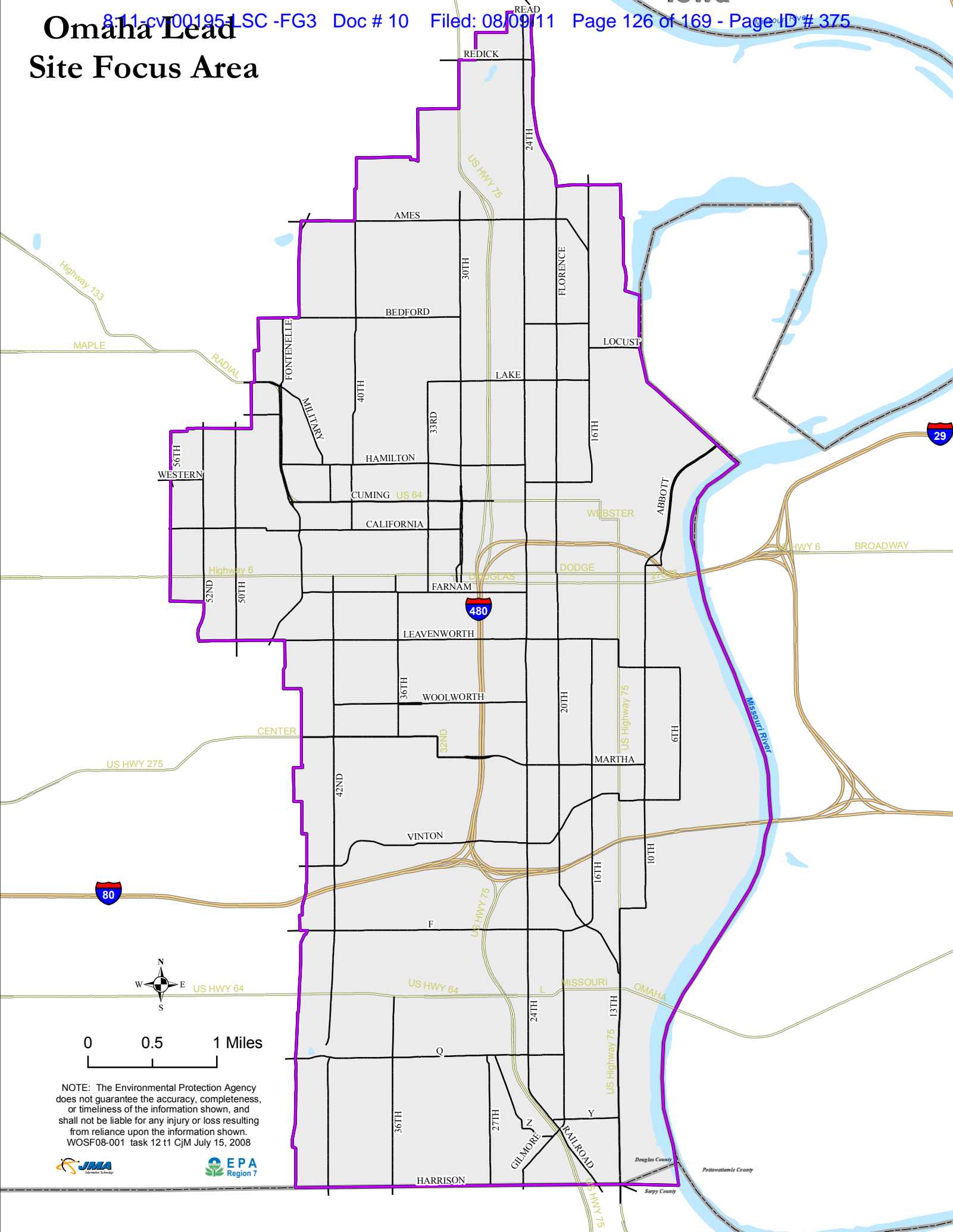
OHKA shall submit annual progress reports and the final report, each to include a cost accounting report, on the schedule specified in the Work Plan, or as modified by written agreement of the EPA and Settling Defendant. Each of these reports will be submitted to EPA (3 copies) and the State (2 copies), with a copy to Settling Defendant.



APPENDIX C

OMAHA LEAD  
SITE FOCUS AREA

# Omaha Lead Site Focus Area



NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.  
WOSF08-001 task 12 t1 CjM July 15, 2008



APPENDIX D

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OMAHA LEAD SITE  
EDUCATION AND COMMUNITY INVOLVEMENT  
WORK PLAN

Omaha, Nebraska

May 2011



**U.S. Environmental Protection Agency Omaha Lead Site**

**Education and Community Involvement Work Plan**

**Omaha, Nebraska**

**May 2011**

## Table of Contents

1.0	Background and Purpose .....	1
2.0	General Requirements and Updates .....	3
3.0	Program Goals and Performance Standards .....	5
4.0	Program Description .....	7
5.0	Budget .....	13
6.0	Outcome Measurements .....	15
7.0	Annual Reporting .....	17
8.0	Final Report .....	19
9.0	Schedule .....	20

**Tables**  
(following text)

Table 1.	Program Components.
Table 2.	Program Budget.

**Appendix**

Appendix A	Metro Community College Soil-Remediation Work Training Program Work Plan
------------	---



### **List of Acronyms**

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DCHD	Douglas County Health Department
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
HAZWOPER	Hazardous Waste Operations and Emergency Response
HUD	U.S. Department of Housing and Urban Development
MCC	Metropolitan Community College
NPL	National Priorities List
OLS	Omaha Lead Site
OHKA	Omaha Healthy Kids Alliance
OSHA	Occupational Safety and Health Administration
ROD	Record of Decision
RRP	Renovation, Repair, and Painting
SOW	Statement of Work
U.S.C.	United States Code

## 1.0 Background and Purpose

The Omaha Lead Site (OLS) was listed by the U.S. Environmental Protection Agency (EPA) on the Superfund National Priorities List (NPL) in 2003 and includes residential properties with lead impacted yard soils within a 27-square-mile area of eastern Omaha. The OLS includes portions of the City of Omaha in Douglas County, Nebraska bounded by Read Street on the north, 56<sup>th</sup> Street on the west, Harrison Street on the south, and the Missouri River on the east. The EPA's Record of Decision (ROD) for the OLS, dated May 13, 2009, describes the selected remedy for the site, which includes yard soil replacement, exterior lead-based paint stabilization, health education, community involvement, and participation in a comprehensive program.

The Omaha Healthy Kids Alliance (OHKA) was established in 2006 to provide a comprehensive solution to address elevated blood lead levels in children in the OLS. OHKA is a nonprofit, 501(c)(3) organization, guided by a Board of Directors with input from community-based advisory committees. OHKA focuses on seeking funding partners and comprehensive solutions to lead issues in Omaha. OHKA works with many local and national organizations to provide outreach, education, and solutions for lead and healthy homes issues in the local Omaha community. OHKA's mission is to promote lead-safe and healthy homes for children and families in Omaha. OHKA has become a community leader in lead safety and has developed into a multi-faceted organization offering a variety of services to address lead problems for Omaha residents.

OHKA provides coordination of services in the OLS through the collaborative efforts of Omaha service providers including: the Douglas County Health Department (DCHD), City of Omaha, EPA Region 7, Douglas and Sarpy County Extension Services, physicians and clinics, and community-based organizations. OHKA works to reduce child blood lead levels through the following:

- Obtaining and directing funding;
- Coordinating and providing outreach and awareness; and
- Providing education, collaboration, expanded and improved services, training, environmental testing, and lead hazard control.

At the request of Union Pacific Railroad Company (Union Pacific) and the EPA, OHKA has prepared this education and community involvement work plan (Work Plan). This Work Plan sets forth the goals, description, budget, schedule, and outcomes for a health education and community involvement program to be funded by Union Pacific Railroad and implemented by OHKA (the "Program"). Per the agreement between Union Pacific and the EPA (the "Consent Decree"), the amount of funding available for the Program is \$3,150,000. The Program will be considered complete after five years of implementation and upon approval of a final report by the EPA, in consultation with the State of Nebraska.

The purpose of this Work Plan is to describe how funds for the OHKA Program will be utilized to expand and implement health education, worker training, and community involvement programs over a five-year period at the OLS. The Program will be performed to raise awareness and reduce childhood exposure to lead through continued implementation and expansion of OHKA's existing educational programs. OHKA will work in cooperation with the EPA and other agencies and organizations.

## **2.0 General Requirements and Updates**

This Work Plan was prepared in accordance with the Consent Decree, the Statement of Work (SOW) attached to the Consent Decree, the OLS Record of Decision dated May 13, 2009, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In accordance with Section V (General Provisions) of the Consent Decree, OHKA will perform all activities described in this Work Plan in accordance with all applicable federal and state laws and regulations, including all applicable or relevant and appropriate requirements (ARARs) as set forth in the ROD. The ARARs set forth in the ROD are expressly applicable to remediation activities being conducted by the EPA. The ROD does not identify education or community involvement activities to which ARARs apply. Therefore, and because this Work Plan is limited solely to education and community involvement activities, all activities conducted as described in this Work Plan are inherently in compliance with ARARs.

In accordance with Section VII (Reporting Requirements) of the Consent Decree, when conducting activities within the OLS, OHKA will notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or call the Emergency Response and Removal Branch, Superfund Division, EPA Region 7 at (913) 281-0991 in the event that neither the EPA Project Coordinator nor Alternate EPA Project Coordinator is available, within 24 hours of any observed event that OHKA suspects may require reporting under Section 103 of CERCLA, 42 United States Code (U.S.C.) §9603 or Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The work defined in this Work Plan only includes education and community involvement activities that do not have the potential to result in environmental releases, and OHKA staff and contractors are not required to be trained to recognize such events. However, OHKA will notify the EPA Project Coordinator of any observed concerns or suspected releases of hazardous substances within the OLS. Other than contacting the EPA Project Coordinator or Alternate EPA Project Coordinator, OHKA will not, and is not required to, respond to any observed, potential releases or take any further action regarding such releases.

In accordance with Section XII (Emergency Response) of the Consent Decree, in the event of any action or occurrence during the performance of the Work Plan which causes or threatens a release of waste material that constitutes an emergency situation or may present an immediate threat to public health, welfare, or the environment, OHKA is required to immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and will immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, OHKA will notify the Emergency Response and Removal Branch, Superfund Division, EPA Region 7 at (913) 281-0991. The work defined in this Work Plan only includes education and community involvement activities that do not have the potential to result in such a release, and OHKA staff and

contractors are not trained to identify such events. Accordingly, OHKA's immediate notification to the EPA Project Coordinator or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator, or if neither of these persons is available, the Emergency Response and Removal Branch, Superfund Division, EPA Region 7 at (913) 281-0991 of any suspected releases within the OLS shall constitute compliance with Section XII (Emergency Releases) of the Consent Decree and meet the definition of "all appropriate action." Other than contacting the EPA Project Coordinator, OHKA will not, and is not required to, respond to any observed or potential release or take any further action regarding such release.

OHKA may periodically update this Work Plan, as deemed necessary. Modifications will be completed with the agreement of OHKA and the EPA and consistent with Paragraph 12 (Modification of the SOW or Related Work Plans) of the Consent Decree. OHKA will propose updates prior to implementation of proposed activities either via a telephone conversation with the EPA Project Coordinator or a letter request to the EPA Project Coordinator. The EPA Project Coordinator will document approval of such updates prior to implementation of proposed activities either by letter to OHKA, or a memo to the file with a copy to OHKA.

### **3.0 Program Goals and Performance Standards**

OHKA is guided by four primary goals:

1. Omaha residents are educated on preventing lead poisoning;
2. Children under the age of seven receive medical monitoring for lead and follow-up;
3. Homes in Omaha are lead-safe; and
4. Consumer products in Omaha are lead-safe/lead-free.

This Work Plan focuses on OHKA's first goal: Omaha residents are educated on the prevention of lead poisoning. The benefits provided by the Program described in this Work Plan will include the following:

- Residents and homeowners will receive education on keeping and making their homes lead-safe and healthy.
- Residents and homeowners will receive information on maintaining their properties, including the work completed by the EPA, to prevent future exposure to lead.
- Residents and homeowners will be provided with a single point-of-contact for referrals to lead-safe and healthy housing resources, including the EPA's program.
- Residents will be informed about the status of the EPA's remedy and will continue to be provided a forum to participate in OLS remedy implementation.
- Local, skilled workforce capacity will be increased for work related to the EPA's Omaha Lead Site programs, renovation projects, and construction projects.
- Funding spent on this Program will be coordinated with other partnering organization programs and other current and potential funding sources to leverage and maximize benefits.

OHKA's educational strategy focuses on utilizing multiple avenues to voice consistent, positive messaging throughout the community. OHKA believes that to be effective, education must be presented in numerous ways, to numerous audiences, and at all times of the year. OHKA's education strategy includes educating parents, pregnant women, health care providers, health and human service providers, real estate professionals, retailers, contractors, painters, do-it-yourself renovators, landlords, tenants, refugees, non-English-speaking communities, university students, children, childcare providers, housing inspectors, home visitation program workers, places of worship, educators, neighborhood groups, and the business community.



Through the implementation of OHKA's educational strategy, the goals of this Work Plan, which serve as the Performance Standards for the SOW and Consent Decree, are to:

1. Provide education to OLS residents and homeowners regarding the potential health risks from lead exposure and available lead-risk reduction services in the community.
2. Coordinate and maximize referrals to available Omaha lead-related service organizations.
3. Provide a single point-of-contact for residents wanting to make their homes lead-safe and healthy.
4. Provide education and training to the local lead remediation, renovation, and construction workforce.
5. Coordinate stakeholder educational opportunities and events with diverse groups such as medical service providers, real estate professionals, and landlords along with the general public, to enhance the overall community understanding of Omaha healthy homes issues and lead poisoning prevention.

These Performance Standards are also listed on Table 1.

#### **4.0 Program Description**

OHKA is designed as a collaborative organization that works with local and national partners to prevent childhood lead poisoning. Partners such as DCHD, City of Omaha, and the EPA refer families to OHKA. Callers to the lead hotline are also referred to OHKA.

OHKA will utilize the settlement funding to support educational programs and to maintain community involvement in community lead-risk reduction activities. These programs and expenditures will include:

- Educational programs;
- Community outreach and coordination; and
- Coordinating educational events/meetings to enhance stakeholder understanding.

These components are described below and also listed in Table 1.

#### **Educational Programs**

Through existing programs, OHKA provides education to referred homeowners and residents. OHKA will utilize the settlement funding to support and expand OHKA's existing educational programming offered directly through OHKA and through key community partnerships.

These educational programs include:

- One-on-one educational home visits;
- Targeted community education projects;
- Development and distribution of educational materials; and
- Workforce training.

#### **One-on-One Education:**

OHKA provides one-on-one education during home visits. OHKA educates residents and homeowners about local resources and services including the EPA's paint stabilization, dust response, and soil replacement programs; ways to conduct lead-safe work practices; recommendations for childhood blood lead testing; common sources of lead exposure; and ways to prevent childhood lead exposure. OHKA refers eligible homeowners to the EPA's programs and will encourage these property owners to provide access to the EPA. OHKA also refers homeowners to other locally available lead and healthy homes services. One-on-one visits are conducted by OHKA staff and

community health workers that are trained in lead-safe work practices, lead poisoning prevention, and healthy homes.

When a homeowner or resident is referred to OHKA, OHKA talks with the resident or homeowner to assist in identifying any specific concerns and to refer the individual to appropriate, local resources. For example, OHKA assists homeowners in determining if they are eligible for free lead hazard control work offered by the City of Omaha. OHKA also educates families on ways to reduce lead hazards in the home and answers questions callers may have about lead sources.

OHKA may also conduct a home visit to complete an educational healthy homes checklist and provide additional one-on-one education about specific ways homeowners and residents can maintain their properties in a lead-safe and healthy manner.

When lead hazard control actions are taken at a residence by OHKA or an OHKA partner, OHKA will conduct a home visit to provide a one-on-one review of maintenance procedures, including how to maintain exterior paint stabilization performed by the EPA. OHKA will educate homeowners and residents on ways to continue to prevent lead exposure through simple techniques such as hand washing and removing shoes at the front door.

OHKA staff will also request a follow-up meeting to conduct follow-up awareness questions with the residents and/or homeowner to gauge behavioral changes following one-on-one education and lead-risk reduction efforts. Follow-up awareness questions will be asked in person at the participant's home, whenever possible, and include questions about the maintenance of lead-based paint stabilization, changes in resident's health, additional lead hazard control activities or renovation activities undertaken, cleaning habits, changes in property value, and other information.

#### Targeted Community Education Projects:

OHKA implements community lead poisoning prevention education projects targeting specific audiences and in conjunction with local and national partnerships. OHKA will fund existing community education projects or develop additional projects to fund based on need and opportunities to leverage funding through partnerships. Examples of community educational projects include but are not limited to:

- *Student-implemented educational programs* – OHKA has established partnerships with the Omaha Public Schools, Girls Inc., and other local student-based organizations to work with students to develop and implement educational projects. Students have performed plays, developed television public service announcements, developed bus stop artwork, and created educational posters all focused on childhood lead poisoning prevention.
- *Lead-safe gardening instructional education* – OHKA has established partnerships with the University of Nebraska-Lincoln Extension and other local partners to provide education on lead-safe gardening and landscaping techniques.

- *Medical provider education and outreach* – OHKA has established partnerships with local medical providers, DCHD, University of Nebraska Medical Center, and others to provide education and outreach to medical providers. OHKA has provided continuing education credit training on lead poisoning prevention to medical providers and distributed educational lead poisoning prevention materials to doctor's offices and clinics to encourage childhood blood lead screening and simple ways to reduce exposure.
- *Distribution of the Lead Detectives book and traveling reading program* – OHKA has published an educational children's book. Through a partnership with AmeriCorps and the Omaha Public Schools, OHKA is implementing an educational traveling reading program to bring the book into classrooms. A curriculum for kindergarten and elementary students was developed to teach kids about lead poisoning prevention and encourage family referrals to OHKA.

All community educational projects will be developed and implemented in accordance with the strategy and goals outlined in this Work Plan. Written notice of the Consent Decree will be provided to all subcontractors hired to perform any portion of this Work Plan, and all work will be conducted in accordance with the Consent Decree.

Development and Distribution of Educational Materials:

OHKA will develop and distribute educational materials for use by OHKA and community partners. Educational materials will primarily be distributed during home visits and by OHKA partners. For example, OHKA partners may distribute materials at health clinics, schools, training sessions, health screening events, conferences, and other community events. OHKA will also supply educational and outreach materials and checklists to the EPA for use when going door to door to gain access for sampling and for distribution at the EPA public information centers. OHKA will also continue airing the EPA's television public service announcements, or develop and air new public service announcements.

Educational materials will focus on:

- Educating families about lead-safe work practices, methods for preventing exposure to lead, and maintaining a healthy home;
- Encouraging childhood blood lead testing;
- Informing residents and homeowners about available services;
- Referring residents and homeowners to OHKA for assistance in assessing and coordinating additional services; and
- Encouraging participation in available programs including the EPA's exterior paint stabilization, dust response, and soil replacement programs.

Educational materials will be translated as needed. Examples of educational materials include but are not limited to:

- OHKA newsletters distributed electronically to partners, residents, and landlords on OHKA's email list;
- OHKA's website where information about services, OHKA's mission, health education, current events, and other information can be accessed;
- Lead and healthy housing checklists;
- Public service announcements on radio or television;
- Mailed flyers advertising available services;
- Brochures advertising available services;
- Educational flyers distributed through Omaha Public Schools newsletters and other local outlets; and
- Instructional videos, such as OHKA's lead-safe work practices DVD.

OHKA will notify the EPA in advance of any media contact, to the extent possible. OHKA will immediately inform the EPA Project Coordinator following any media contact, including advising the EPA Project Coordinator regarding the details of the information requested and provided by the media.

#### Workforce Training:

Workforce training courses will provide workers with the necessary skills to work for the EPA contractors performing soil remediation, lead-based paint stabilization, and interior dust sampling. These skills will also prepare workers for renovation, painting, and construction work in pre-1978 homes where lead-based paint may be present. Workers who successfully complete the coursework will be able to obtain a 10-hour Occupational Safety and Health Administration (OSHA) credential, 8-hour U.S. Department of Housing and Urban Development (HUD)/EPA lead-safe work practices certification, RRP training certification, and OSHA HAZWOPER certification.

OHKA currently offers EPA-certified Lead Renovation, Repair, and Painting (RRP) Rule training through a partnership with the National Safety Council and Midwest Training Institute. OHKA will additionally administer an existing soil remediation training program implemented by Metro Community College (MCC). The MCC training program is described in a separate work plan, which is attached as Appendix A. MCC has already started implementation of this program and completed a pilot year of coursework through a cooperative agreement with the EPA. The current cooperative agreement between the EPA and MCC has a three-year term. The EPA plans to terminate the cooperative agreement with MCC after the completion of the first year, and OHKA will take over administration of the second and third year of MCC's program under this Work Plan.

OHKA will recruit and pre-screen student candidates through partnerships with local workforce development organizations.

OHKA will also ask follow-up questions of students who complete the training coursework to determine if students were successful in obtaining employment.

### **Community Outreach and Coordination**

OHKA will work with the EPA to ensure that residents and homeowners are made aware of the lead-risk reduction programs available in Omaha. OHKA will coordinate activities with the EPA, serve as a single point-of-contact for residents looking for referrals to all lead-related programs, and increase referrals to the EPA's and other locally available programs.

OHKA will coordinate education and community involvement efforts with the EPA. OHKA will ensure that the EPA is kept informed with key status updates, including existing or potential problems and any changes that may be required to effectively implement educational programs. OHKA will provide annual reports and a final report upon completion of this five-year Program.

The EPA will also coordinate activities with OHKA to provide opportunities for homeowners participating in the EPA's soil and paint stabilization programs to access the OHKA Program. OHKA will contact the homeowners participating in the EPA's programs to provide education and offer to assist in coordinating other available lead-related services.

OHKA will work with the EPA and other partners to collaborate and coordinate services by serving as a single point-of-contact for residents looking to make their homes lead-safe and healthy. OHKA will continue to operate the Lead Hotline, which provides a single phone number to access referrals to multiple lead resource organizations. OHKA will work directly with homeowners, residents, and local, state, and federal agencies to identify and coordinate available services from OHKA partner organizations including but not limited to:

- The EPA's soil replacement, lead-based paint stabilization, dust response, and training programs;
- DCHD's Lead Poisoning Prevention Program;
- City of Omaha Lead Hazard Control Program;
- Weatherization Trust's window replacement program; and
- University of Nebraska-Lincoln Extension's education and training programs.

OHKA will also refer eligible homeowners to the EPA's programs and encourage these property owners to provide access to the EPA. OHKA will also refer homeowners to other locally available lead-safe and healthy homes services such as those listed above.



### **Coordination of Stakeholder Educational Meetings/Events**

OHKA will coordinate meetings or educational events that address varying healthy homes and lead poisoning prevention subjects with diverse groups of individuals, such as medical service providers, real estate professionals, landlords, and the general public. These meetings/events will target specific subjects of interest and relevance to the OLS and be held on a non-routine, ad-hoc basis. Meeting coordination will include identifying relevant subjects and speakers in addition to arranging all facets of meeting logistics. The meetings/events will be conducted at various times over a five-year time frame. Examples of possible educational meetings/events include, but are not limited to, lead poisoning prevention and healthy homes conferences, education and healthy homes workgroup meetings, and strategic healthy homes and lead poisoning prevention planning meetings.

## **5.0 Budget**

A budget is included in this document as Table 2 and totals \$3,150,000. The budget estimates how the funds from the settlement will be utilized to support this Work Plan's education and community involvement programs over a five-year period. The budget accounts for administration, education, and community involvement costs. The following narrative explains the line items of the budget table.

### **Educational Programs**

The estimated five-year cost of educational programs, as described in Section 4.0 of this Work Plan, is \$2,472,000. This estimate includes performing one-on-one educational home visits; targeted community education projects through OHKA partnerships; development and distribution of educational materials; and workforce training.

The estimated cost for one-on-one educational home visits is \$152,500 per year, with a five-year cost of \$762,500. This estimate includes conducting educational home visits during which families will complete a healthy homes checklist; providing education on ways to reduce lead hazards in the home, how to maintain properties in a lead-safe and healthy manner, and simple ways to prevent childhood lead exposure; and completing follow-up awareness questions to track program outcomes.

The estimated cost of targeted community education projects is \$90,900 per year, with a five-year cost of \$454,500. This estimate includes funding existing community education projects or developing additional projects to fund based on need and opportunities to leverage funding through partnerships.

The estimated cost of educational materials is \$21,000 per year, with a five-year cost of \$105,000. This estimate includes developing and distributing educational materials, including televised public service announcements, for use by OHKA and community partners.

OHKA will work with the MCC to administer MCC's implementation of two years of workforce training inclusive of student recruitment and provision of training and certifications. The estimated cost of workforce training is \$575,000 per year, with a two-year cost of \$1,150,000.

### **Community Outreach and Coordination**

The estimated cost of community involvement and coordination is \$35,600 per year, with a five-year cost of \$178,000. This estimate includes coordination with the EPA and other local programs, development of education and outreach materials for the EPA's use, and operation of the lead hotline.

The estimated cost of coordinating education and community involvement efforts with the EPA and other locally available lead-safe and healthy homes services is \$35,000 per year, with a five-year cost of \$175,000. This estimate includes coordinating all activities with the EPA; promoting the programs described in this Work Plan; collaborating and coordinating services with other locally available lead-safe and healthy homes services; and providing annual reports and a final report.

The estimated cost of operating the lead hotline is \$600 per year, with a five-year cost of \$3,000.

### **Coordination of Stakeholder Educational Meetings/Events**

The estimated cost of coordinating ad hoc, educational meetings/events is \$60,000 per year, with a five-year cost of \$300,000. This includes engaging stakeholders and the public, developing educational event materials, arranging meeting logistics, and reproducing meeting materials.

The estimated cost of engaging stakeholders and the public, developing educational event materials, and arranging meeting logistics is \$50,000 per year, with a five-year cost of \$250,000. This estimate includes stakeholder outreach, speaker fees, room rental and other associated fees, and meeting preparation.

The estimated cost of reproducing educational event materials and associated mailing costs is \$10,000 per year, with a five-year cost of \$50,000.

### **Overhead**

The budgeted amount for overhead costs to implement the entire Work Plan is \$40,000 per year for a five-year total of \$200,000. Overhead costs include expenditures such as computers, phones, office rental space, and information technology services.

## 6.0 Outcome Measurements

To demonstrate annual program progress and achievement of Performance Standards, OHKA will track and report outcome measurements. Outcome measurements will be qualitative, quantitative, and correspond to the five Performance Standards defined in Section 3.0. Outcome measurements will be reported in annual reports and a final report. These outcome measurements are listed below and in Table 1.

**Performance Standard #1: Provide education to OLS residents and homeowners regarding the potential health risks from lead exposure and available lead-risk reduction services in the community.**

### Outcome Measurements:

- a. Number of one-on-one meetings or home visits conducted;
- b. Number of residents provided with education by program;
- c. Number of OHKA website hits;
- d. Number of newsletters distributed;
- e. Number of times public service announcements run on television (and/or other media); and
- f. Results of follow-up awareness questions answered by residents to gauge behavioral changes.

**Performance Standard #2: Coordinate and maximize referrals to available Omaha lead-related service organizations.**

### Outcome Measurements:

- a. Number of referrals to OHKA; and
- b. Number of referrals from OHKA to other agencies or organizations (e.g. the EPA, City of Omaha).

**Performance Standard #3: Provide a single point-of-contact for residents wanting to make their homes lead-safe and healthy.**

### Outcome Measurements:

- a. Number of calls into the hotline; and
- b. Number of properties where resources from multiple sources were utilized to make the home lead-safe and healthy.

**Performance Standard #4: Provide education and training to the local lead remediation, renovation, and construction workforce.**

Outcome Measurements:

- a. Number of participating students;
- b. Number of student certifications;
- c. Number of participants hired based on follow-up questions answered by students; and
- d. Outcomes reported in MCC training-program reports (years 2 and 3).

**Performance Standard #5: Coordinate stakeholder educational opportunities and events with diverse groups such as medical service providers, real estate professionals, and landlords along with the general public, to enhance community understanding of Omaha healthy homes issues and lead poisoning prevention.**

Outcome Measurements:

- a. Number of stakeholder meetings and events;
- b. Number of individuals and groups invited to attend meetings and events; and
- c. Number of meeting and event attendees.

## 7.0 Annual Reporting

OHKA will provide an annual report to the EPA and the State with a copy to Union Pacific describing the application of settlement funds, the annual work completed, and outcome measurements for the year and to-date. The annual report will include, at a minimum:

1. A description of the work completed during the reporting period;
2. Identification of all work plans, reports, and other deliverables required by the Consent Decree and submitted during the previous year;
3. A description of all actions, including, but not limited to, implementation of work plans, which are scheduled for the next year;
4. Information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work Plan, and a description of efforts made to mitigate those delays or anticipated delays;
5. Modifications to the Work Plan or other schedules that have been proposed to or approved by the EPA during the reporting period;
6. An annual cost accounting report summarizing the funds expended on approved activities during the preceding year and total costs of implementation of the Work Plan;
7. A description of all activities undertaken in performance of the Work Plan which supports the EPA's Community Relations Plan during the reporting period and an outline of those to be undertaken in the next reporting period, including all contact with representatives of the State government;
8. Changes in personnel during the reporting period; and
9. A signed completion certification statement, as follows:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Annual reports will be provided to the EPA (3 copies) and the State (2 copies) with a copy to Union Pacific within 45 days following the end of each reporting period. The

EPA, after consultation with the State, will approve the annual report pursuant to Section VIII (EPA Approval of Plans and Other Submissions) of the Consent Decree.



## 8.0 Final Report

Upon completion of the fifth year, OHKA will submit a final report, in lieu of an annual report, to the EPA and the State with a copy to Union Pacific, describing the application of settlement funds, the total work completed, total five-year outcome measurements, and assurance of the achievement of Performance Standards. No further reporting shall be required after OHKA submits the final report. The final report will include, at a minimum:

1. An introduction – a short, general description of the OLS and the EPA’s remedy, including the site location and description as defined by the OLS Record of Decision, history of OHKA’s involvement, and the specific education and community involvement activities undertaken by OHKA during the five-year period;
2. A chronology of events – A summary of the major actions taken by OHKA in implementing this Work Plan;
3. A summary of Work Plan costs – the final costs for implementation of this Work Plan; and
4. A signed completion certification statement – “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

The final report will be provided to the EPA (3 copies) and the State (2 copies) with a copy to Union Pacific within 60 days of the final reporting period. The EPA, after consultation with the State, will approve the final report pursuant to Section XI (Certification of Completion) of the Consent Decree.

## 9.0 Schedule

OHKA's initial startup of the Program described under this proposed Work Plan and supported through settlement funding will commence as early as July of 2011, following EPA's issuance of an authorization to proceed, and continue for five years thereafter. An anticipated schedule is provided below.

July 1, 2011	Program Start Date
February 14, 2012	First Annual Report Due (six-month reporting period)
February 14, 2013	Second Annual Report Due (one-year reporting period)
February 14, 2014	Third Annual Report Due (one-year reporting period)
February 14, 2015	Fourth Annual Report Due (one-year reporting period)
February 14, 2016	Fifth Annual Report Due (one-year reporting period)
June 30, 2016	Program End Date
August 29, 2016	Final Report Due (five-year reporting period)

The Program will be considered complete upon completion of the fifth year and approval of the final report by the EPA after consultation with the State.

OHKA will notify the EPA of any changes to the above schedule no later than seven days prior to performing the scheduled activity.

## **Tables**

**Table 1. Program Components.**

<i>Performance Standards</i>	<i>Program Components</i>	<i>Annual Report Outcome Measurements</i>
<b>1.</b> Provide education to OLS residents and homeowners regarding the potential health risks from lead exposure and available lead-risk reduction services in the community.	Educational Programs <ul style="list-style-type: none"> <li>One-on-one educational home visits</li> <li>Targeted community education projects</li> <li>Development and distribution of educational materials</li> <li>Workforce training</li> </ul>	<ul style="list-style-type: none"> <li>Number of one-on-one meetings or home visits conducted</li> <li>Number of residents provided with education by program</li> <li>Number of OHKA website hits</li> <li>Number of newsletters distributed</li> <li>Number of times public service announcements run on television (and/or other media)</li> <li>Results of follow-up awareness questions answered by residents to gauge behavioral changes</li> </ul>
<b>2.</b> Coordinate and maximize referrals to available Omaha lead-related service organizations.	Educational Programs <ul style="list-style-type: none"> <li>One-on-one educational home visits</li> <li>Targeted community education projects</li> <li>Development and distribution of educational materials</li> <li>Workforce training</li> </ul> Community Outreach and Coordination <ul style="list-style-type: none"> <li>Coordination with the EPA and other local organizations</li> <li>Outreach materials</li> <li>Lead hotline</li> </ul>	<ul style="list-style-type: none"> <li>Number of referrals to OHKA</li> <li>Number of referrals from OHKA to other agencies or organizations</li> </ul>
<b>3.</b> Provide a single point-of-contact for residents wanting to make their homes lead-safe and healthy.	Community Outreach and Coordination <ul style="list-style-type: none"> <li>Coordination with the EPA and other local organizations</li> <li>Outreach materials</li> <li>Lead hotline</li> </ul>	<ul style="list-style-type: none"> <li>Number of calls into the hotline</li> <li>Number of properties where resources from multiple sources were utilized to make the home lead-safe and healthy</li> </ul>
<b>4.</b> Provide education and training to the local lead remediation, renovation, and construction workforce.	Educational Programs <ul style="list-style-type: none"> <li>Workforce training</li> </ul>	<ul style="list-style-type: none"> <li>Number of participating students</li> <li>Number of student certifications</li> <li>Number of participants hired based on follow-up questions answered by students</li> <li>Outcomes reported in MCC training-program reports (years 2 and 3)</li> </ul>
<b>5.</b> Coordinate stakeholder educational opportunities and events to enhance community understanding of Omaha healthy homes issues and lead poisoning prevention.	Coordination of stakeholder educational events/meetings	<ul style="list-style-type: none"> <li>Number of stakeholder meetings and events</li> <li>Number of individuals and groups invited to attend meetings and events</li> <li>Number of meeting and event attendees</li> </ul>

**Table 2. Program Budget.**

<i>Item</i>	<i>Quantity (Years)</i>	<i>Unit Cost</i>	<i>Total Cost</i>
<i>One-on-One Educational Home Visits</i>	5	\$152,500	\$762,500
<i>Targeted Community Education Projects</i>	5	\$90,900	\$454,500
<i>Educational Materials</i>	5	\$21,000	\$105,000
<i>Workforce Training</i>	2	\$575,000	\$1,150,000
<b>Educational Programs Subtotal</b>			<b>\$2,472,000</b>
<i>Coordination with the EPA and Other Local Programs</i>	5	\$35,000	\$175,000
<i>Lead Hotline</i>	5	\$600	\$3,000
<b>Community Outreach and Coordination Subtotal</b>			<b>\$178,000</b>
<i>Stakeholder Meeting Outreach and Preparation</i>	5	\$50,000	\$250,000
<i>Meeting Materials</i>	5	\$10,000	\$50,000
<b>Coordinating Stakeholder Educational Meetings/Events Subtotal</b>			<b>\$300,000</b>
<b>Overhead</b>			<b>\$200,000</b>
			<b>\$3,150,000</b>

## **Appendix A**

## Environmental Protection Agency Application for Federal Assistance

---

### Grant Work Plan for Soil Remediation Training Metropolitan Community College, Omaha NE

#### Executive Summary

Metropolitan Community College (MCC) in Omaha, NE, will provide the construction industry with collaborative workforce development related to the management of soil remediation and lead based exterior paint stabilization as a method of remedy as part of the Record of Decision (ROD), May 13, 2009. This training will provide workers with the necessary skills to meet the objectives to provide continued protection for human health through health education, participation in cleanup, and interior dust control. Workers will be recruited from impacted areas and disadvantaged populations, with training provided at no cost to participants. Coaching provided by a partnering community organization will assist individuals in addressing barriers to their successful participation in the training program. As a result of this workforce initiative, contractors will be able to select employees from an already well-trained, pre-screened, and employable workforce. Continuing education for employee recertification will promote work quality, employee advancement, and business success. Training will be provided for both prospective and current employees at basic and advanced levels. Training for soil remediation related work will begin with competencies that ensure employees are **Ready to Work**. They will learn tools and skills for the job site and earn their 10 hr. OSHA credential, 8 hour HUD/EPA lead safe work practices training, and Hazwoper. Small engines and CDL training will also be offered at this entry level. Employees will then be provided **Advanced** Training to broaden skills for a range of more specialized work, such as xray fluorescent instrumentation (XRT) or dust sampling. At the highest level, selected employees will be provided **Foreman/Response Manager** training, including customized education to address areas of particular concern to employers. The primary goals of this training initiative are to:

- 1) provide contractors with a skilled workforce for soil remediation,
- 2) train employees for sustainable work with a livable wage,
- 3) provide training that results in industry credentials for employees and
- 4) build courses into Specialist Diplomas which transition to Certificates and Associates Degrees, for career advancement and sustainability.

This collaborative workforce training was developed in response to imminent industry needs identified through visits to work sites and conversations with industry representatives, as well as MCC's vast experience with industry training programs. In addition to needs for specialized industry skill training, employers identified significant needs for training in work-related behaviors that impact quality, productivity, and safety in the work environment, as well as employee retention. Examples of such soft skills include effective communication and problem solving, following directions, working in teams and abiding by schedules. The MCC training program has been designed to teach these employability skills as well as the site-specific industry skills needed for successful job performance. Through this collaborative workforce initiative among MCC, industry and area organizations, partners will enhance environmental and community health through the reduction of risks related to soil contamination.



## Environmental Protection Agency Application for Federal Assistance

### **Grant Work Plan**

#### **1. State Objective/Link to the EPA Strategic Plan**

This Metropolitan Community College proposal for construction related soil remediation training will address Goals 3 and 4 of the EPA Strategic Plan. Specifically, the new training program supports the community response to **Goal 3: Land Preservation and Restoration, Sub Objective 3.2.2 - Clean Up and Revitalize Contaminated Land**. The project will build the capacity for a local workforce that can carry out safe, quality work related to renovation and construction projects that may be impacted by soil contamination.

The project also addresses **Goal 4: Healthy Communities and Ecosystems, Sub Objective 4.2.2 - Restore Community Health Through Collaborative Problem Solving**. The communities most impacted by soil contamination will be key partners in this workforce development initiative, collaborating with MCC in awareness, outreach, training, risk assessment and reduction, clean-up and environmental stewardship. Advisors to the project will include Individuals living in the impacted areas, industry, community based organizations, business and government. Residents of affected neighborhoods will be recruited for training and employment opportunities. Project planning and operation is built on values of social justice, community, quality and integrity, all of which are consistent with the principles and processes of EPA's environmental justice collaborative problem-solving model.

#### **2. Grant Funding** Refer to budget information attached.

**Note Regarding Partnerships and Leveraged Resources:** MCC is partnering with area agencies for candidate recruitment in pre-screening. These agencies are working with individuals in the impacted areas (such as the Workforce Investment Act OneStop and Arbor Training and Employment, an area TANF provider) and include clients who are largely unemployed or underemployed. MCC will leverage funds in partnering with Nebraska Wesleyan University to provide students with the opportunity to receive XRF training from expert faculty within the Forensic Science Program. In doing so, students will be afforded the best instructors in the region, a connection to a four year institutions of academic excellences and state of the art equipment. In addition, opportunities for training students up to the next level of education are available through numerous academic programs at Nebraska Wesleyan University. For sustainability, MCC will work with industry to explore training funds available through Workforce Development for employee training. It is likely these funds could support advanced skill level training.

## Environmental Protection Agency Application for Federal Assistance

### 3. Work Plan Activities and Time Frame for Accomplishment Commitments

Goal: Provide Training in Soil Remediation Activities for the Omaha Area	
Objective/Activities	Timeline
<b>Objective 1:</b> Design soil remediation related workforce development plans based on broad stakeholder input	April, 2010
<b>Activities</b> 1.1 Gather input from community and industry 1.2 Develop Tri-Level Training Pyramid Framework (see attached diagram) <ul style="list-style-type: none"> <li>▪ Foundation Level: Ready to Work</li> <li>▪ Mid Level: Professional Growth &amp; Advancement: Quality Assurance Manager, Health &amp; Safety Officer, Foreman, and Team Leader</li> <li>▪ Top Tier: Foreman/Response Manager: Site Supervisor, Response Manager/Project Manager</li> </ul> 1.3 Identify criteria and process for selective admissions to the training program* 1.4 Clarify process for student recruitment, particularly from impacted areas 1.5 Develop plans for training facility, including equipment needs, site selection and facility management 1.6 Identify capacities, resource needs (faculty, training, supplies) 1.7 Coordinate internal MCC management systems, structures, industry partnerships 1.8 Construct a Career Ladder to train up for career advancement	
<b>Objective 2:</b> Design educational and employment pathways for unemployed or underemployed students to a) learn skills beneficial to employers and b) learn skills that will support career advancement	April, 2010
<b>Activities</b> 2.1 Develop initial course sequence to a) meet immediate industry needs, b) support student employability and c) lead to necessary industry credentials 2.2 Build initial course sequence into Specialist Diploma 2.3 Integrate Specialist Diploma into Trades Certificate(s) & Associates pathways 2.4 Create menu of courses to address advanced training needs identified by industry	
* See "EPA Training Selective Admissions Criteria" on page 8 of this proposal.	

## Environmental Protection Agency Application for Federal Assistance

<b>Objective 3:</b> Provide training for a skilled workforce to a) meet the needs of employers engaged in soil remediation activities and b) provide students with credentials and employability skills required for sustainable employment in the Trades	June 1, 2010 ongoing
<b>Activities</b> 3.1 Initiate hiring process and contracts to support training activities 3.2 Customize database for tracking, reporting 3.3 Develop MOU's with community partners 3.4 Purchase equipment and supplies 3.5 Establish training site with construction lab and classroom settings 3.6 Provide project materials and orientation to local agencies working with underemployed, unemployed or dislocated workers, informing them on admissions criteria, job opportunities, wage levels 3.7 Implement recruitment process, coordinating with area partners 3.8 Implement training for course sequence 3.9 Complete student/workforce evaluations, credentialing process	
<b>Objective 4:</b> Coordinate with and among employers to provide customized and/or advanced trainings related to soil remediation activities, including skills of Foreman and Response Managers	July 1, 2010 ongoing
<b>Activities</b> 4.1 Coordinate with employers to identify advanced skill needs (including shared needs) 4.2 Coordinate with employers on funding mechanisms for advanced training, including leveraging Workforce Development training funds 4.3 Coordinate with employees on means for funding training, such as through Workforce Development 4.4 Provide advanced training for general workforce skill enhancements and career advancements (Mid-Level Tier) 4.5 Provide Foreman and/or Response Manager level training (Top Tier) to support risk reduction, workforce productivity and advancement	

## Environmental Protection Agency Application for Federal Assistance

---

### 5. Projected Long Term Environmental Improvement (Outputs and Outcomes)

Metropolitan Community College (MCC) will develop and provide training programs for potential workforce employees in soil remediation activity for entry level and advanced positions. The following **outputs** are expected:

- a. Training plans, curricula, assessments, forms, and marketing materials will be available for review.
- b. Facilities will be equipped and arranged to support soil remediation training.
- c. Annually, 75 potential employees will participate in MCC's **Ready to Work** level of training.  
This includes Introduction to the Trades I & II, which incorporates requirements for OSHA 10 hour certification and employability skills. Through this training series, participants will develop industry skills in safety and tool use and work-related soft skills, so they are **Ready to Work**. This level of training will also include experience with small engines and the opportunity for some participants to train for and earn their CDL.
- d. Prospective or current employees who are ready for **Advanced Training** will participate in classes such as OSHA 30, XRF Technician, Dust Sampling Technician, lead abatement or other relevant MCC Construction courses.
- e. Employees will participate in customized **Foreman/Response Manager** position training to address priority concerns among employers. (Refer to Obj. 1.0)
- f. Employees will continue with their education during the off-season to enhance their skill levels, add new certifications and be prepared for the next season of contracted work.
- g. Employers will return to job sites with an increase in retention of the previous year's employees. These employees will have received further training and recertification, ready to immediately begin the next contract period.
- h. Employers will have a highly trained, professional, and knowledgeable workforce from which to hire future employees.
- i. Employees will be positioned to seek further employment with contractors following completion of work at the Omaha Lead Site.

The anticipated longer-term **outcomes** resulting from this project will include:

- a. Improved quality and efficiency of soil remediation work completed by companies hiring participants
- b. Enhanced environmental quality in areas served by companies hiring project participants

## Environmental Protection Agency Application for Federal Assistance

### 6. Measurement

The current hiring and training practice among contractors working in environmentally impacted areas area of Omaha, Nebraska is for each individual contractor to either provide onsite training upon hire, contract out training, or hire employees away from other contractors. All current contractors report the need to be able to select employees from an already well-trained, pre-screened, and employable workforce. In turn, the option of providing continuing education and recertification for current employees to maintain industry standards is the key to the success of these employers.

The comprehensive training program offered through Metropolitan Community College will provide the services requested by employers. MCC will track and evaluate the success of the program through the measures that follow.

#### Goal: Provide Training in Soil Remediation Activities for the Omaha Area

**Objective 1:** Design soil remediation related workforce development plans based on broad stakeholder input

**Deliverables, Measures:**

- Documentation of relevant faculty credentials
- Plans, budgets for training program
- Career ladder and training pyramid
- Selective admissions criteria, forms, recruitment materials

**Objective 2:** Design educational and employment pathways for unemployed or underemployed students to a) learn skills beneficial to employers and b) learn skills that will support career advancement

**Deliverables, Measures:**

- Degrees and course sequences (Specialist, Certificate, Associates)
  - Curricula, assessments
  - List of relevant credentials to be earned
- Hazwopper 40 hr. - OSHA 10 Hr. - Lead Safe Practices - Small Equipment - RRP Dust Sampling Technician - XRF - CDL-B - Renovator - Workplace Safety*
- Course menu and marketing materials for advanced industry training

## Environmental Protection Agency Application for Federal Assistance

### Goal: Provide Training in Soil Remediation Activities for the Omaha Area

**Objective 3:** Provide training for a skilled workforce to a) meet the needs of employers engaged in soil remediation activities and b) provide students with credentials and employability skills required for sustainable employment in the Trades

**Deliverables, Measures:**

- Training set equipped, arranged to meet EPA training standards
- Number of participants in training (enrolled, retained, successfully completed)
- Number of participants in training during off-season
- Hands-on skill competencies of participants
- Number, type of industry credentials earned
- Number of students completing Specialist Diplomas
- Participant hires (number, %, type of position, pay level, retention)
- Employer evaluation of nearly hired participants
- Student satisfaction with training (at completion of training and 2-3 months post)
- Documentation of training related work completed (timeframe, quality)
- Environmental impact in participant work areas

**Objective 4:** Coordinate with and among employers to provide customized and/or advanced trainings related to soil remediation activities, including skills of Foreman and Response Managers

**Deliverables, Measures:**

- Number, type of advanced level trainings provided
- Number of participants, completers
- Number, type of industry credentials earned v. lapsed
- Number of students completing Certificates, Associates Degrees
- Trainee/Employee MCC and employer retention season-to-season
- ROI – Cost of employee turn-over, error v. cost of training
- Job performance of participants based on employer evaluation
- Employer evaluation of participants
- Student satisfaction with training
- Menu of courses, marketing materials
- Environmental impact in participant work areas



## Environmental Protection Agency Application for Federal Assistance

---

### 7. Quality Assurance

Though this proposal does not necessitate that MCC meet the Quality Assurance requirements for projects involving environmentally related measurements or data generation, MCC will be implementing numerous procedures to assure quality in educational and skill outcomes for students and employers. Staff and contractors will be vetted based on performance histories, qualifications and operational standards. The quality of workforce outcomes will be supported through the incorporation of selective admissions criteria (below) and courses required for industry safety and compliance, such as OSHA and Hazwoper training. The program will include courses that have been adopted by EPA, as well as courses that specifically address industry needs for risk reduction and quality output, such as work readiness skills for new employees and advanced training for Foreman/Response Managers (Refer to Training Pyramid for specifics). Facilities, equipment and supplies used for instruction will be based on industry best practice, as well as EPA recommendations. MCC will seek and earn additional credentials related to soil remediation, for both faculty and the institution. Blending the best of industry knowledge and instructional pedagogy will also ensure quality outcomes for project training. Finally, the evaluation and accountability of project advisors will provide guidance for continuous improvement and high quality.

#### EPA Training Selective Admissions Criteria

The Soil Remediation program follows the selective admissions criteria of the Health and Public Services Division of Metropolitan Community College. The following outline describes this admissions process.

1. Candidates receive admissions packets which clearly define the necessary requirements and restrictions for application and admission to the program.
2. Eligible candidates schedule and complete their ASSET test, which screens for writing, reading and math skills. At the time of testing, applications and release of information forms are turned into the testing center, administered by the College.
3. Upon completion of the ASSET test, eligible candidates are determined as those assessed at or above the minimum program skill level criteria. The top 48 candidates are identified and background checks are completed.
4. Results of background checks are provided to the Dean of Health and Public Services. The Dean reviews results to determine eligibility for admission. Eligible candidates are invited into the program, pending a negative drug screen.
5. If a positive drug screen is returned prior to or during the training sequence (as random drug testing continues), students are dismissed from the program.



## Environmental Protection Agency Application for Federal Assistance

### **MCC Tri-Level Training Pyramid for Training Related to Soil Remediation Work**

#### **Foreman/Response Manager**

- Lead Inspector Training/XRF
- Advanced Workplace Safety
- Conflict Resolution
- Lead Abatement Supervision
- Other Courses Customized to Meet Employer Needs

#### **Advanced Training**

- Additional Construction Classes
- Dust Sampling Technician
- Certified Renovator
- Hazwoper
- WORK 1400
- OSHA 30 Hr.
- Lead Abatement Worker

#### **Ready to Work**

- Intro to the Trades I and II  
Includes OSHA 10 Hr. and Work Readiness
- Truck Driver CDL Training
- Small Equipment Training

Training for soil remediation related work will begin with competencies that ensure employees are **Ready to Work**. They will learn tools and skills for the job site and earn their 10 hr. OSHA credential. Employees will then be provided **Advanced** Training to broaden skills for a range of soil remediation related work. At the highest level, selected employees will be provided **Foreman and Response Manager** training, including training customized to address particular concerns of employers.

Classes will provide necessary industry credentials, as well as credits toward Metropolitan Community College Construction Specialist Diplomas, Certificates and Associates Degrees.

### Pre-Award Costs

The following chart illustrates Metropolitan Community College's Year One costs for the Soil Remediation training. Pre-award costs (beginning June 1) were \$73,758, with total year one costs projected at \$500,000.

EXPENSE CATEGORY	PRE-AWARD COSTS	POST-AWARD COSTS	TOTAL COSTS
Personnel	35,890	113,558	149,448
Benefits	5,490	14,678	20,168
Travel	1,150	8,000	9,150
Equipment	-	-	-
Supplies	11,050	86,414	97,464
Contracted	5,426	93,000	98,426
Construction	-	-	-
Other	-	33,000	33,000
Total Direct	59,006	348,650	407,656
Indirect	14,752	77,592	92,344
<b>TOTALS</b>	<b>73,758</b>	<b>426,242</b>	<b>500,000</b>

## Metropolitan Community College EPA Training Budget Narrative

CATEGORY	Budget Narrative			
Line Items	Year 1	Year 2	Year 3	Total
<b>Personnel</b>				
Project Management - Boyer @ 50% of regular contract	22,000	22,000	22,660	66,660
Project Management - Ocander @ 5% of contract	8,000	8,240	8,487	24,727
Site Coordinator (1 PT)	12,000	18,900	19,467	40,367
Instructor Salaries	<p><b>Y1 - 12 cohorts, 12:1 ratio, 132 students total (unduplicated)</b>  <i>Pre-award</i> - 4 cohorts of 12 students each: Faculty costs = \$35,890.25  <i>Trades (FT Faculty):</i> \$9,041.76, <i>Trades (Adjunct):</i> \$18,948.49, <i>Hazwoper (Adjunct):</i> \$7,900  <i>Winter Quarter</i> - Ready to Work: 14 Credit Hours x \$400/Credit Hour = \$5,600 x 4 cohorts = \$22,400  <i>CDL Training:</i> 10 CH x \$400/CH = \$4,000 x 3 cohorts = \$12,000  <i>Small Engines (SE):</i> 10 CH x \$400 = \$4,000 x 3 cohorts = \$12,000  <i>Spring Quarter</i> - Ready to Work: 14 CH x \$400 = \$5,600 x 4 cohorts = \$22,400  <i>CDL:</i> 10 x \$400 = \$4,000 x 3 cohort = \$12,000</p> <p><b>Y2 - 12 cohorts, 12:1 ratio, 126 students (unduplicated)</b>  <i>Fall</i> - Ready to Work: 9 CH x \$412 = \$3,708 x 4 cohorts/CDL: 9 CH x \$412 = \$3,708 x 3 cohorts (Total = \$25,956)  <i>Winter</i> - Ready to Work: 9 CH x \$412 = \$3,708 x 4 cohorts/SE: 9 CH x \$412 = \$3,708 x 3 cohorts (T = \$25,956)  <i>Spring</i> - Ready to Work: 9 CH x \$412 = \$3,708 x 4 cohorts/CDL: 9 CH x \$412 = \$3,708 x 3 cohorts (T = \$25,956)  <b>Y3 - 12 cohorts, 12: 1 ratio, 126 students (unduplicated)</b>  <i>Fall</i> - Ready to Work: 9 CH x \$425 = \$3,825 x 4 cohorts/CDL: 9 CH x \$425 = \$3,825 x 3 cohorts (T= \$26,775)  <i>Winter</i> - Ready to Work: 9 CH x \$425 = \$3,825 x 4 cohorts/SE: 9 CH x \$425 = \$3,825 x 3 cohorts (T = \$26,775)  <i>Spring</i> - Ready to Work: 9 CH x \$425 = \$3,825 x 4 cohorts/CDL: 9 CH x \$425 = \$3,825 x 3 cohorts (T = \$26,775)</p>			
Subtotal Personnel	116,690	127,008	130,939	406,637

## Metropolitan Community College EPA Training Budget Narrative

Benefits					
Boyer	7,300	7,300	7,399	21,999	
Ocander	986	1,015		2,001	
Site Coordinator PT	196	1,446	1,489	3,131	
Instructors	8,926	5,957	6,171	21,054	
<b>Subtotal Benefits*</b>	<b>17,408</b>	<b>15,718</b>	<b>15,059</b>	<b>48,185</b>	
*Prorated including retirement, health insurance, SS, FICA					
Travel					
Faculty and Staff	Pre-Award: 2,3000 miles (190-200 miles/week x .50/mile) \$1,150 The remainder of year one calculations are based on an estimate of approximately 333.33 miles/week x 36 weeks @ .50/mile = approximately \$6,000 for staff and faculty local travel for meetings/activities at other MCC sites, including industry, community partner and other MCC campus sites. This also includes necessary travel for training related activities, such as picking up supplies. \$2,000 is budgeted in year one for travel related to staff/faculty training and any necessary meetings with EPA staff. This amount is increased to \$3,000 to support EPA dissemination of the model in other EPA regions. Year 2 and 3 increases also allow margin for increases fuel costs.				
<b>Subtotal Travel</b>	<b>9,150</b>	<b>12,000</b>	<b>12,000</b>	<b>33,150</b>	
Equipment					
<b>Subtotal Equipment</b>	-	-	-	-	
No equipment purchases are determined necessary at the time of original budgeting. MCC has developed an agreement with Creighton University to access the Creighton XRF unit for MCC training. MCC has other necessary equipment available through its construction programs. MCC will be providing other equipment required to meet EPA and industry standards for training, according to the EPA approved work plan.					
Supplies					
Classroom, lab supplies, tools and replacements	Supplies will include those required for EPA approved trainings. Additional supplies will be needed for each of the range of trainings included in the Work Plan submitted with this application. While some tools and supplies will be not be considered consumables, many of these will be consumables or will need replacement due to normal use. Examples of non-consumables include 2 HEPA Vacuums @ \$900 ea., 2 Respirators @ \$500 ea., 1 Negative Pressure Machine @ \$1,100, 1 Cabinet for Safety Glasses @ \$600, chairs and desks. Pre-award supply costs are \$11,050.				
<b>Subtotal Supplies</b>	<b>115,982</b>	<b>118,985</b>	<b>109,065</b>	<b>344,032</b>	

## Metropolitan Community College EPA Training Budget Narrative

<b>Contractual</b>					
Course Consultation, Development, Review	This process will be ongoing, to add courses reflective of the Work Plan in classroom, hybrid and online formats. Contracts will include work with content experts, faculty and individuals with expertise in online course delivery. Year One: Content development team of industry expert(s) and instructor(s): \$16,000 (4 @ \$4,000 each), E-resources for hybrid/online courses: \$20,000. Years Two and Three allow for service increases near 3%, with curriculum development volume higher in Year Two.				
Contract Training	36,000	45,000	30,000	111,000	
	These funds will enable MCC to meet needs for non-credit workshops and unanticipated enrollment demands. These demands may occur related to area projects now in start-up such as the sewer system or the Omaha-Lincoln Department of Energy Retrofit Ramp-Up Facility Energy Efficiency project. The latter will require home assessments and remediation relevant to this EPA training project. Demand will also be increased as more online workshops and courses become available and more broadly known to the public. 24 4 hr. workshops (2 per month) @ \$500 each (including prep. time) = \$12,000, 58+ credit hours x \$400/CH (adjunct rate) = \$23,000+				
Coaching	35,000	36,000	36,000	107,000	
Background Checks & Drug Screenings	13,016	18,000	18,000	49,016	
	5,890	6,000	6,000	17,890	
	8,520	9,000	10,500	28,080	
	Pre-award: Coaching, \$1,106, Background Checks, \$1,890, Drug Screenings, \$2,250				
Subtotal Contracts	98,426	114,000	100,500	312,926	
<b>Other</b>					
Program Promotion and Equipment Maintenance	Pre-award: \$2,500. Promotion: meetings/orientations with industry and community partners, radio, website, social media, online newsletter, brochures, information packets, other. Equipment Maintenance: MCC equipment will be used for training, according to EPA and other industry standards and MCC's EPA approved work plan. This equipment will require maintenance checks, repairs and upgrades to ensure safety and compliance.				
Subtotal Other	18,000	20,000	44,000	82,000	
Total Direct Charges	407,656	407,711	411,563	1,226,930	
Indirect Costs*	92,344	92,289	88,437	273,070	
	*Indirect, 25% rate used MCC approved rate 35% Pre-award \$14,122, Remainder Y1 \$78,222				
Total Project Costs	500,000	500,000	500,000	1,500,000	

*This is good Budget*

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. EPA Soil Rem		\$	\$	\$ 1,500,000	\$	\$ 1,500,000
2.						
3.						
4.						
5. Totals		\$	\$	\$ 1,500,000	\$	\$ 1,500,000

SECTION B - BUDGET CATEGORIES

Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
a. Personnel	148,690	127,008	130,939	✓	406,637
b. Fringe Benefits	17,408	15,718	15,059	✓	48,185
c. Travel	9,150	12,000	12,000	✓	33,150
d. Equipment	-	-	-	✓	-
e. Supplies	115,982	118,985	109,065	✓	344,032
f. Contractual	98,426	114,000	100,500	✓	312,926
g. Construction	-	-	-	✓	-
h. Other	18,000	20,000	44,000	✓	82,000
i. Total Direct Charges (sum of 6a-6h)	407,656	407,711	411,563	✓	1,226,930
j. Indirect Charges	92,344	92,289	88,437	✓	273,070
k. TOTALS (sum of 6i and 6j)	\$ 500,000	\$ 500,000	\$ 500,000	\$	\$ 1,500,000

7. Program Income	\$	\$	\$	\$	\$
-------------------	----	----	----	----	----