

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:)

Pilsen Soil Operable Unit 1 Railroad)
Spur and Alley Site, Chicago, Illinois)

H. Kramer & Co., the City of Chicago,)
and BNSF Railway Company)

Respondents.)

Proceeding Under Sections 104, 106(a),)
107 and 122 of the Comprehensive)
Environmental Response, Compensation,)
and Liability Act, 42 U.S.C. §§ 9604,)
9606(a), 9607 and 9622)

U.S. EPA Region 5
CERCLA Docket No.

V-W-15-C-028

**ADMINISTRATIVE SETTLEMENT
AGREEMENT AND ORDER ON
CONSENT FOR REMOVAL ACTION**

**ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR
TIME CRITICAL REMOVAL ACTION**

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent (Settlement) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and H. Kramer & Co. (H. Kramer), the City of Chicago (City), and the BNSF Railway Company (BNSF) (Respondents). This Settlement provides for the performance of a removal action by Respondents at the "Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site" (the "Site"). The Site is comprised of an alley and a railroad spur located in the Lower West Side (Pilsen) area of Chicago, Cook County, Illinois. See Appendix A (showing Site location and boundaries). The alley lies between address ranges 1300-1337 West Cermak Road and 1338-1344 West Cermak Road. The railroad spur has two portions. The western portion lies north of a property occupied by the Benito Juarez Community Academy located at 1450-1510 West Cermak Road, curving south towards South Loomis Street. The eastern portion of the spur, starting on the east side of South Loomis Street, extends along the western boundary of the H. Kramer facility at 1345 West 21st Street and curves southeast between a former tire service company at 1358 West Cermak Road and a former metal processing company at 1338 West Cermak Road, terminating at West Cermak Road.

2. This Settlement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622 (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12,580, 52 Fed. Reg. 2,923 (Jan. 29, 1987), and further delegated to Regional Administrators by EPA Delegation Nos. 14-14-A (Determinations of Imminent and Substantial Endangerment, Nov. 1, 2001), 14-14-C (Administrative Actions Through Consent Orders, Apr. 15, 1994) and 14-14-D (Cost Recovery Non-Judicial Agreements and Administrative Consent Orders, May 11, 1994). These authorities were further redelegated by the Regional Administrator of EPA Region 5 to the Director of the Superfund Division of EPA Region 5 by Regional Delegation Nos. 14-14-A, 14-14-C, and 14-14-D.

3. EPA has notified the State of Illinois (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA and Respondents recognize that this Settlement has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Settlement do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement, the validity of the findings of facts, conclusions of law, and determinations in Sections IV (Findings of Fact) and V (Conclusions of Law and Determinations) of this Settlement. Respondents agree to comply with and be bound by the terms of this Settlement and further agree that they will not contest the basis or validity of this Settlement or its terms.

II. PARTIES BOUND

5. This Settlement is binding upon EPA and upon Respondents and their heirs, successors, and assigns. Any change in ownership or corporate status of a Respondent including,

but not limited to, any transfer of assets or real or personal property, shall not alter such Respondent's responsibilities under this Settlement.

6. Respondents are jointly and severally liable for carrying out all activities required by this Settlement. In the event of the insolvency or other failure of any Respondent to implement the requirements of this Settlement, the remaining Respondents shall complete all such requirements.

7. Respondents shall provide a copy of this Settlement to each contractor hired to perform the Work required by this Settlement and to each person representing any Respondents 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 Settlement. Respondents or their contractors shall provide written notice of the Settlement to all subcontractors hired to perform any portion of the Work required by this Settlement. Respondents shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work in accordance with the terms of this Settlement.

III. DEFINITIONS

8. Unless otherwise expressly provided in this Settlement, terms used in this Settlement 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 Settlement or its attached appendices, the following definitions shall apply:

"Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on June 22, 2015 by the Director of the Superfund Division of EPA Region 5 and all attachments thereto. The Action Memorandum is attached as Appendix B.

"Affected Property" shall mean all real property at the Site and any other real property where EPA determines, at any time, that access, land, water, or other resource use restrictions are needed to implement the removal action, including, but not limited to, the following properties: the unparcelled (undesignated) lands comprising the alley owned by the City between address ranges 1300-1337 West Cermak Road and 1338-1344 West Cermak Road; the unparcelled (undesignated) lands comprising the railroad spur extending along the north end of the southernmost portion of parcel number 17-20-330-005; the railroad spur running through parcel numbers 17-20-330-005 and 17-20-332-002; the unparcelled lands comprising the railroad spur between parcel numbers 17-20-332-002 and 17-20-333-001 and between parcel numbers 17-20-333-001 and 17-20-333-006; and the railroad spur running through parcel numbers 17-20-333-001, 17-20-333-006, and 17-20-333-007. See Appendix A (for diagram of the Site).

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Day” or “day” shall mean a calendar day. In computing any period of time under this Settlement, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

“Effective Date” shall mean the effective date of this Settlement as provided in Section XXVII.

“EPA” shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

“EPA Hazardous Substance Superfund” shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

“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 deliverables submitted pursuant to this Settlement, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Settlement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Section IX (Property Requirements) (including, but not limited to, cost of attorney time and any monies paid to secure or enforce access or land, water, or other resource use restrictions, and the amount of just compensation), Section XIII (Emergency Response and Notification of Releases), Paragraph 66 (Work Takeover), Paragraph 22 (Community Involvement Plan) (including, but not limited to, the costs of any technical assistance grant under Section 117(e) of CERCLA, 42 U.S.C. § 9617(e)), Section XIV (Dispute Resolution), and all litigation costs. Future Response Costs shall also include Agency for Toxic Substances and Disease Registry (ATSDR) costs regarding 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. Rates are available online at http://www.epa.gov/ocfopage/finstatement/superfund/int_rate.htm.

“Non-Respondent Owner” shall mean any person, other than a Respondent, that owns or controls any Affected Property, including De Trinh and 1358 West Cermak LLC. The clause “Non-Respondent Owner’s Affected Property” means Affected Property owned or controlled by Non-Respondent Owner.

“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.

“Owner Respondent” shall mean any Respondent that owns or controls any Affected Property, including H. Kramer and the City. The clause “Owner Respondent’s Affected Property” means Affected Property owned or controlled by Owner Respondent.

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

“Parties” shall mean EPA and Respondents.

“Post-Removal Site Control” shall mean actions necessary to ensure the effectiveness and integrity of the removal action to be performed pursuant to this Settlement consistent with Sections 300.415(l) and 300.5 of the NCP and “Policy on Management of Post-Removal Site Control” (OSWER Directive No. 9360.2-02, Dec. 3, 1990).

“RCRA” shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

“Respondents” shall mean H. Kramer, the City, and BNSF.

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

“Settlement” shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXVI (Integration / Appendices)). In the event of conflict between this Settlement and any appendix, this Settlement shall control.

“Site” shall mean the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site, Chicago, Illinois, encompassing approximately 1.5 acres. The Site is comprised of an alley and a railroad spur located in the Lower West Side (Pilsen) area of Chicago. See Appendix A (showing Site location and boundaries). The alley lies between address ranges 1300-1337 West Cermak Road and 1338-1344 West Cermak Road. The railroad spur has two portions. The western portion lies north of a property occupied by the Benito Juarez Community Academy located at 1450-1510 West Cermak Road, curving south towards South Loomis Street. The eastern portion of the spur, starting on the east side of South Loomis Street, extends along the western boundary of the H. Kramer facility at 1345 West 21st Street and curves southeast between a former tire service company at 1358 West Cermak Road and a former metal processing company at 1338 West Cermak Road, terminating at West Cermak Road.

“State” shall mean the State of Illinois.

“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.

“Waste Material” shall mean (i) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (ii) any pollutant or contaminant under Section 101(33) of

CERCLA, 42 U.S.C. § 9601(33); and (iii) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

“Work” shall mean all activities and obligations Respondents are required to perform under this Settlement except those required by Section XI (Record Retention).

IV. FINDINGS OF FACT

9. Based on available information, including the Administrative Record in this matter, EPA hereby finds that:

- a. The Site is comprised of two areas, an alley and a railroad spur, in the Lower West Side (Pilsen) area of Chicago, in the City’s 25th Ward. See Appendix A. For the alley, the east to west portion is approximately 460 feet (ft) long and 18 ft. wide (approximately 8,280 square feet [ft²] in area) and is roughly paved with asphalt over 25% of its length from the east side. The north to south portion of the alley is about 110 feet long. The remaining 75% of the alley is soil. The alley section to be remediated is from the railroad east to South Throop Street, south of West 21st Street and north of West Cermak Road. The alley is bordered to the north by H. Kramer’s facility, the east by South Throop Street, to the south by commercial and industrial businesses, and to the west by the railroad spur (east of South Loomis Street). The railroad spur is approximately 1,120 ft. long and 28,215 ft² in total area. The railroad spur consists of an unused rail track and soil and asphalt where it is bisected by South Loomis Street. The portion of the railroad spur that crosses South Loomis Street is not included in the Site because the rails have been removed and the City has paved the street. The western portion of the railroad spur is located in the north region of a property occupied by the Benito Juarez Community Academy (Juarez), located at 1450-1510 West Cermak Road. The railroad spur curves to the south, crosses South Loomis Street, and extends along the west boundary of H. Kramer at 1345 West 21st Street. The eastern portion of the railroad spur is bordered by a former tire service company to the west (Tire Grading Company, 1358 West Cermak Road), a former metal processing company to the east (Wheeling Metal Processing Company, 1338 West Cermak Road), and West Cermak Road to the south. The Site, both the railroad spur and alley, is an industrial site in a residential neighborhood and within a 1/4-mile of two schools –Juarez and the Manuel Perez Jr. Elementary School (Perez). Two City parks are located within a 1/2-mile radius of the Site (Dvorak Park and Throop Park). The Chicago Sanitary and Ship Canal is located approximately 0.45 miles to the south.
- b. According to an historical Sanborn fire insurance map, the alley and railroad spur have existed since at least 1914. Throughout that period, the owner of the alley, as for all unparcelled lands in the city limits, has been

the City. Current ownership of the spur is complex. Starting from the west end, the spur is made up of (a) undesignated lands (owned by the City) extending along the north end of the southernmost portion of parcel number 17-20-330-005; (b) a parcel owned by the City in Trust for Use of Schools (acquired March 1, 1999) (parcel number 17-20-330-005); (c) after crossing Loomis Street (an undesignated land, owned by the City), a parcel owned by H. Kramer (acquired October 19, 1919) (parcel number 17-20-332-002); (d) after crossing an undesignated land (alley) serving as the entrance to H. Kramer's facility (but owned by the City), a parcel owned by H. Kramer (acquired June 27, 1996) (parcel number 17-20-333-001); (e) after crossing the City's alleyway, a parcel owned by 1358 W. Cermak LLC (acquired March 13, 2015) (parcel number 17-20-333-006); and (f) a parcel owned by De Trinh (acquired December 1, 2012) (parcel number 17-20-333-007). BNSF has operated on the spur since at least 1912, when its predecessor was granted a twenty (20) year right-of-way over the railroad spur.

- c. Sampling results for the Site indicated that five samples contained TCLP lead concentrations that exceeded the TCLP lead regulatory limit of 5.0 mg/L. See Appendix D. Therefore, these samples represent materials that meet the definition of hazardous waste by virtue of the characteristic of toxicity. See 40 C.F.R. § 261.24(b). Antimony, arsenic, copper, lead, and fine-grained lead were detected at concentrations above EPA Removal Management Levels (RMLs) for residential soil, hazard quotient (HQ) 3 (400 mg/kg), and for industrial soil (800 mg/kg).
- d. Several neighboring industries have operated on the Site for decades via vehicular or foot traffic, including H. Kramer. H. Kramer's secondary nonferrous metals facility has operated on and adjacent to the Site since the early 20th century. H. Kramer specializes in manufacturing brass and bronze ingots, where a portion of the facility's production capacity is devoted to lead-containing metal alloys. The nature of H. Kramer's processes contributed to high levels of metals at the Site.
- e. The threat of release at the Site is the off-site migration of soils contaminated by heavy metals, as described above, into the surrounding neighborhood, which includes residences and schools, through wind and rain runoff and through present use (such as people walking and driving vehicles over the Site). The Site is just south of a residential area, and 11,307 people live within 0.5 mile of the Site. Two schools, Juarez and Perez, are located within a 0.25-mile radius of the Site, with Juarez immediately adjacent to parts of the Site. School children may use the Site as a walkway, commuting to and from Juarez.

- f. A risk assessment conducted by EPA concluded that the soil concentrations of lead at the Site are at an unacceptable risk level to the residents in the neighborhood.
- g. H. Kramer is a corporation doing business in Illinois that generated, and therefore arranged for disposal, of the hazardous substances found at the Site; it currently operates and historically operated a portion of the Site at the time of disposal; and it owns a portion of the Site (parcel numbers 17-20-332-002 and 17-20-333-001).
- h. The City is a municipal corporation and a home rule unit under the laws of the State and under Article VII of the Illinois Constitution, and it owns a portion of the Site (parcel number 17-20-330-005 and all unparcelled, undesignated lands within the Site).
- i. BNSF is a corporation doing business in Illinois that historically operated on the Site at the time of disposal.
- j. EPA issued General Notice of Potential Liability Letters to H. Kramer, the City, and BNSF on April 15, 2014.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

10. Based on the Findings of Fact set forth above, and the administrative record, EPA has determined that:

- a. The Site is a “facility” as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- b. The contamination found at the Site, as identified in the Findings of Fact above, includes “hazardous substances” as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- c. Each Respondent is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- d. Each Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is jointly and severally liable for performance of response action and for response costs incurred and to be incurred at the Site.
 - (1) Respondent H. Kramer is an “owner” and “operator” of portions of the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

- (2) Respondent City is an “owner” of portions of the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).
 - (3) Respondent BNSF is an “operator” of portions of the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).
 - (4) Respondent H. Kramer was an “owner” and “operator” of portions of the Site, at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).
 - (5) Respondent City was an “owner” of portions of the Site, at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).
 - (6) Respondent BNSF was an “operator” of portions of the Site, at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).
 - (7) Respondent H. Kramer arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).
- e. The conditions described in the Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
 - f. The conditions described in the Findings of Fact above constitute an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from the facility within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
 - g. The removal action required by this Settlement is necessary to protect the public health, welfare, or the environment and, if carried out in

compliance with the terms of this Settlement, will be consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

VI. SETTLEMENT AGREEMENT AND ORDER

11. Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the administrative record, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Settlement, including, but not limited to, all attachments to this Settlement and all documents incorporated by reference into this Settlement.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

12. Respondents H. Kramer and the City have retained primary contractors to perform the Work and provided EPA their qualifications, and EPA approves Walter Pochron of GHD/Conestoga-Rovers & Assoc., Inc. as contractor for H Kramer and the Chicago Department of Transportation (CDOT) as contractor for the City. BNSF shall notify EPA of the name(s) and qualification(s) of its contractor(s) within ten (10) days after the Effective Date. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by BNSF. If EPA disapproves of a contractor selected by BNSF, BNSF shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within five (5) days after EPA's disapproval.

13. Respondents have designated and EPA has approved Walter Pochron of GHD/Conestoga-Rovers & Assoc., Inc. as Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Settlement and has provided EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within ten (10) days following EPA's disapproval. Notice or communication relating to this Settlement from EPA to Respondents' Project Coordinator shall constitute notice or communication to all Respondents.

14. EPA has designated Ramon C. Mendoza of the Emergency Response Branch #2 of EPA Region 5 as its On-Scene Coordinator (OSC). EPA and Respondents shall have the right, subject to Paragraph 13, to change their respective designated OSC or Project Coordinator. Respondents shall notify EPA ten (10) days before such a change is made. The initial notification by Respondents may be made orally, but shall be promptly followed by a written notice.

15. The OSC shall be responsible for overseeing Respondents' implementation of this Settlement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

VIII. WORK TO BE PERFORMED

16. Respondents shall perform, at a minimum, all actions necessary to implement the work set forth in the approved Removal Work Plan attached hereto as Appendix C, which EPA has determined to be sufficient to address conditions described in the Action Memorandum. The actions to be implemented by Respondents generally include, but are not limited to, the following:

- a. Develop and implement a Site-specific Health and Safety Plan, Sampling Plan, and Work Plan (all of which Plans will include air/particulate monitoring, dust control, and traffic control);
- b. Implement Site security measures as necessary;
- c. Remove rails and railroad ties at the Site as designated in the Removal Work Plan;
- d. Remove, consolidate, and dispose (or recycle as appropriate) non-hazardous Site debris, garbage, and vegetation;
- e. **For the Western Area of the Railroad Spur (Areas 1 and 2)**
 - (1) Excavate Area 1 (excluding the RR26 sample location) down to a depth of 6 inches from the existing elevation. Soils and railroad ballast from Area 1 suitable for beneficial reuse will be placed as backfill in the excavation left by the TCLP excavation in Areas 4, 5, and 8 (and Areas 6, 7, 9 as needed). Organic soils will be transported off site for disposal (in accordance with EPA's Off-Site Rule (40 CFR § 300.440)). Soils above the RML in Area 1 will be removed (excavated) down to a depth of 6 inches from the existing grade. Excavated areas in Area 1 (excluding the RR26 sample location) will be backfilled with an engineered barrier consisting of a demarcation barrier placed on the bottom of the excavation, then backfilled with at least 6 inches of clean gravel.
 - (2) Area 2 and the RR26 locations will not be excavated. In this area an engineered cover consisting of a demarcation barrier will be placed followed by 3 inches of gravel and 3 inches of pavement.
 - (3) EPA's existing data will be used as delineation sampling data.
 - (4) Vehicle traffic barriers will be installed to prevent vehicles from driving over the graveled areas in Area 1.
- f. **For the alley and railroad spur east of South Loomis Street (except for the eastern portion of the alley with an asphalt cover, about 230 ft.):**

- (1) Excavate, treat (if applicable), transport, and properly dispose of (in accordance with EPA's Off-Site Rule (40 CFR § 300.440)) lead-contaminated soil with concentrations above the TCLP Lead Criteria of 5 mg/L. The TCLP areas and depths have been defined by EPA's sampling data and are shown on Appendix D. No additional delineation sampling will be required. After the TCLP excavation, surface soils and gravel from Areas 1, 5, 6, 7, 8, 9, or 10 can be used as backfill for the excavated area at the TCLP excavations, and for grading purposes within those same areas (1, 5, 6, 7, 8, 9, or 10). Soils above the TCLP will be removed down to a depth necessary for installation of an asphalt road including the associated sub-base;
 - (2) All TCLP excavated areas will have a demarcation barrier placed on the bottom of the excavation prior to being backfilled;
 - (3) Place a demarcation barrier in Areas 4, 5, 6, 7, 8, and 10.
 - (4) Backfill Areas 4, 5, 6, 7, 8, 9, and 10 with at least 6 inches of clean gravel and construct an asphalt cover on Areas 4, 5, 6, 7, 8, 9, and 10.
- g. **For the eastern portion of the alley that has an asphalt cover (about 230 ft. in Area 9):** Repair asphalt cover by patching any holes which expose soil or other alternative as appropriate to eliminate the ingestion exposure pathway.
- h. Take any necessary response actions to address any Site related release or threatened release of a hazardous substance, pollutant, or contaminant during the course of the Work that the EPA determines may pose an imminent and substantial endangerment to the public health or the environment.

17. For any regulation or guidance referenced in the Settlement, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondents receive notification from EPA of the modification, amendment, or replacement.

18. Work Plan and Implementation.

- a. Respondents have submitted to EPA, and EPA has approved a work plan for performing the removal action (the "Removal Work Plan") generally described in Paragraph 16 above. The Removal Work Plan, which is attached as Appendix C includes a description of the actions required by this Settlement.

- b. Within ten (10) days after the Effective Date, in accordance with Paragraph 19 (Submission of Deliverables), Respondents shall submit to EPA for approval a schedule for the actions required by this Settlement.
- c. EPA may approve, disapprove, require revisions to, or modify any additional deliverables that require EPA approval under the Removal Work Plan in whole or in part. If EPA requires revisions, Respondents shall submit a revised deliverable within ten (10) days after receipt of EPA's notification of the required revisions. Once approved, or approved with modifications, such deliverables shall be incorporated into and become fully enforceable under this Settlement.
- d. With EPA approval, Respondents commenced the Work required by the Removal Work Plan prior to the Effective Date of this Settlement. As of the Effective Date, all such prior Work shall be deemed to have been conducted in accordance with the Removal Work Plan and in conformance with the terms of this Settlement. Respondents shall not commence any further Work except in conformance with the terms of this Settlement.

19. Submission of Deliverables.

- a. General Requirements for Deliverables.
 - (1) Except as otherwise provided in this Settlement, Respondents shall direct all submissions required by this Settlement to the OSC at: Ramon C. Mendoza (SE-5J), Superfund Division, U.S. EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886.4314, mendoza.ramon@epa.gov. Respondents shall submit all deliverables required by this Settlement or any approved work plan to EPA in accordance with the schedule set forth in such plan.
 - (2) Respondents shall submit all deliverables in electronic form. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5" by 11", Respondents shall also provide EPA with paper copies of such exhibits.
- b. Technical Specifications for Deliverables.
 - (1) Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable (EDD) format. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.
 - (2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (a) in the ESRI File Geodatabase format; and (b) as unprojected geographic coordinates in decimal

degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at <https://edg.epa.gov/EME/>.

- (3) Each file must include an attribute name for each site unit or sub-unit submitted. Consult <http://www.epa.gov/geospatial/policies.html> for any further available guidance on attribute identification and naming.
- (4) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

20. Health and Safety Plan.

- a. Within five (5) days after the Effective Date, Respondents shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-site work under this Settlement. This plan shall be prepared in accordance with "OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities," Pub. 9285.0-OIC (Nov. 2002), available on the NSCEP database at <http://www.epa.gov/nscep/index.html>, and "EPA's Emergency Responder Health and Safety Manual," OSWER Directive 9285.3-12 (July 2005 and updates), available at <http://www.epaosc.org/HealthSafetyManual/manual-index.htm>. In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondents shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

21. Quality Assurance, Sampling, and Data Analysis.

- a. Respondents shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)", EPA/240/B-01/003 (March 2001, reissued May 2006),

“Guidance for Quality Assurance Project Plans (QA/G-5),” EPA/240/R-02/009 (December 2002), “Uniform Federal Policy for Quality Assurance Project Plans,” Parts 1-3, EPA/505/B-04/900A-900C (March 2005).

- b. Prior to the commencement of any monitoring project under this Settlement, Respondents shall submit to EPA for approval a Quality Assurance Project Plan (QAPP) that is consistent with the Removal Work Plan, the NCP, and the Superfund Lead-Contaminated Residential Sites Handbook. Respondents shall ensure that EPA personnel and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondents in implementing this Settlement. In addition, Respondents shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance with EPA’s “Field Operations Group Operational Guidelines for Field Activities” (<http://www.epa.gov/region8/qa/FieldOperationsGroupOperationalGuidelinesForFieldActivities.pdf>) and “EPA QA Field Activities Procedure” (<http://www.epa.gov/irmpoli8/policies/2105-p-02.pdf>). Respondents shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Settlement meet the competency requirements set forth in EPA’s “Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions” (<http://www.epa.gov/fem/pdfs/fem-lab-competency-policy.pdf>) and that the laboratories perform all analyses according to accepted EPA methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA’s Contract Laboratory Program (<http://www.epa.gov/superfund/programs/clp/>), SW 846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (<http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>), “Standard Methods for the Examination of Water and Wastewater” (<http://www.standardmethods.org/>), 40 C.F.R. Part 136, “Air Toxics - Monitoring Methods” (<http://www.epa.gov/ttnamti1/airtox.html>).” However, upon approval by EPA, Respondents may use other appropriate analytical method(s), as long as (a) quality assurance/quality control (QA/QC) criteria are contained in the method(s) and the method(s) are included in the QAPP, (b) the analytical method(s) are at least as stringent as the methods listed above, and (c) the method(s) have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, e.g., EPA, ASTM, NIOSH, OSHA, etc. Respondents shall ensure that all laboratories they use for analysis of samples taken pursuant to this Settlement have a documented Quality System that complies with ANSI/ASQC E-4-2004, “Quality Systems for Environmental Data and Technology Programs: Requirements with

Guidance for Use” (American National Standard, 2004), and “EPA Requirements for Quality Management Plans (QA/R-2)” (EPA/240/B-01/002, March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs (<http://www.epa.gov/fem/accredit.htm>) as meeting the Quality System requirements. Respondents shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Settlement are conducted in accordance with the procedures set forth in the QAPP approved by EPA.

- c. Upon request, Respondents shall provide split or duplicate samples to EPA or its authorized representatives. Respondents shall notify EPA not less than five (5) days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall provide to Respondents split or duplicate samples of any samples it takes as part of EPA’s oversight of Respondents’ implementation of the Work.
- d. Respondents shall submit to EPA the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondents with respect to the Site and/or the implementation of this Settlement.
- e. Respondents waive any objections to any data gathered, generated, or evaluated by EPA, the State, or Respondents in the performance or oversight of the Work that has been verified according to the QA/QC procedures required by the Settlement or any EPA-approved Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the Work, Respondents shall submit to EPA a report that specifically identifies and explains their objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within fifteen (15) days after the monthly progress report containing the data.
- f. Notwithstanding any provision of this Settlement, the United States retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes and regulations.

22. Community Involvement Plan. EPA will prepare a community involvement plan, in accordance with EPA guidance and the NCP. If requested by EPA, Respondents shall participate in community involvement activities pursuant to the plan, including participation in

(1) the preparation of information regarding the Work for dissemination to the public, with consideration given to including mass media and/or Internet notification, and (2) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site. Respondents' support of EPA's community involvement activities may include providing online access to initial submissions and updates of deliverables to (1) any community advisory groups, (2) any technical assistance grant recipients and their advisors, and (3) other entities to provide them with a reasonable opportunity for review and comment. All community involvement activities conducted by Respondents at EPA's request are subject to EPA's oversight. At EPA's discretion, Respondents shall establish a community information repository at or near the Site to house one copy of the administrative record.

23. Post-Removal Site Control. In accordance with the Removal Work Plan schedule, or as otherwise directed by EPA, Respondents shall submit a proposal for Post-Removal Site Control which shall include, but not be limited to: institutional controls upon the parcels and lands subject to the Work. Upon EPA approval, Respondents shall either conduct Post-Removal Site Control activities, or obtain a written commitment from another party for conduct of such activities, until such time as EPA determines that no further Post-Removal Site Control is necessary. Respondents shall provide EPA with documentation of all Post-Removal Site Control commitments.

24. Progress Reports. Respondents shall submit a written progress report to EPA concerning actions undertaken pursuant to this Settlement on a monthly basis, or as otherwise requested by EPA, from the date of receipt of EPA's approval of the Removal Work Plan until issuance of Notice of Completion of Work pursuant to Section XXV, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

25. Final Report. Within thirty (30) days after completion of all Work required by this Settlement, other than continuing obligations listed in Paragraph 86 (notice of completion), Respondents shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Settlement. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a responsible corporate official of a Respondent or Respondents' 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 have no personal knowledge that the information submitted is other than 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.”

26. Off-Site Shipments.

- a. Respondents may ship hazardous substances, pollutants and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA Section 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b). Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if Respondents comply with EPA’s “Guide to Management of Investigation Derived Waste,” OSWER 9345.3-03FS (Jan. 1992).
- b. Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide written notice to the appropriate state environmental official in the receiving facility’s state and to the OSC. This written notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondents also shall notify the state environmental official referenced above and the OSC of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the written notice after the award of the contract for the removal action and before the Waste Material is shipped.

IX. PROPERTY REQUIREMENTS

27. Agreements Regarding Access and Non-Interference. Respondents shall, with respect to any Non-Settling Owner’s Affected Property, use best efforts to secure from such Non-Settling Owner an agreement, enforceable by Respondents and the EPA, providing that such Non-Settling Owner and Owner Respondent shall, with respect to Owner Respondent’s Affected Property: (i) provide the EPA, Respondents, and their representatives, contractors, and subcontractors with access at all reasonable times to such Affected Property to conduct any activity regarding the Settlement, and (ii) refrain from using such Affected Property in any manner that EPA determines will pose an unacceptable risk to human health or to the

environment due to exposure to Waste Material, or interfere with or adversely affect the implementation, integrity, or protectiveness of the removal action.

28. Owner Respondent shall not transfer its Affected Property without first securing EPA's approval of, and transferee's consent to, an agreement that: (i) is enforceable by EPA; and (ii) requires the transferee to provide access to and to refrain from using the Affected Property to the same extent as is provided under Paragraph 27 (Agreements Regarding Access and Non-Interference); provided however, that the obligation of Owner Respondent to obtain such EPA and transferee approvals shall terminate as of the date that EPA provides Respondents the Notice of Completion provided for in Paragraph 87.

29. Best Efforts. As used in this Section, "best efforts" means the efforts that a reasonable person in the position of Respondents would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements, as required by this Section. If Respondents are unable to accomplish what is required through "best efforts" in a timely manner, they shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondents or take independent action, in obtaining such access and/or use restrictions. All costs incurred by the United States in providing such assistance or taking such action, including the cost of attorney time and the amount of monetary consideration or just compensation paid, constitute Future Response Costs.

30. If EPA determines in a decision document prepared in accordance with the NCP that institutional controls in the form of state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices are needed, Respondents shall cooperate with EPA's efforts to secure and ensure compliance with such institutional controls.

31. In the event of any Transfer of the Affected Property, unless the United States otherwise consents in writing, Respondents shall continue to comply with their obligations under the Settlement, including their obligation to secure access and ensure compliance with any land, water, or other resource use restrictions regarding the Affected Property.

32. Notwithstanding any provision of the Settlement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto under CERCLA, RCRA, and any other applicable statute or regulations.

X. ACCESS TO INFORMATION

33. Respondents shall provide to EPA, 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 Respondents' possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Settlement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondents shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their

employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

34. Privileged and Protected Claims.

- a. Respondents may assert all or part of a Record requested by EPA is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondents comply with Paragraph 34.b, and except as provided in Paragraph 34.c.
- b. If Respondents assert such a privilege or protection, they shall provide EPA with the following information regarding such Record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondents shall provide the Record to EPA in redacted form to mask the privileged or protected portion only. Respondents shall retain all Records that they claim to be privileged or protected until EPA has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in Respondents' favor.
- c. Respondents may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondents are required to create or generate pursuant to this Settlement.

35. Business Confidential Claims. Respondents may assert that all or part of a Record provided to EPA under this Section or Section XI (Record Retention) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondents shall segregate and clearly identify all Records or parts thereof submitted under this Settlement for which Respondents assert business confidentiality claims. Records submitted to EPA determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA, or if EPA has notified Respondents 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, the public may be given access to such Records without further notice to Respondents.

36. Notwithstanding any provision of this Settlement, EPA retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XI. RECORD RETENTION

37. Until ten (10) years after EPA provides Respondents with notice, pursuant to Section XXV (Notice of Completion of Work), that all Work has been fully performed in accordance with this Settlement, Respondents shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in their possession or control, or that come into their possession or control, that relate in any manner to their liability under CERCLA with regard to the Site, provided, however, that Respondents who are potentially liable as owners or operators of the Site must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. Each Respondent 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 their possession or control or that come into their possession or control that relate in any manner to the performance of the Work, provided, however, that each Respondent (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.

38. At the conclusion of the document retention period, Respondents shall notify EPA at least ninety (90) days prior to the destruction of any such Records, and, upon request by EPA, and except as provided in Paragraph 34 (Privileged and Protected Claims), Respondents shall deliver any such Records to EPA.

39. Each Respondent certifies individually 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 notification of potential liability by EPA or the State and that it has fully complied with any and all EPA and State requests for information regarding the Site pursuant to Sections 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, and state law.

XII. COMPLIANCE WITH OTHER LAWS

40. Nothing in this Settlement limits Respondents' obligations to comply with the requirements of all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. § 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Settlement shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws.

41. No local, state, or federal permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42

U.S.C. § 9621. Where any portion of the Work that is not on-site requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. Respondents may seek relief under the provisions of Section XV (Force Majeure) for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit or approval required for the Work, provided that they have submitted timely and complete applications and taken all other actions necessary to obtain all such permits or approvals. This Settlement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

42. Emergency Response. If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondents shall take these actions in accordance with all applicable provisions of this Settlement, including, but not limited to, the Health and Safety Plan. Respondents shall also immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer at (312) 353-2318 of the incident or Site conditions.

43. Release Reporting. In addition, in the event of any release of a hazardous substance from the Site, Respondents shall immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer at (312) 353-2318 and the National Response Center at (800) 424-8802. Respondents shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004.

XIV. DISPUTE RESOLUTION

44. Unless otherwise expressly provided for in this Settlement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement. The Parties shall attempt to resolve any disagreements concerning this Settlement expeditiously and informally.

45. Informal Dispute Resolution. If Respondents object to any EPA action taken pursuant to this Settlement, they shall send EPA a written Notice of Dispute describing the objection(s) within seven (7) days after such action. EPA and Respondents shall have thirty (30) days from EPA's receipt of Respondents' Notice of Dispute to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Any agreement reached by the Parties pursuant to this Section shall be in

writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement.

46. Formal Dispute Resolution. If the Parties are unable to reach an agreement within the Negotiation Period, Respondents shall, within twenty (20) days after the end of the Negotiation Period, submit a statement of position to the OSC. EPA may, within twenty (20) days thereafter, submit a statement of position. Thereafter, an EPA management official at the Division Director level or higher will issue a written decision on the dispute to Respondents. EPA's decision shall be incorporated into and become an enforceable part of this Settlement. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

47. The invocation of formal dispute resolution procedures under this Section does not extend, postpone, or affect in any way any obligation of Respondents under this Settlement. 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 56. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Settlement. In the event that Respondents do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XVI (Stipulated Penalties).

XV. FORCE MAJEURE

48. "Force Majeure" for purposes of this Settlement, is defined as any event arising from causes beyond the control of Respondents, of any entity controlled by Respondents, or of Respondents' contractors that delays or prevents the performance of any obligation under this Settlement despite Respondents' best efforts to fulfill the obligation. The requirement that Respondents exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (a) as it is occurring and (b) following the potential force majeure 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 increased cost of performance.

49. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement for which Respondents intend or may intend to assert a claim of force majeure, Respondents shall notify EPA's OSC orally or, in his or her absence, the alternate EPA OSC, or, in the event both of EPA's designated representatives are unavailable, the Director of the Superfund Division, EPA Region 5, within seven (7) of when Respondents first knew that the event might cause a delay. Within seven (7) days thereafter, Respondents shall provide in writing to EPA 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; Respondents' rationale for attributing such delay to a force majeure; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an

endangerment to public health or welfare, or the environment. Respondents shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Respondents shall be deemed to know of any circumstance of which Respondents, any entity controlled by Respondents, or Respondents' contractors knew or should have known. Failure to comply with the above requirements regarding an event shall preclude Respondents from asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite the late or incomplete notice, is able to assess to its satisfaction whether the event is a force majeure under Paragraph 48 and whether Respondents have exercised their best efforts under Paragraph 48, EPA may, in its unreviewable discretion, excuse in writing Respondents' failure to submit timely or complete notices under this Paragraph.

50. If EPA agrees that the delay or anticipated delay is attributable to a force majeure, the time for performance of the obligations under this Settlement that are affected by the force majeure will be extended by EPA 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 shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure, EPA will notify Respondents in writing of its decision. If EPA agrees that the delay is attributable to a force majeure, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure.

51. If Respondents elect to invoke the dispute resolution procedures set forth in Section XIV (Dispute Resolution), they shall do so no later than fifteen (15) days after receipt of EPA's notice. In any such proceeding, Respondents 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, 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 Respondents complied with the requirements of Paragraphs 48 and 49. If Respondents carry this burden, the delay at issue shall be deemed not to be a violation by Respondents of the affected obligation of this Settlement identified to EPA.

52. The failure by EPA to timely complete any obligation under the Settlement is not a violation of the Settlement, provided, however, that if such failure prevents Respondents from meeting one or more deadlines under the Settlement, Respondents may seek relief under this Section.

XVI. STIPULATED PENALTIES

53. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraph 54 for failure to comply with the requirements of this Settlement specified below, unless excused under Section XV (Force Majeure). "Compliance" by Respondents shall include completion of all activities and obligations required under this Settlement, or any deliverable approved under this Settlement, in accordance with all applicable requirements of law, this Settlement, and any deliverables approved under this Settlement and within the specified time schedules established by and approved under this Settlement.

54. Stipulated Penalty Amounts - Deliverables. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate deliverables pursuant to this Settlement:

| <u>Penalty Per Violation Per Day</u> | <u>Period of Noncompliance</u> |
|--------------------------------------|--------------------------------|
| \$250 | 1st through 14th day |
| \$500 | 15th through 30th day |
| \$1000 | 31st day and beyond |

55. In the event that EPA assumes performance of all or any portion(s) of the Work pursuant to Paragraph 66 (Work Takeover), Respondents shall be liable for a stipulated penalty in the amount of \$10,000.

56. 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 Paragraph 18 (Work Plan and Implementation), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (b) with respect to a decision by the EPA Management Official at the Division Director level or higher, under Paragraph 46 of Section XIV (Dispute Resolution), during the period, if any, beginning the 21st day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing in this Settlement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement. Penalties shall continue to accrue during any dispute resolution period, and shall be paid within 15 days after the agreement or the receipt of EPA's decision or order.

57. Following EPA's determination that Respondents have failed to comply with a requirement of this Settlement, EPA may give Respondents written notification of the failure and describe the noncompliance. EPA may send Respondents a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.

58. All penalties accruing under this Section shall be due and payable to EPA within 30 days after Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the Dispute Resolution procedures under Section XIV (Dispute Resolution) within the 30-day period. All payments to EPA under this Section shall indicate that the payment is for stipulated penalties, and Respondents shall make payment to EPA by Fedwire Electronic Funds Transfer (EFT) to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York, NY 10045

Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number C5N8_01 and the EPA docket number for this action.

59. If Respondents fail to pay stipulated penalties when due, Respondents shall pay Interest on the unpaid stipulated penalties as follows: (a) if Respondents have 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 56 until the date of payment; and (b) if Respondents fail to timely invoke dispute resolution, Interest shall accrue from the date of demand under Paragraph 58 until the date of payment. If Respondents fail to pay stipulated penalties and Interest when due, the United States may institute proceedings to collect the penalties and Interest.

60. The payment of penalties and Interest, if any, shall not alter in any way Respondents' obligation to complete the performance of the Work required under this Settlement.

61. Nothing in this Settlement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Settlement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(*l*) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(*l*), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), provided however, that EPA shall not seek civil penalties pursuant to Section 106(b) or Section 122(*l*) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Settlement, except in the case of a willful violation of this Settlement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 66 (Work Takeover).

62. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement.

XVII. COVENANTS BY EPA

63. Except as provided in Section XVIII (Reservations of Rights by EPA), EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work. These covenants shall take effect upon the Effective Date. These covenants are conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Settlement. These covenants extend only to Respondents and do not extend to any other person.

XVIII. RESERVATIONS OF RIGHTS BY EPA

64. Except as specifically provided in this Settlement, nothing in this Settlement shall limit the power and authority of EPA or the United States to take, direct, or order all actions

necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

65. The covenants set forth in Section XVII (Covenants by EPA) do not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

- a. liability for failure by Respondents to meet a requirement of this Settlement;
- b. liability for Future Response Costs and for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;
- e. liability for violations of federal or state law that occur during or after implementation of the Work;
- f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- g. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and
- h. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

66. Work Takeover.

- a. In the event EPA determines that Respondents: (1) have ceased implementation of any portion of the Work; (2) are seriously or repeatedly deficient or late in their performance of the Work; or (3) are implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice ("Work Takeover Notice") to Respondents. Any Work Takeover Notice issued by EPA (which writing may be electronic) will specify the grounds upon which such notice was issued and will provide Respondents a period of five (5) business days within which to remedy the circumstances giving rise to EPA's issuance of such notice.

- b. If, after expiration of the 5-day notice period specified in Paragraph 66.a, Respondents have 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 portion(s) of the Work as EPA deems necessary ("Work Takeover"). EPA will notify Respondents in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Paragraph 66.b.
- c. Respondents may invoke the procedures set forth in Paragraph 46 (Formal Dispute Resolution) to dispute EPA's implementation of a Work Takeover under Paragraph 66.b. However, notwithstanding Respondents' 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 66.b until the earlier of (1) the date that Respondents remedy, to EPA's satisfaction, the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, or (2) the date that a written decision terminating such Work Takeover is rendered in accordance with Paragraph 46 (Formal Dispute Resolution).
- d. Notwithstanding any other provision of this Settlement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XIX. COVENANTS BY RESPONDENTS

67. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work and this Settlement, including, but not limited to:

- a. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund through Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;
- b. any claims under Sections 107 and 113 of CERCLA, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), or state law regarding the Work and this Settlement;
- c. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, or at common law.

68. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to any of the reservations set forth in Section XVIII (Reservations of Rights by EPA), other than in Paragraph 65.a (liability for failure to meet a

requirement of the Settlement), 65.d (criminal liability), or 65.e (violations of federal/state law during or after implementation of the Work), but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

69. Nothing in this Settlement shall be deemed to constitute approval or 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).

70. Respondents reserve, and this Settlement 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 Respondents' deliverables or activities.

XX. OTHER CLAIMS

71. By issuance of this Settlement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or EPA shall not be deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement.

72. Except as expressly provided in Section XVII (Covenants by EPA), nothing in this Settlement constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Settlement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages, and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

73. No action or decision by EPA pursuant to this Settlement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXI. EFFECT OF SETTLEMENT/CONTRIBUTION

74. Nothing in this Settlement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Settlement. Except as provided in Section XIX (Covenants by Respondents), 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 Settlement 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).

75. The Parties agree that this Settlement constitutes an administrative settlement pursuant to which each Respondent has, as of the Effective Date, resolved liability to the United States within the meaning of Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), and is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, or as may be otherwise provided by law, for the “matters addressed” in this Settlement. The “matters addressed” in this Settlement are the Work.

76. The Parties further agree that this Settlement constitutes an administrative settlement pursuant to which each Respondent has, as of the Effective Date, resolved liability to the United States within the meaning of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

77. Each Respondent shall, with respect to any suit or claim brought by it for matters related to this Settlement, notify EPA in writing no later than sixty (60) days prior to the initiation of such suit or claim. Each Respondent also shall, with respect to any suit or claim brought against it for matters related to this Settlement, notify EPA in writing within ten (10) days after service of the complaint or claim upon it. In addition, each Respondent shall notify EPA within ten (10) days after service or receipt of any Motion for Summary Judgment and within ten (10) days after receipt of any order from a court setting a case for trial, for matters related to this Settlement.

78. In any subsequent administrative or judicial proceeding initiated by EPA, or by the United States on behalf of EPA, for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondents 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 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 covenant by EPA set forth in Section XVII (Covenants by EPA).

XXII. INDEMNIFICATION

79. The United States does not assume any liability by entering into this Settlement or by virtue of any designation of Respondents as EPA’s authorized representatives under Section 104(e) of CERCLA, 42 U.S.C. § 9604(e), and 40 C.F.R. 300.400(d)(3). Respondents H. Kramer and BNSF shall indemnify, save, and hold harmless the United States, its officials, agents, employees, contractors, subcontractors, and 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 Respondents H. Kramer and BNSF, their respective officers, directors, employees, agents, contractors, or subcontractors, and any persons acting on their behalf or under their control, in

carrying out activities pursuant to this Settlement. Further, Respondents H. Kramer and BNSF agree to pay the United States all costs it incurs, 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 based on negligent or other wrongful acts or omissions of Respondents H. Kramer and BNSF, their respective officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Settlement. Neither Respondents nor any contractor for any Respondent shall be considered an agent of the United States; and without limitation to the foregoing, neither the City, nor the City of Chicago Department of Transportation, any other agency or department of the City, or any other or any contractor doing any work for the City shall be considered an agent of the United States.

80. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

81. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents 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, Respondents H. Kramer and BNSF, respectively, shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any respective contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXIII. INSURANCE

82. No later than ten (10) days before commencing any on-site Work, Respondents shall secure, and shall maintain until the first anniversary after issuance of Notice of Completion of Work pursuant to Section XXV (Notice of Completion of Work), commercial general liability insurance with limits of \$1.0 million, for any one occurrence, and automobile insurance with limits of \$1.0 million, combined single limit, naming EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Settlement. In addition, for the duration of the Settlement until Notice of Completion is issued pursuant to Paragraph 86, Respondents shall provide EPA with certificates of such insurance. Respondents shall resubmit such certificates each year on the anniversary of the Effective Date. Any Respondent that is self-insured shall provide a letter to EPA certifying Respondent's self-insured status within seven (7) days of the Effective Date and resubmit such letter each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement, Respondents shall satisfy, or shall ensure that their 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 Respondents in furtherance of this

Settlement. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an lesser amount, Respondents need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor.

XXIV. MODIFICATION

83. The OSC may modify any plan or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement may be modified in writing by mutual agreement of the parties.

84. If Respondents seek permission to deviate from any approved work plan or schedule, Respondents' Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondents may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 83.

85. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding any deliverable submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Settlement, or to comply with all requirements of this Settlement, unless it is formally modified.

XXV. NOTICE OF COMPLETION OF WORK

86. When EPA determines, after EPA's review of the Final Report, that all Work has been fully performed in accordance with this Settlement, with the exception of any continuing obligations required by this Settlement, including Post-Removal Site Controls, land, water, or other resource use restrictions, or record retention, EPA will provide written notice to Respondents. If EPA determines that such Work has not been completed in accordance with this Settlement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the Removal Work Plan if appropriate in order to correct such deficiencies. Respondents shall implement the modified and approved Removal Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondents to implement the approved modified Removal Work Plan shall be a violation of this Settlement. Upon EPA's issuance of Notice of Completion, this Administrative Order on Consent shall be deemed to be terminated, provided that the Record Retention obligations of Section XI shall survive such termination.

XXVI. INTEGRATION/APPENDICES

87. This Settlement and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement. The parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Settlement. The following appendices are attached to and incorporated into this Settlement: Appendix A

(showing Site location and boundaries); Appendix B (Action Memorandum); Appendix C (Removal Work Plan); and Appendix D (TCLP Lead Location Map).


XXVII. EFFECTIVE DATE

88. This Settlement shall be effective seven (7) days after the Settlement is signed by the Director of the Superfund Division of EPA Region 5.

IT IS SO AGREED AND ORDERED:

U.S. ENVIRONMENTAL PROTECTION AGENCY:

9-29-15
Dated



Name RICHARD C KARL
Director, Superfund Division
Region 5
U.S. Environmental Protection Agency

**Signature Page for Settlement Regarding the Pilsen Soil Operable Unit 1 Railroad Spur
and Alley Site, Chicago, Illinois**

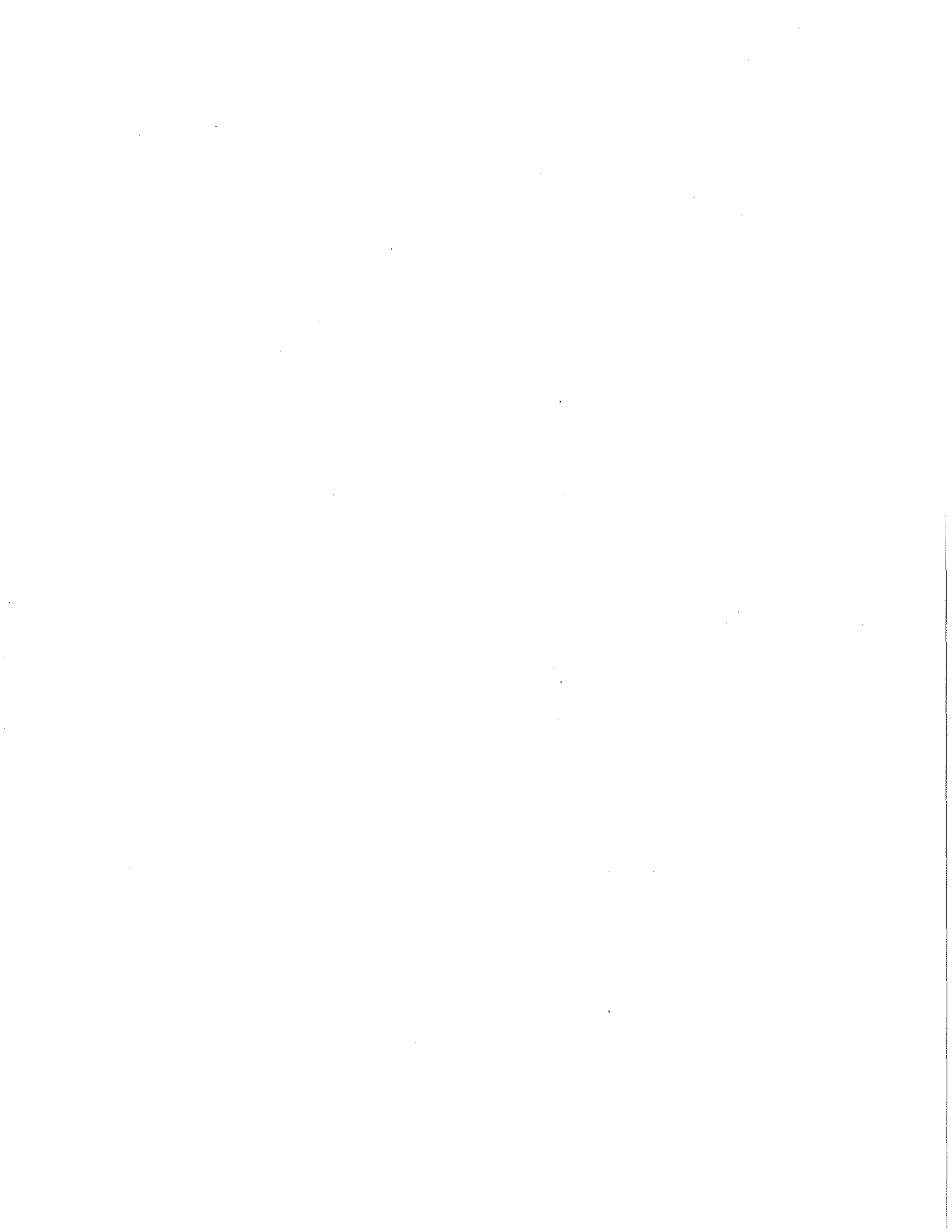
The undersigned representative of Respondent H. Kramer & Co. certifies that he is fully authorized to enter into the terms and conditions of this Settlement and to bind the party he represents to this document.

FOR: _____
H. Kramer & Co.

9/25/2015
Dated



Randall K. Weil
Executive Vice President
H. Kramer & Co.

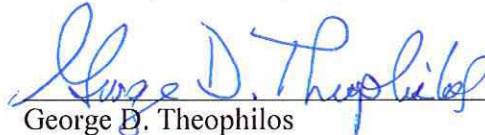


Signature Page for Settlement Regarding the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site, Chicago, Illinois

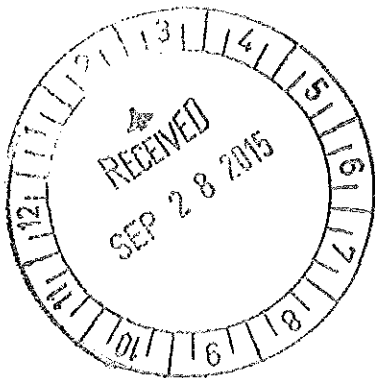
The undersigned representative of Respondent City of Chicago certifies that he is fully authorized to enter into the terms and conditions of this Settlement and to bind the party he represents to this document.

FOR: _____
City of Chicago

9/25/15
Dated



George D. Theophilos
Senior Corporation Counsel
City of Chicago




**Signature Page for Settlement Regarding the Pilsen Soil Operable Unit 1 Railroad Spur
and Alley Site, Chicago, Illinois**


The undersigned representative of Respondent BNSF Railway Company certifies that he is fully authorized to enter into the terms and conditions of this Settlement and to bind the party he represents to this document.

FOR: _____
BNSF Railway Company

9/25/15
Dated



Allen M. Stegman
General Director, Remediation and Environmental
Programs
BNSF Railway Company

Approved as to form:

Brooke Gaudin



**In the Matter of Pilsen Soil Operable Unit 1 Railroad
Spur and Alley Site, Chicago, Illinois**

**Appendix A
Site Location and Boundaries**

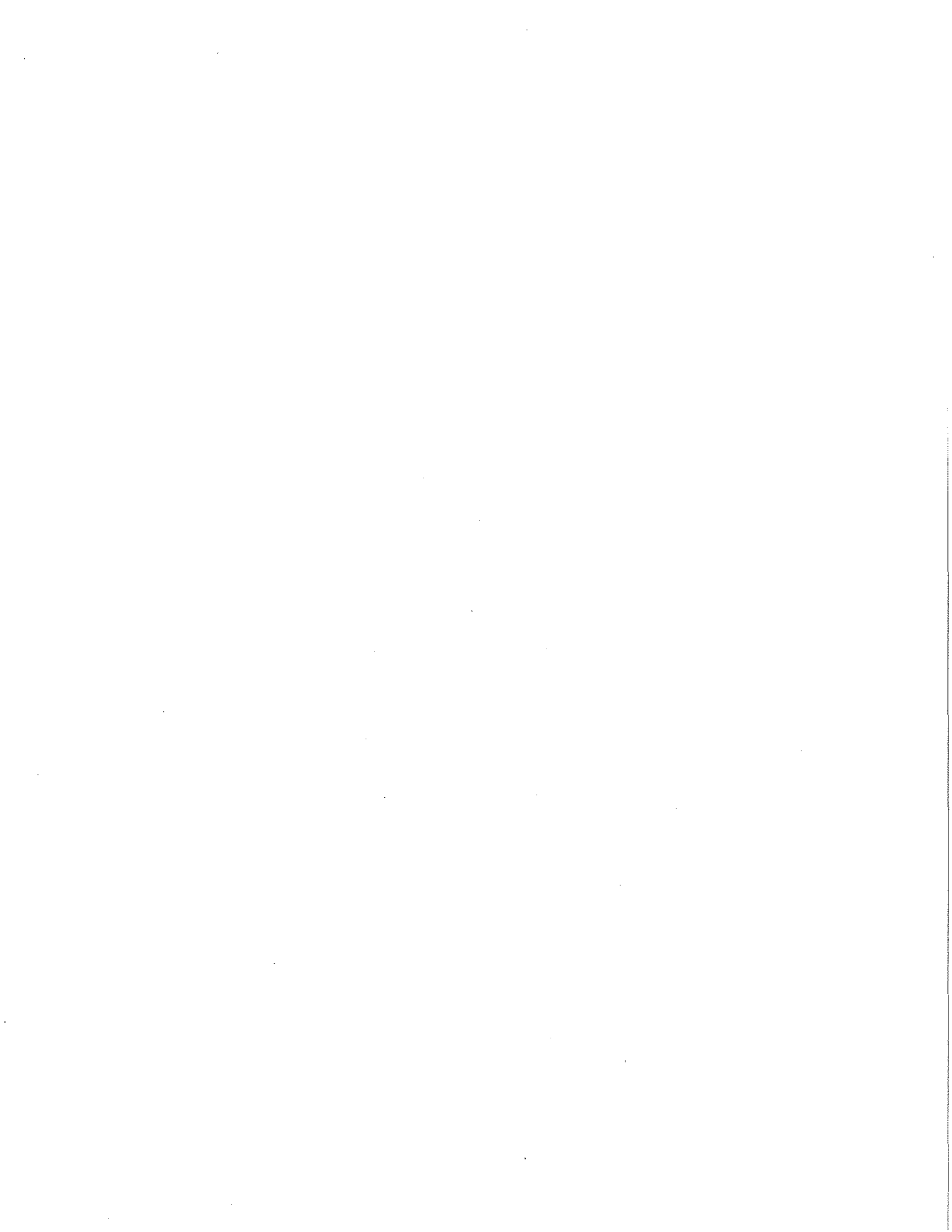
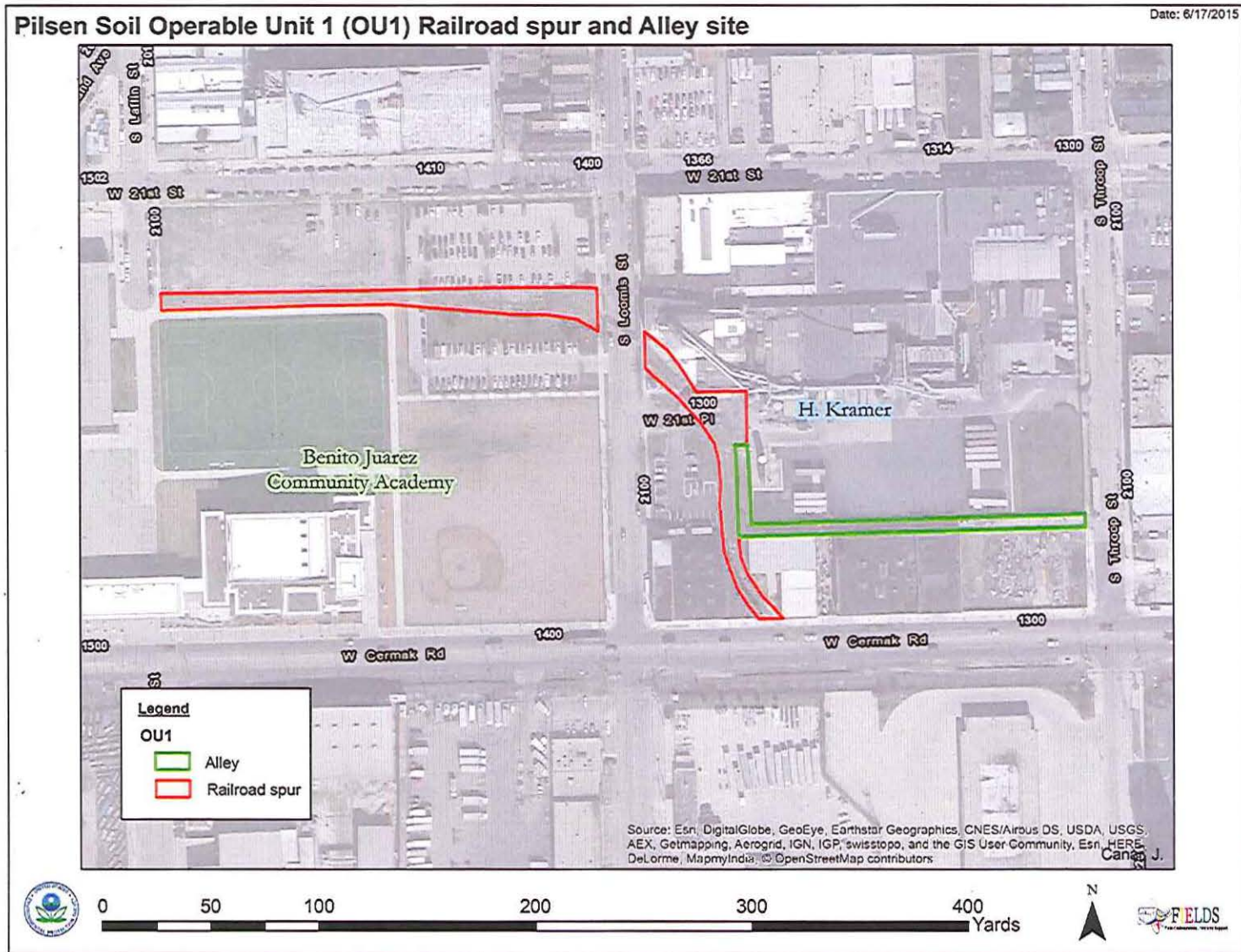


Figure 1-2 Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site



**In the Matter of Pilsen Soil Operable Unit 1 Railroad
Spur and Alley Site, Chicago, Illinois**

**Appendix B
Action Memorandum**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

US EPA RECORDS CENTER REGION 5



476669

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: ACTION MEMORANDUM—Request for Approval and Funding for a Time-Critical Removal Action at the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site, Chicago, Cook County, Illinois (Site ID C5N8_01)

FROM: Ramon Mendoza, On-Scene Coordinator *RWM for*
Removal Response Section 3

THRU: Samuel Borries, Chief *Sam Borries*
Emergency Response Branch 2

TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document your approval to expend up to \$1,144,541 to conduct a time-critical removal action at the Pilsen Soil Operable Unit (OU) 1 Railroad Spur and Alley Site, Chicago, Cook County, Illinois (Site ID C5N8_01). The proposed time-critical removal action herein will mitigate threats to public health, welfare and the environment posed by the presence of lead-contaminated surface soil on industrial properties at the Site by the capping, immobilization, and proper excavation and off-site disposal of lead contaminated soil.

This Action Memorandum serves as approval for expenditures by USEPA, as the lead technical agency, to take actions described herein to abate the imminent and substantial endangerment posed by hazardous substances at the Site. The proposed removal of hazardous substances would be taken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415. Based on the level of hazardous substances and the threat to the community, this removal action is considered time-critical. The project will require an estimated 45 working days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: ILN000504472

RCRA ID: ILD 005 067 772

State ID: None

Category: Time-Critical

A. Site Description

The Site consists of an alley (owned by the City of Chicago) and a railroad spur (historically operated by Burlington Northern Santa Fe Railway [BNSF]) located in the Lower West Side (Pilsen) area of Chicago, Cook County, Illinois (Figures 1-1 and 1-2). The Site is in the City's 25th Ward. The east to west portion of the alley is approximately 460 feet (ft) long and 18 ft wide (approximately 8,280 square feet [ft²] in area) and is roughly paved with asphalt over 25% of its length from the east side (Figure 1-2). The north to south portion of the alley is about 110 feet long. The remaining 75% of the alley is soil.¹ The alley, connects South Loomis Street and South Throop Street, south of West 21st Street and north of West Cermak Road. The alley is bordered to the north by H. Kramer and Company (H. Kramer), the east by South Throop Street, to the south by commercial and industrial businesses, and to the west by the railroad spur and then South Loomis Street.(Figure 1-2).

The railroad spur is approximately 1,120 ft long and 28,215 ft² in total area. The railroad spur consists of an unused rail track and soil² and asphalt where it is bisected by South Loomis Street (not part of the Site, Figure 1-2). The western portion of the railroad spur is located in the north region of a property occupied by the Benito Juarez Community Academy (Juarez), located at 1450-1510 West Cermak Road. The railroad spur curves to the south, crosses South Loomis Street, and extends along the west boundary of H. Kramer, located at 1345 West 21st Street. The eastern portion of the railroad spur is bordered by a former tire service company to the west (Tire Grading Company, 1358 West Cermak Road), a metal processing company to the east (Wheeling Metal Processing Company, 1338 West Cermak Road), and West Cermak Road to the south. According to a historical Sanborn fire insurance map, the railroad spur and the alley have existed since at least 1914.

The Site is an industrial site in a residential neighborhood with a portion of it (Western Area of the Railroad Spur west of Loomis Street) located within a ¼-mile of two schools - Juarez and the Manuel Perez Jr. Elementary School (Perez). Two City of Chicago parks are located within a ½-mile-radius of the Site, Dvorak Park and Throop Park. In 2010, approximately 40,983 people lived within 1 mile of the Site. Please See Figure 2-1 and Attachment II (Environmental Justice

¹ As observed during the removal site evaluation, the alley and railroad spur soil (surface soil and subsurface soil) generally consisted of silty, clayey, sandy, and gravelly fill materials. In the alley soil, some traces of wood chips, cinders, and pieces of glass, brick, plastic debris, and slag [slag was observed in eight alley soil borings and one railroad spur soil boring]. Slag is a solid-phase waste generated by secondary lead processing (USEPA 1995)]. In general, the surface and subsurface railroad soil contained more gravel than the alley soil. The western portion of the railroad spur west of Loomis street also contained vegetation (weeds) and garbage.

² Same as 1

Analysis). The Chicago Sanitary and Ship Canal is located approximately 0.45 miles to the south. According to National Oceanic and Atmospheric Administration (NOAA) meteorological data collected from 1928 to 2013, the predominant wind direction in the Chicago, Illinois area is from the southwest. Figure 2-2 presents a projected wind direction swath superimposed over the southwest region of the Site.

H. Kramer is among the suspected present and historical industrial sources of lead air emissions in the Site area. H. Kramer is a corporation that owns and operates a secondary nonferrous metals facility manufacturing primarily brass and bronze ingots, where a portion of the facility's production capacity is devoted to lead-containing metal alloys. In general, the secondary production of lead begins with the recovery of old scrap from worn-out, damaged, or obsolete products and new scrap that is made of product wastes and smelter-refinery drosses, residues, and slags. Secondary lead processing results in the generation of air emissions and solid-phase wastes. Reverberatory and blast furnaces used in smelting account for the vast majority of the total lead emissions. Other emissions from secondary smelting include oxides of sulfur and nitrogen, antimony, arsenic, copper, and tin. The solid-phase wastes generated by secondary processing include emission control dust and slag. Slag produced during lead processing is composed of iron, calcium, and silicon oxides, aluminum, and potentially several other metals in smaller amounts including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, molybdenum, silver, and zinc (EPA, 1995). H. Kramer is listed in the EPA Toxic Release Inventory (TRI) System. TRI facilities are legally required to report to EPA, and EPA has tracked both fugitive and stack emissions from H. Kramer from 1987 to 2013. Fugitive emissions are emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening, and often occur during leaks from pressurized equipment or during material transfer. From 1987, approximately 54,366 pounds of lead, 832,567 pounds of zinc, and 6,782 pounds of copper have been released via fugitive and stack emissions according to the TRI system (EPA TRI Report 2015). High levels of lead in onsite surface soil at H. Kramer was documented during the facility's voluntary soil cleanup conducted under oversight by the Illinois EPA (completed in 2011). Fugitive air emissions containing lead in violation of the Clean Air Act (CAA) from H. Kramer has also been documented by EPA during the course of its own enforcement actions which resulted in a settlement agreement in January 2013 to install state of the art air pollution controls at the facility. Based on the aforementioned history of release of zinc, copper and lead, at H. Kramer and its close proximity to the alley and railroad spur, EPA expected to find elevated levels of lead, zinc and copper in the soil in the alley and railroad spur (Site).

1. Removal Site Evaluation

In December 2012 and May 2013, EPA and its START contractors initiated its evaluation of the potential impacts of possible aerial deposition of heavy metals from historic industrial activity in the vicinity of the Site. In addition, soil samples were collected (in August 2013) in the Little Italy area about 1 mile north of the Site so that results could be compared to a reference area as part of the evaluation. Soil samples were also collected in the Western area of the railroad spur in April 2015 to evaluate areas not previously sampled. In all areas, EPA received consent to access from the known owners. Sampling was conducted in accordance with approved field sampling plans, health and safety plans, and Quality Assurance Project Plans.

Alley Sampling: On December 19, 2012, EPA conducted a field sampling event at the alley portion of the Site. The alley was divided into 10 sections of roughly equal surface area. Within each section, a Geoprobe® drill rig was used to advance two soil borings to a depth up to 4 ft below ground surface (bgs). Twenty soil borings were advanced. The 0- to 6-, 6- to 12-, 12- to 24-, 24- to 36-, and 36- to 48-inch bgs intervals from each soil boring were placed into disposable polyethylene bags, homogenized, and screened for total metals using a handheld Innov-X Delta XRF analyzer.

Based on the results of the screening, 21 investigative samples were collected as follows:

- Ten composite samples were collected from the 10 sections of the alley, one composite from each section. Composite soil samples consisted of an aliquot of soil from both borings in a section, taken from the depth interval showing the highest total lead XRF screening concentration
- One additional composite sample was collected from 0 to 6 inches bgs from location AY-03 and three step-out locations 5 ft to the west, south, and east of AY-03.
- Ten grab soil samples were also collected from the alley. One grab soil sample was collected from one of the two borings within each of the 10 sections at the depth interval showing the highest total lead XRF screening concentration.

Soils collected for grab samples were taken directly from the disposable polyethylene bag used for screening and placed into two laboratory-provided glass sample jars. Soils collected for composite samples were placed into new disposable polyethylene bags, combined with equal aliquots of other intervals making up the composite, homogenized, and placed into two glass sample jars. One of the two soil sample jars was submitted to the National Enforcement Investigation Center (NEIC) who assisted in determining the source of the lead contamination. The second soil sample jar was analyzed by STAT for at least one of the following analyses: 1) Total Resource Conservation and Recovery Act (RCRA) metals (silver, arsenic, barium, cadmium, chromium, mercury, lead, and selenium) plus antimony, copper, tin, and zinc; 2) total lead coarse-grained fraction (grain size > 250 µm); 3) total lead - fine-grained fraction³ (grain size < 250 µm); 4) bioavailable lead; 5) toxicity characteristic leaching procedure (TCLP) RCRA metals; 6) pH and 7) moisture content.

Sampling results for the alley indicated that three samples contained TCLP lead concentrations that exceeded the TCLP lead regulatory limit of 5.0 mg/L. Therefore, these samples represent materials that meet the definition of hazardous waste by virtue of the characteristic of toxicity. See 40 C.F.R. § 261.24(b). Antimony, arsenic, copper, lead, and fine-grained lead were detected at concentrations above EPA Removal Management Levels (RML) for residential soil, hazard quotient (HQ) 3. Lead concentration averages and ranges were above the residential (400 mg/kg) and industrial (800 mg/kg) EPA RMLs. Since the Site is used for industrial purposes lead was identified as the main contaminant of concern. Lead results are summarized in Table 1:

³ Fine-grained lead: Based on the recommendation of the EPA toxicologist, an additional analysis for total lead (fine grain fraction) was added to the total lead analysis. This involved screening the sample through a 250 µm sieve and the smaller particles (<250µm) being analyzed for lead. Fine-grained lead are smaller particles which can be more easily disturbed and become airborne which results in a higher incidence of exposure to the residents. The fine-grained lead results were used for the risk assessment for the Site.

| Table 1 | Alley Surface Soil (0-6 inches bgs) Results | | | Alley Subsurface Soil (6-12 and 12-24 inches bgs) Results | | |
|--------------------------|--|----------------|----------------------|---|-------------|-------------------------|
| | No. of Samples* | Average* | Range | No. of Samples* | Average* | Ranges |
| Total Lead | 11 | 2,419 mg/kg | 63 - 5,600 mg/kg | 10 | 6,300 mg/kg | 1,600 - 16,000 mg/kg |
| Fine-Grained Lead | 11 | 2,662 mg/kg | 180 - 6,600 mg/kg | 10 | 4,980 mg/kg | 2,000 - 9,300 mg/kg |

*Number of samples and average calculations do not include duplicate samples

Surface Soil : Total Lead - 2 out of 11 samples below 800 mg/kg RML ;

Lead Fines - 1 out of 11 samples below 800 mg/kg RML;

Subsurface Soil : Total Lead - 0 of 10 samples below 800mg/kg RML

Lead Fines - 0 of 10 samples below 800mg/kg RML

Railroad Spur Sampling: On May 6, 2013 EPA used a Geoprobe® drill rig to advance 16 soil borings to 2 feet bgs at the railroad spur portion of the Site. The 0- to 6-, 6- to 12-, and 12- to 24-inch bgs intervals of each soil boring were placed into disposable polyethylene bags, homogenized, and screened for total metals using EPA's Innov-X Alpha Series XRF analyzer. Twelve investigative composite soil samples were collected from 13 locations on the railroad spur and submitted for analytical laboratory analysis. Composite samples consisted of equal aliquots collected from two or three adjacent borings, from either 0 to 6 or 6 to 24 inches bgs. Soils from composite samples were homogenized in disposable polyethylene bags before placing into one or two sample jars (two if the sample was analyzed for bioavailable lead). Soil samples were submitted for at least one of the following analyses: 1) Select total metals (antimony, copper, cadmium, chromium, mercury, lead, tin, and zinc); 2) total lead fine-grained fraction (grain size < 250 µm); 3) bioavailable lead; and 4) pH.

Two samples contained TCLP lead concentrations that exceeded the TCLP lead regulatory limits and meet the definition of hazardous waste by virtue of the characteristic of toxicity. Copper, lead, fine-grained lead, and zinc were detected at concentrations above EPA RMLs for residential soil, HQ 3. Lead concentration averages and ranges were above the residential and industrial RML and are summarized in Table 2:

| Table 2 | Railroad Spur Surface Soil (0-6 inches bgs) Results | | | Railroad Spur Subsurface Soil (6-24 inches bgs) Results | | |
|--------------------------|--|----------------|-----------------------|--|-------------|------------------------|
| | No. of Samples* | Average* | Range | No. of Samples* | Average* | Ranges |
| Total Lead | 6 | 4,340 mg/kg | 940 - 11,000 mg/kg | 6 | 2,417 mg/kg | 1,000 - 5,500 mg/kg |
| Fine-Grained Lead | 6 | 6,950 mg/kg | 900 - 23,000 mg/kg | 6 | 3,297 mg/kg | 980 - 9,500 mg/kg |

*Number of samples and average calculations do not include duplicate samples

Surface Soil : Total Lead - 0 out of 6 samples below 800 mg/kg RML ;

Lead Fines - 0 out of 6 samples below 800 mg/kg RML;

Subsurface Soil : Total Lead - 0 of 6 samples below 800mg/kg RML

Lead Fines - 0 of 6 samples below 800mg/kg RML

Western Area of Railroad Spur Soil Sampling: On April 27, 2015, EPA conducted additional investigative activities at the location known as “Western Area” as part of the removal site evaluation for the Site. The Western Area is about a 500 foot section of the western portion of the railroad spur directly north of the soccer field and parking lot of Benito Juarez High School. Soil samples had been collected in other portions of the Site’s railroad spur in May 2013. Sample locations were set approximately 50 feet apart east and west across the railroad spur for a total of 10 sample locations. In general, soil samples were collected using steel hand augers from 0-6 inches and from 6-24 inches below ground surface. Soil was collected and composited at the 0-6 inch interval and 6-24 inch intervals for screening with an XRF. Two soil samples were collected from each sample location for a total of 20 samples which were sent to a laboratory for analysis. Lab analyses were conducted for: 1) Total metals: cadmium, copper, lead, tin, and zinc; 2) TCLP lead; and 3) lead fines.

The results indicate that lead was the only metal that exceeded the EPA industrial RML. Surface results are shown in Figure 3 and Table 4.)

| Table 4 | Western Area of Railroad Spur Surface Soil (0-6 inches bgs) Results | | | Western Area of Railroad Spur Subsurface Soil (6-24 and 6-18 inches bgs) Results | | |
|-------------------|---|-------------|-------------------|--|-----------|-------------------|
| | No. of Samples | Average | Range | No. of Samples | Average | Ranges |
| Total Lead | 10 | 1,336 mg/kg | 499 - 2,290 mg/kg | 10 | 530 mg/kg | 168 - 1,350 mg/kg |
| Fine-Grained Lead | 10 | 2,074 mg/kg | 898 - 3,540 mg/kg | 10 | 931 mg/kg | 358 - 2,730 mg/kg |

*Number of samples and average calculations do not include duplicate samples

Note: Surface Soil : Total Lead - 1 out of 10 samples below 800 mg/kg RML ;
 Lead fines – 0 out of 10 samples below 800 mg/kg RML;
 Subsurface Soil : Total Lead - 8 of 10 samples below 800mg/kg RML
 Lead Fines - 5 of 10 samples below 800mg/kg RML

In general, Western Area surface soil lead concentrations were greater than the subsurface soil, or decreased with increasing depth at each location. In addition, lead concentrations indicated a decreasing trend from east to west, as one traveled further away from H. Kramer in the predominant upwind direction. As explained below, elevated lead concentrations were co-located with elevated zinc concentrations. The zinc to lead ratios indicated a pattern greater than the Little Italy reference area (greater than 1), similar to zinc to lead ratios found on H. Kramer’s facility and further east along the railroad spur.

Little Italy Reference Area Soil Sampling: In August 2013, EPA conducted a field sampling event in the Little Italy reference area, which is located approximately 1.2 miles north of the Site (See Figure 1-1 for location). Data collected from this area served as a reference for soil suspected to be less impacted by heavy metal emitters near the Site. The results are tabulated below in Table 5.

| Table 5 | Little Italy Surface Soil (0-6 inches bgs) Results | | | Little Italy Subsurface Soil (6-24 and 6-18 inches bgs) Results | | |
|--------------------------|---|----------|-------------------|---|-----------|----------------------|
| | No. of Samples* | Average* | Range | No. of Samples* | Average* | Ranges |
| Total Lead | 11 | 249 | 66-760 mg/kg | 3 | 431 mg/kg | 92 - 930 mg/kg |
| Fine- Grained Lead | 11 | 335 | 66-1,300 mg/kg | 3 | 640 mg/kg | 150 - 1,400 mg/kg |

*Number of samples and average calculations do not include duplicate samples

Surface Soil : Total Lead – 11 out of 11 samples below 800 mg/kg RML ;

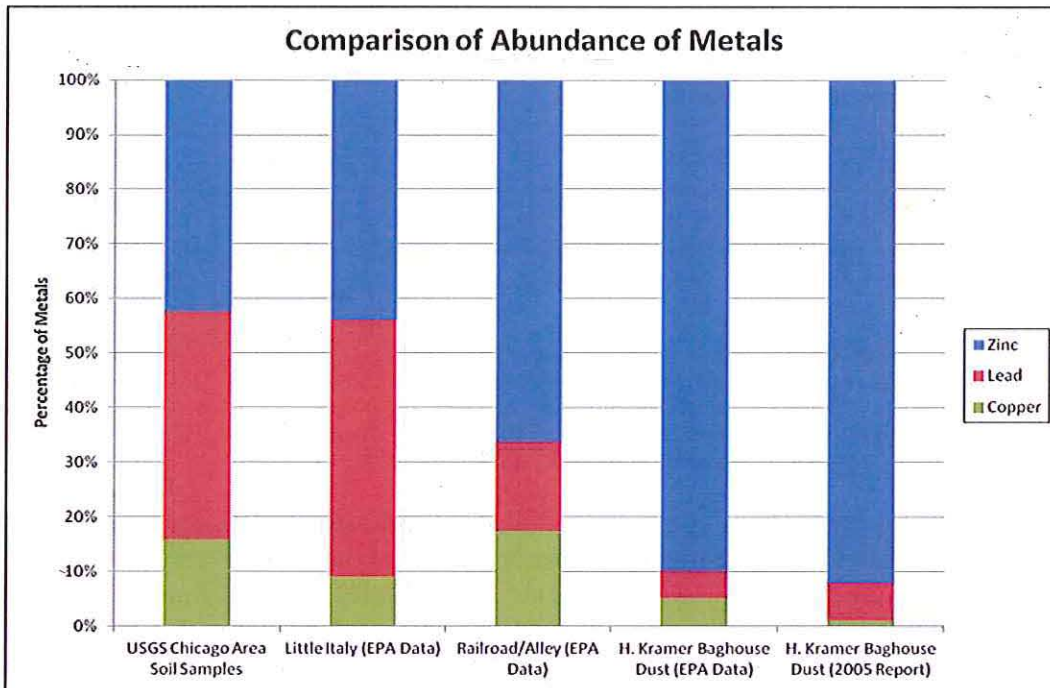
Lead Fines – 10 out of 11 samples below 800 mg/kg RML;

Subsurface Soil : Total Lead - 0 of 3 samples below 800mg/kg RML

Lead Fines - 0 of 3 samples below 800mg/kg RML

EPA FIELDS Statistical Study (Nov. 2014): EPA's Field Environmental Decision Support (FIELDS) Team used statistical software to compare analytical laboratory concentrations of cadmium, copper, lead, fine-grained lead, tin, and zinc from samples collected from 0 to 6 inches bgs at the Site, the Little Italy reference area, and the City of Chicago background study (USGS, 2003). Analytical laboratory concentrations of cadmium, copper, lead, fine-grained lead, tin, and zinc in Site soil samples were significantly higher (p -value < 0.05) than in the samples collected from the Little Italy reference area and the City of Chicago background study. These results suggest the Little Italy reference area and the City of Chicago background have not been impacted by the same emitters of heavy metals, nor to the same degree, as the alley and railroad spur.

EPA FIELDS also compared the relative abundances of lead, zinc, and copper between the Site, City of Chicago background, Little Italy reference area, and two H. Kramer baghouse datasets (See Graph: Comparison of Abundance of Metals, below). Zinc, lead, and copper were present in the City of Chicago background samples at approximately 42, 42, and 16 %, respectively. Similarly, zinc, lead, and copper were present in Little Italy reference area samples at approximately 44, 47, and 9 %, respectively. A higher relative abundance of zinc and a lower relative abundance of lead were present in surface soil samples collected from the Site at approximately 66, 16, and 17 % zinc, lead, and copper, respectively. An even higher relative abundance of zinc and lower relative abundance of lead were present in H. Kramer baghouse samples at approximately 92, 7, and 1% zinc, lead, and copper, respectively for samples analyzed by H. Kramer (2005) and 90, 5, and 5 % zinc, lead, and copper, respectively for baghouse samples analyzed by EPA. Based on the higher abundance of zinc (22-24% higher) and lower relative abundance of lead (26-31 % lower) in Site soils compared to the City of Chicago background study and the Little Italy reference area, the Site also appears to have been impacted by a release of zinc, in addition to the release of lead. H. Kramer baghouse samples contained 90-92 % zinc and approximately 832,567 pounds of zinc have been released via fugitive and stack emissions since 1987 (EPA 2013a). While this analysis does not attribute a release of lead to H. Kramer, within the City of Chicago, detections of lead and zinc have been found to be highly correlated ($R^2 = 0.91$), suggesting that two elements have been added to soil largely from the same material or process rather than independently distributed constituents (USGS 2003)



Furthermore, based on the presence of slag in Site soil borings, analytical laboratory results for Site soil samples, and EPA FIELDS comparisons to the Little Italy reference area and City of Chicago background study (USGS 2003), the Site appears to have been impacted by an industrial release of cadmium, copper, tin, zinc, and lead.

EPA NEIC Report (Feb. 2015) - NEIC evaluated the analytical results and soil samples from the alley, railroad, and reference soils from the Pilsen neighborhood and compared them to H. Kramer baghouse dust, and H. Kramer slag data. Results were consistent with brass and bronze foundry materials (emissions dust or slag) as the predominant sources of lead in the alley and railroad. Specifically: 1) Micrometer scale Zn-oxide particles were found in the railroad soil were similar to micrometer scale Zn-oxide particles observed in the baghouse dust of H. Kramer; 2) Relative elemental concentrations indicated similar relative abundances of copper, lead, and tin in H. Kramer baghouse dust and in alley and railroad soils near H. Kramer. H. Kramer is the only brass and bronze foundry to have ever operated within 0.5 miles of the Site.

1. Physical Location

The geographical coordinates for the alley portion of the Site are 41° 51' 10.38" North latitude and 87° 39' 35.54" West longitude. The geographical coordinates for the railroad portion of the Site are 41° 51' 13.58" North latitude and 87° 39' 41.66" West longitude. (See Figures 1-1, 1-2, and 2-1 for more information).

An Environmental Justice (EJ) analysis for the Site is contained in Attachment II. Screening of the surrounding area used Region 5's EJ Screen Tool. EPA has reviewed the environmental and

demographic data for the area surrounding the Site and determined there is a high potential for EJ concerns at this location. For more details, see Attachment II.

2. Site Characteristics

The alley and railroad portions of the Site are currently being used for parking, vehicle traffic, and foot traffic. The railroad spur portion of the Site is no longer operated as a railroad as of 2013. Numerous portions of the Site are unfenced and may be used as a walkway for pedestrians. Most of the pedestrian traffic consists of workers from the businesses around the immediate area. However, pedestrian traffic on Loomis street adjacent to the Site also includes students and residents in the area. The Western Area of the railroad spur, which runs about 500 feet west of Loomis, is mostly abandoned rail tracks that are fenced off and intersected by a small asphalt driveway between the north and south parking lots for Juarez.

3. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant, or Contaminant

Analytical results from the investigation indicate that lead is the primary contaminant of concern. Lead is a "hazardous substance" by definition under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); *see also* 40 C.F.R. § 302.4. It has been released into the surface soil and at depth in the alley and railroad spur at concentrations above the industrial and residential USEPA RMLs of 800 and 400 mg/kg, respectively.

In addition, soil sample results showed TCLP lead concentrations that exceeded the TCLP lead regulatory limit. Therefore, these samples represent materials that meet the definition of hazardous waste by virtue of the characteristic of toxicity. *See* 40 C.F.R. § 261.24(b).

Average alley surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 2,419 and 2,662 mg/kg, respectively (N=12). Lead concentrations in surface soil samples collected in the alley ranged from 63 to 5,600 mg/kg. Fine-grained lead concentrations ranged from 180 to 6,600 mg/kg. (see Table 1)

Average railroad spur surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 4,340 and 6,950 mg/kg, respectively (N=6). Lead concentrations in surface soil samples collected from the railroad spur area (0-6 inches bgs) ranged from 940 to 11,000 mg/kg. Fine-grained lead concentrations ranged from 900 to 23,000 mg/kg. Fine-grained lead are smaller particles which can be more easily disturbed and become airborne which results in a higher incidence of exposure to the residents. The fine-grained lead results were used for the risk assessment for the Site. (See Table 2)

The lead from the Site has and can be released into the surrounding neighborhood, which includes residences and schools, through wind and rain runoff and through present use (such as people walking and driving vehicles over the Site, carrying lead contaminated soil off-Site).

The Site is not on the National Priorities List (NPL), and is not being proposed for inclusion on the NPL.

4. Maps, Pictures, and Other Graphic Representations

The following Figures are included as attachments:

- Figure 1 – Site Location Map;
- Figure 1-2 – Pilsen Soil OU1 Railroad Spur and Alley Site
- Figure 2-1 – Site Features Map;
- Figure 2-2 – Predominant Wind Pathway Map;
- Figure 3 – Western Area of Railroad Spur, Surface Soil Sampling Results;
- Figure 4-1 – Alley Results of Surface Soil Samples Summary;
- Figure 4-2 – Railroad Spur Results of Surface Soil Samples Summary.

5. Other Actions to Date

a. Previous Actions

BNSF installed temporary fencing at the railroad spur in April 2014 to limit access to workers and residents in the area. No other response actions have been taken at the Site since the EPA Removal Site Evaluation report was completed in April 2014.

b. Current Actions

No current actions by H. Kramer, BNSF, or local/state governments are underway at the Site.

6. State and Local Authorities' Roles

a. State and Local Actions to Date

No response actions have been taken by the State or City at the Site. However, the Illinois Environmental Protection Agency (Illinois EPA) oversaw a voluntary cleanup of H. Kramer's property adjacent to the Site. The cleanup was completed in 2012. Since the EPA Removal Site Evaluation was initiated in December 2012, the City of Chicago Department of Health (DOH) and the Aldermanic Office of Danny Solis (25th Ward) has coordinated with EPA's activities to investigate the Site and conduct community outreach to help educate and inform the residents.

b. Potential for Continued State/Local Response

EPA will continue to coordinate its enforcement and response actions at the Site with the appropriate agencies, including the Illinois EPA, Chicago DOH, and Alderman Solis's Office.

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

Conditions at the Site pose an imminent and substantial endangerment to public health, welfare, and the environment and meet the criteria for a time-critical removal action provided for in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415(b)(2). These criteria include, but are not limited to, the following:

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

Analysis of soil samples collected in surface and subsurface soils confirmed the presence of lead at concentrations exceeding the residential and industrial EPA RMLs of 400 and 800 mg/kg in almost every soil sampling location. Lead is a "hazardous substance" by definition under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); *see also* 40 C.F.R. § 302.4. Furthermore, three soil samples from the alley contained TCLP lead at concentrations of 12, 12, and 9.6 mg/L, and two soil samples from the railroad spur contained TCLP lead at concentrations of 12 and 13 mg/L. These TCLP lead concentrations exceed the TCLP lead regulatory limit of 5.0 mg/L at 40 C.F.R. § 261.24 (b), indicating these soils are hazardous for the characteristic of toxicity. Besides lead, antimony, arsenic, copper, and zinc were detected in Site soil above USEPA RMLs for residential soil, HQ 3.

Average alley surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 2,419 and 2,662 mg/kg, respectively (N=12). Lead concentrations in surface soil samples collected in the alley ranged from 63 to 5,600 mg/kg. Fine-grained lead concentrations ranged from 180 to 6,600 mg/kg. (See Figure 4-1 and Table 1).

Average railroad spur surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 4,340 and 6,950 mg/kg, respectively (N=6). Lead concentrations in surface soil samples collected from the railroad spur area (0-6 inches bgs) ranged from 940 to 11,000 mg/kg. Fine-grained lead concentrations ranged from 900 to 23,000 mg/kg. (See Figure 4-2 and Table 2).

Further, the Western Area portion of the railroad spur results indicate that the average surface soil total lead and fine grained lead concentrations (0-6 inches bgs) were 1,336 mg/kg and 2,074 mg/kg respectively. Total lead concentrations in the surface soil samples ranged from 499 mg/kg to 2,290 mg/kg. Fine grain lead concentrations ranged from 898 mg/kg to 3,540 mg/kg. Potential migration pathways and exposure mechanisms for the heavy metal contamination include human and animal activities on the Site, surface drainage, and wind dispersion. Potential receptors include school children, residents, and workers at adjacent industrial and commercial businesses. Direct contact with hazardous substances is possible, and the close proximity of residential areas and schools to the Site greatly increases the likelihood of exposure of human populations. Such exposure could cause an imminent and substantial endangerment to public health, welfare, and the environment.

The Site is a particular hazard to sensitive populations such as pregnant women and children. The Site is just south of a residential area, and 11,307 people live within 0.5 mile of the Site. Two schools, Juarez and Perez are located within a ¼-mile radius of the Site, with Juarez immediately adjacent to parts of the Site. School children may use the Site as a walkway, commuting to and from Juarez.

The Agency for Toxic Substances and Disease Registry (ATSDR) has studied the health effects of lead and determined that the harmful effects of lead exposure are more severe for young children and developing fetuses (through exposure to pregnant women). These effects include

premature birth, lower birth weight, decreased mental ability in infants, learning difficulties, and reduced growth in young children. Lead can affect almost every organ and system in the body, but the main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, ankles, and wrists. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production. The Department of Health and Human Services (DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens, and the EPA has determined that lead is a probable human carcinogen (ATSDR, CAS # 7439-92-1, August 2007).

A risk assessment for the railroad spur and alley was conducted by EPA which concluded that the soil concentrations of lead in the alley and railroad spur are at an unacceptable risk level to the residents in the neighborhood.

2. High levels of hazardous substances, pollutants, or contaminants in soil largely at or near the surface that may migrate.

Site assessment analytical results document high levels of hazardous substances (lead and TCLP lead concentrations) in soil at or near the surface. Average alley surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 2,419 and 2,662 mg/kg, respectively (N=12). Lead concentrations in surface soil samples collected in the alley ranged from 63 to 5,600 mg/kg. Fine-grained lead concentrations ranged from 180 to 6,600 mg/kg. Average railroad spur surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 4,340 and 6,950 mg/kg, respectively (N=6). Lead concentrations in surface soil samples collected from the railroad spur area (0-6 inches bgs) ranged from 940 to 11,000 mg/kg. Fine-grained lead concentrations ranged from 900 to 23,000 mg/kg. (See Table 1 and Table 2)

In addition to the high concentrations of total lead and fine-grained lead, two soil samples from the alley and one from the railroad spur collected from 0 to 6 inches bgs contained TCLP lead at concentrations exceeding the TCLP lead regulatory limit of 5.0 mg/L in 40 C.F.R. § 261.24(b).

Based on site assessment sampling results and the Site's unrestricted nature, hazardous substances in soil at or near the surface pose a threat of migration via wind, rain, vehicular and pedestrian traffic, or manual dispersion.

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

Cook County, Illinois receives a substantial amount of precipitation, and temperatures are normally below freezing during the winter, with regular snowfall. In the winter, the average temperature is 25.1°F and the average daily minimum temperature is 17.3°F. In the summer, the average temperature is 71.7°F, and the average daily maximum temperature is 81.7°F. The

average total annual precipitation is 38.65 inches and the average seasonal snowfall is 32.6 inches. The average wind speed is about 10.7 miles per hour (according to the National Weather Service). These weather conditions may cause water, wind, and freeze-thaw erosion of the Site's surface soil. Lead contaminated surface soil may migrate via wind and runoff off-site to other areas in the residential neighborhood.

IV. ENDANGERMENT DETERMINATION

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

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

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

- a) Develop and implement a Site-specific Health and Safety Plan, Sampling Plan, and Work Plan (Plans will include provisions for: air/particulate monitoring, dust control, & traffic control);
- b) Implement Site security measures as necessary;
- c) Based upon a Site-specific Sampling Plan, conduct extent of contamination sampling both on and off-site to confirm extent of contaminated soil impacted by historic Site activities, as appropriate (includes lab analyses);
- d) Conduct a treatability study (onsite) to determine if leachable metals can be treated prior to disposal (to lessen the cost of disposal) of excavated soils;
- e) Remove, consolidate, and dispose (or recycle as appropriate) non-hazardous site debris and vegetation, including the railroad rails and ties;
- f) **For the Western Area of the Railroad Spur (see Section II.A.1):**
 - i. Excavate, treat (if applicable), transport, and properly dispose of (in accordance with EPA's Off-Site Rule (40 CFR § 300.440)) lead-contaminated soil with concentrations above the industrial RML of 800 mg/kg for lead. Soils above the RML will be removed down to a depth of approximately 24 inches below ground surface to prevent direct contact with contaminated soil;

- ii. Conduct confirmatory soil screening using an XRF and collect samples for laboratory analysis to confirm that the clean-up goal [lead at 800 mg/kg] has been achieved;
 - iii. Backfill excavated areas with clean materials. Excavated areas where soil concentrations remain above the RML will have a demarcation barrier placed on the bottom of the excavation prior to being backfilled with clean material (soil or gravel);
 - iv. Restore excavated/disturbed areas and vegetate to prevent soil erosion.
- g) **For the alley and railroad spur east of South Loomis Street (except for the eastern portion of the alley with an asphalt cover, about 230 ft.):**
- i. Excavate, treat (if applicable), transport, and properly dispose of (in accordance with EPA's Off-Site Rule (40 CFR § 300.440)) lead-contaminated soil with concentrations above the industrial RML of 800 mg/kg for lead. Soils above the RML will be removed down to a depth necessary for installation of an asphalt road including the associated sub-base.
 - ii. Excavated areas where soil concentrations remain above the RML will have a demarcation barrier placed on the bottom of the excavation prior to being backfilled with clean material;
 - iii. Construct an asphalt cover in areas that were excavated within the Site alley and railroad spur.
- h) **For the eastern portion of the alley that has an asphalt cover (about 230 ft):**
Repair asphalt cover by patching any holes which expose soil or other alternative as appropriate to eliminate the ingestion exposure pathway.
- i) Take any necessary response actions to address any Site related release or threatened release of a hazardous substance, pollutant, or contaminant that the EPA determines may pose an imminent and substantial endangerment to the public health or the environment.

The removal action will be conducted in a manner not inconsistent with the NCP. EPA will also initiate planning for provisions of post-removal Site control consistent with the provisions of Section 300.415(1) of the NCP. The threats posed by uncontrolled substances considered hazardous meet the criteria listed in the NCP Section 300.415(b)(2), and the response actions proposed herein are consistent with any long-term remedial actions which may be required. The proposed removal of hazardous substances, pollutants and contaminants that pose a substantial threat of release is expected to minimize substantial requirements for post-removal Site controls.

Off-Site Rule

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

2. Contribution to remedial performance

The proposed action will not impede future actions based on available information. No long-term remedial actions are anticipated for the Site.

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

This section is not applicable.

4. Applicable or relevant and appropriate requirements (ARARs)

All applicable, relevant and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable considering the exigencies of the circumstances. *See* 40 C.F.R. § 300.415(j). On March 25, 2015 an email was sent to Bruce Everetts of the Illinois EPA asking for any State of Illinois ARARs which may apply. A response from Mr. Everetts was received on March 30, 2015 identifying the State requirements which apply to generators of hazardous waste.

5. Project Schedule

This project is expected to be completed in 45 working days (assuming a 5 day work week).

B. Estimated Costs

The detailed cleanup contractor cost is presented in Attachment IV and the Independent Government Cost Estimate is presented in Attachment III. The Estimated project costs are summarized:

| REMOVAL ACTION PROJECT CEILING ESTIMATE | |
|--|------------|
| <u>Extramural Costs:</u> | |
| <u>Regional Removal Allowance Costs:</u> | |
| Total Cleanup Contractor Costs (This cost category includes estimates for ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with Other Federal Agencies. Includes a 10% contingency) | \$ 947,253 |
| <u>Other Extramural Costs Not Funded from the Regional Allowance:</u> | |
| Total START Oversight, and report writing support. | \$48,000 |
| Subtotal | \$ 995,253 |

| | |
|---|--------------------|
| Subtotal Extramural Costs | |
| Extramural Costs Contingency (15% of Subtotal, Extramural Costs) | \$ 149,288 |
| TOTAL REMOVAL ACTION PROJECT CEILING | \$1,144,541 |

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the Site which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which the property contributes to the conditions being addressed.

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

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

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues.

VIII. ENFORCEMENT

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

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be at \$1,865,297⁴:

| | | | |
|---|---|------------------------|---|
| Direct Extramural and Intramural Costs | + | Indirect Costs | = Estimated EPA Costs for Removal Action |
| (\$1,144,541+ \$40,000) | + | (57.47% X \$1,184,541) | = \$1,865,297 |

⁴ Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 27, 2008. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only, and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Pilsen Soil Operable Unit 1 Railroad Spur & Alley Site in Chicago, Illinois. It was developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site (Attachment 1). Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal action, and I recommend your approval of the removal action proposed in this Action Memorandum.

The total project ceiling if approved will be \$1,144,541, of which an estimated \$1,096,541 may be used for cleanup (ERRS) contractor costs. You may indicate your decision by signing below.

APPROVE: Richard C. Kelly DATE: 6-22-15
Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

Enforcement Addendum

Figures:

- Figure 1-1 – Site Location Map (shows location of Little Italy Reference Area);
- Figure 1-2 - Site Map
- Figure 2-1-Site Features Map (shows features within ¼ mile of Site);
- Figure 2-2 Predominant Wind Pathway Map;
- Figure 3 – Western Area of Railroad Spur, Surface Soil Sampling Results
- Figure 4-1 Alley Results of Surface Soil Samples Summary;
- Figure 4-2 Railroad Spur Results of Surface Soil Samples Summary

Attachments:

1. Administrative Record Index
2. Environmental Justice Analysis
3. Independent Government Cost Estimate
4. Detailed Cleanup Contractor and START Estimate

cc: B. Schlieger, USEPA 5202 G (email: schlieger.brian@epa.gov)
L. Nelson, U.S. DOI, w/o Enf. Addendum
(email: lindy_nelson@ios.doi.gov)
B. Everetts, Illinois EPA, w/o Enf. Addendum
(email: bruce.everetts@illinois.gov)

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**NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ENFORCEMENT ADDENDUM

HAS BEEN REDACTED – ELEVEN PAGES

ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

Figure 1-1 – Site Location Map (includes location of Little Italy Reference Area)

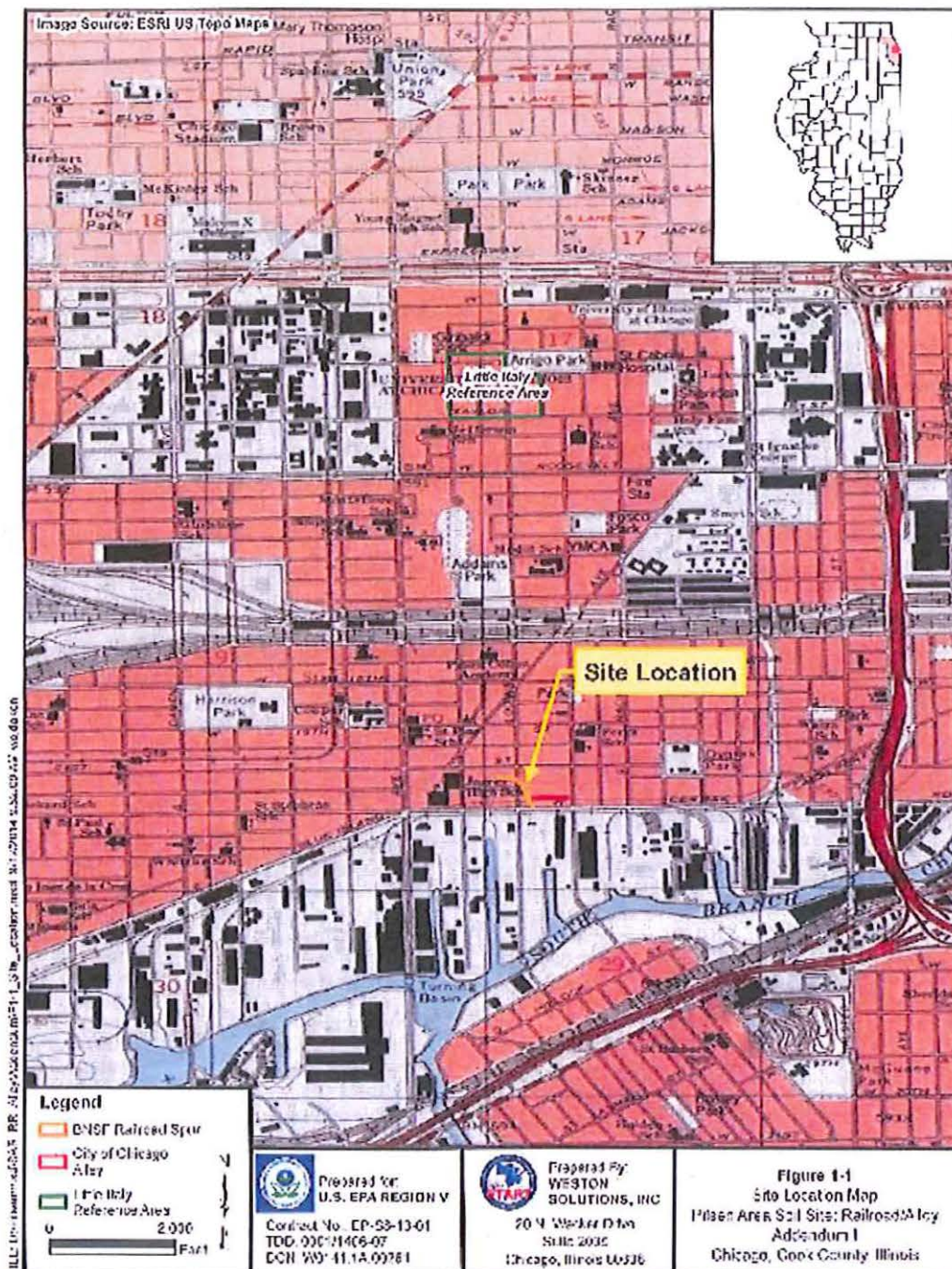


Figure 1-2 Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site

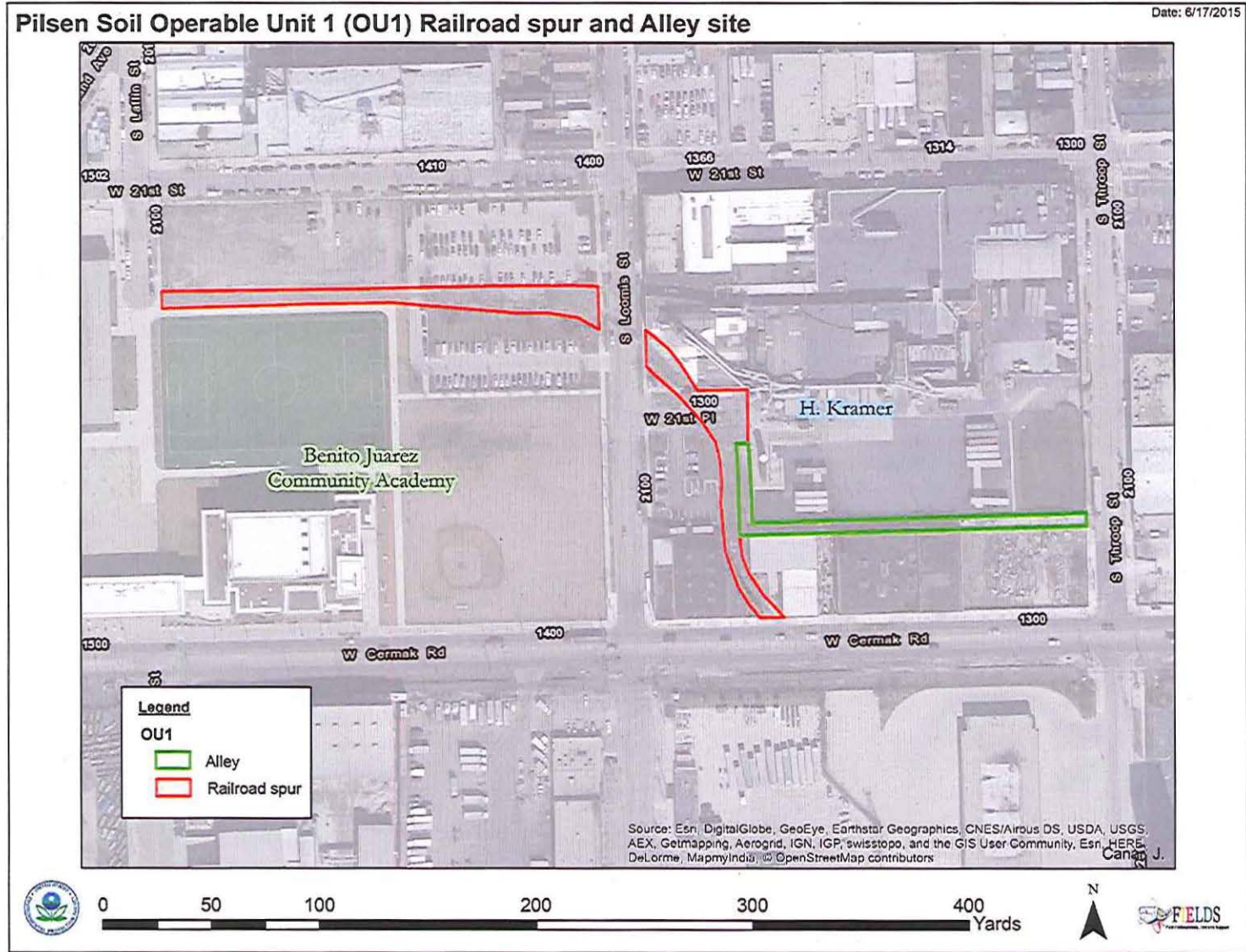
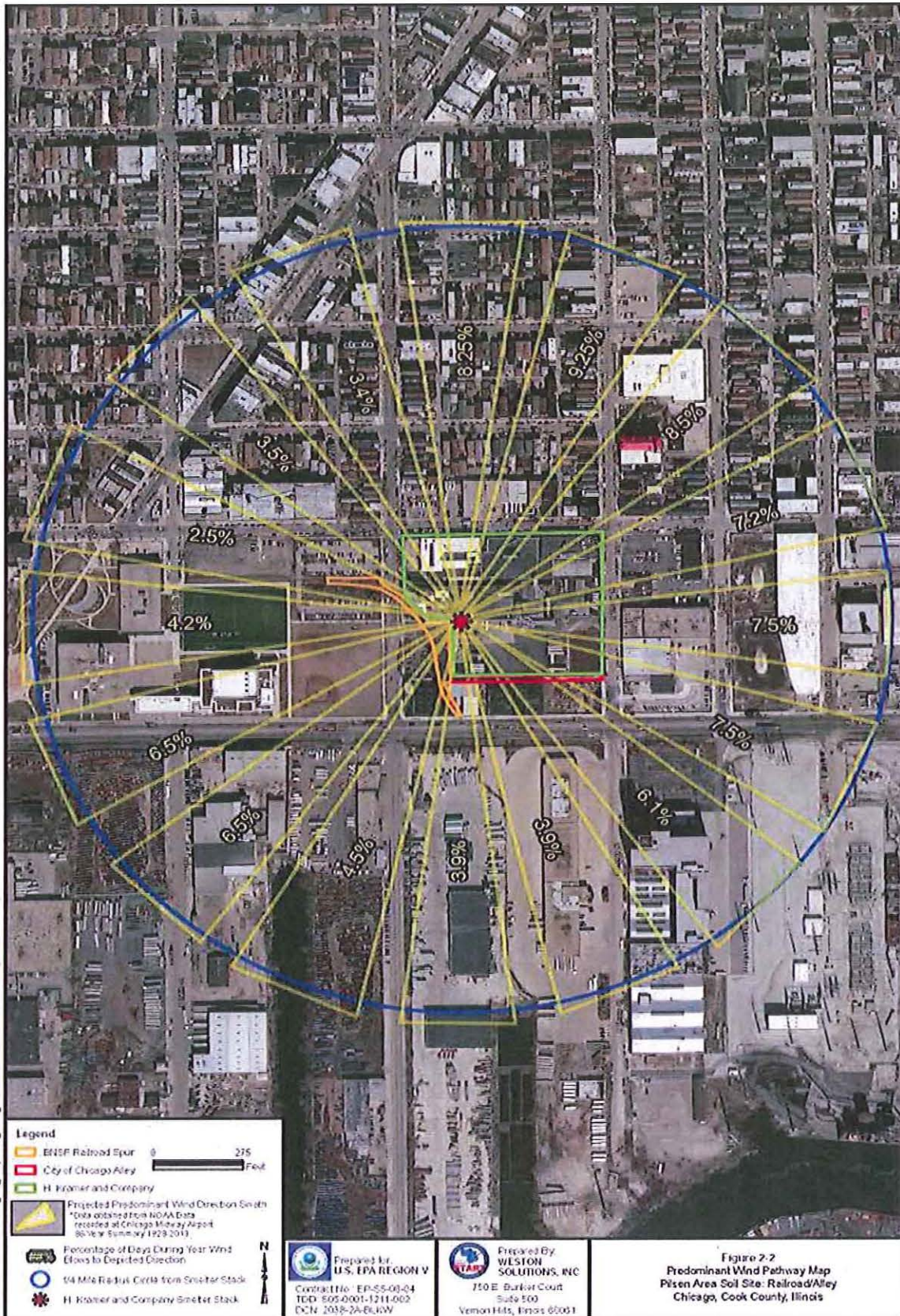


Figure 2-1 – Site Features Map



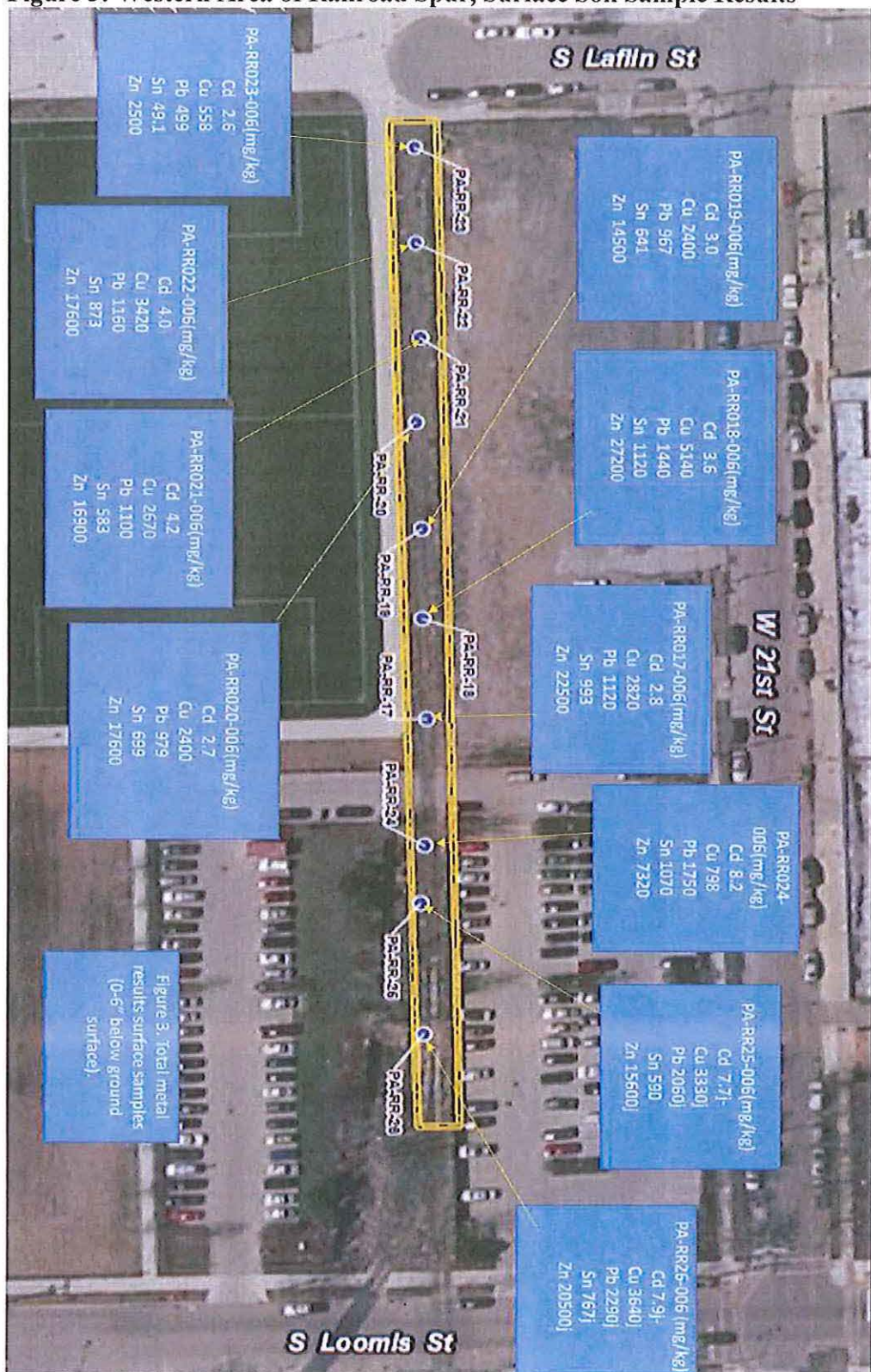
FILE: D:\Pilsen\mxd\SAR_RR_Alley\Addendum\F2-1_Site_Features.mxd 10/9/2014 12:46:11 PM voj@akon

Figure 2-2 – Predominant Wind Pathway Map



FILE: D:\Pitsen\GIS\GPR_Arley\F2_2_Wind_Path.mxd, 3/7/2014, 4:04:26 PM, weston

Figure 3: Western Area of Railroad Spur, Surface Soil Sample Results



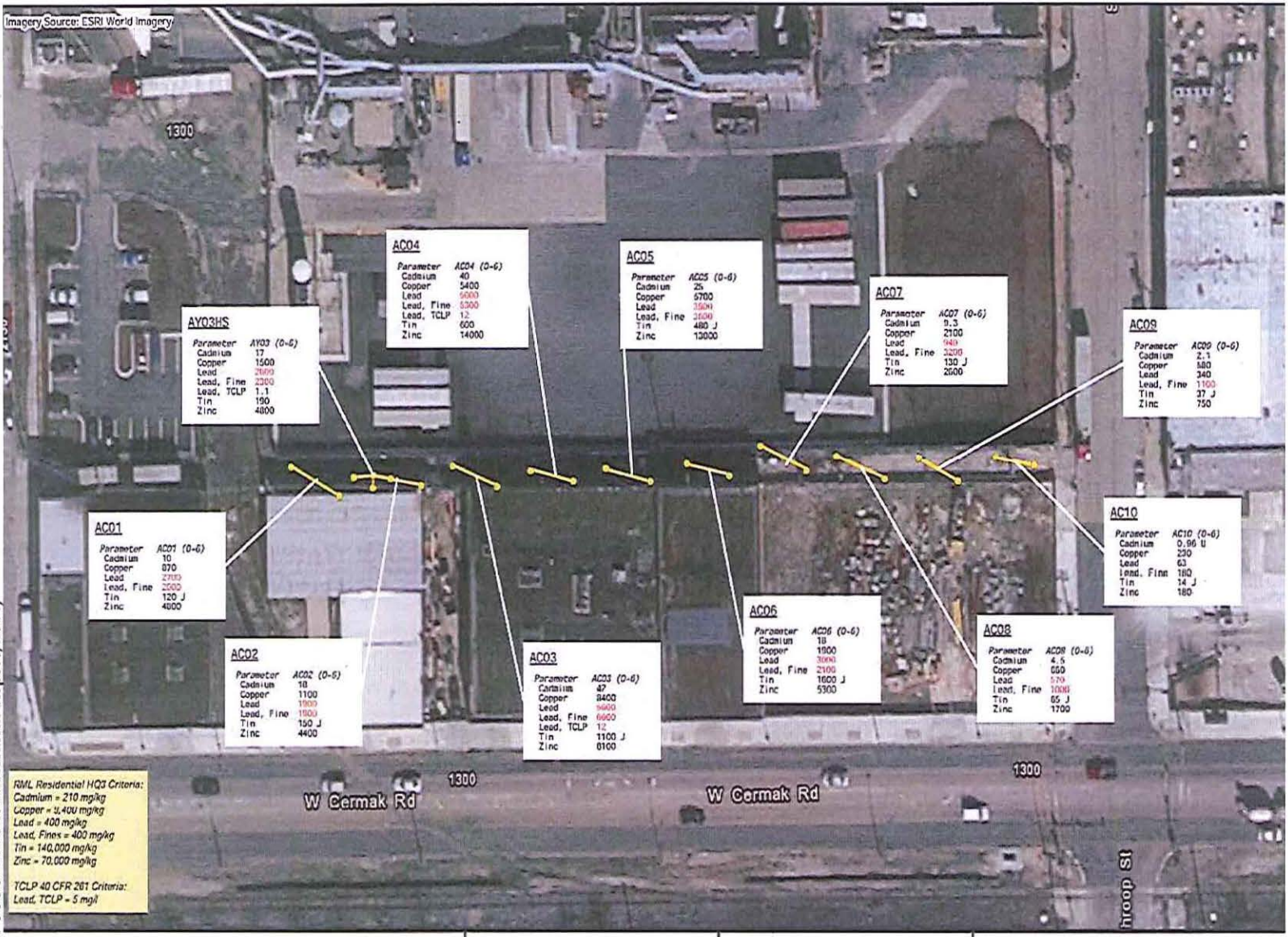


FIGURE 4-1 : Alley Results of Surface Soil Samples Summary
 (Figure 4-2 in USUSEPA Site Assessment Report, 2014)

Legend

Composite Sampling Location
 Soil sample collected at each location (○), then homogenized with connected location to obtain the composite sample.

Result Units = mg/kg
 Except Lead, TCLP = mg/l
 Red text indicates criteria exceedance

0 50 Feet

N

Prepared For:
 US EPA Region V
 Contract No.: EP-SS-08-04
 TDD: S05-0001-1211-002
 DCN: 2038-2A-BLKW

Prepared By:
 WESTON SOLUTIONS, INC
 750 E. Bunker Court
 Suite 500
 Vernon Hills, Illinois 60061

Figure 4-2
 Alley Composite Sampling Results Map
 Pilsen Area Soil Site: Railroad/Alley
 Chicago, Cook County, Illinois

ATTACHMENT I

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

**ADMINISTRATIVE RECORD
FOR THE
PILSEN SOILS RAILROAD AND ALLEY SITE
OPERABLE UNIT I
CHICAGO, COOK COUNTY, ILLINOIS**

**ORIGINAL
MAY, 2015**

| <u>NO.</u> | <u>SEMS ID</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|----------------|-------------|--|-----------------------|---|--------------|
| 1 | 918527 | 9/1/95 | U.S. EPA Office of File Compliance | | Profile of the Nonferrous Metals Industry | 138 |
| 2 | 918533 | 1/1/03 | USGS | File | Concentrations of Polynuclear Aromatic Hydrocarbons and Inorganic Constituents in Ambient Surface Soils, Chicago, Illinois: 2001-02 | 84 |
| 3 | 918529 | 3/1/14 | National Enforcement Investigations Center | U.S. EPA | Interim Technical Report on the Characterization of Lead in Soils, Pilsen Neighborhood | 51 |
| 4 | 915298 | 4/2/14 | Weston Solutions, Inc. | U.S. EPA | Site Assessment Report (Revision 3) | 433 |
| 5 | 918526 | 10/27/14 | Canar, J., Jacobsen, L, and Roth, C., U.S. EPA FIELDS Group | File | Report for the Statistical Analysis of Cadmium, Copper, Lead, Tin, and Zinc Found in Soil at and near the H. Kramer Facility | 18 |
| 6 | 918525 | 10/30/14 | Fusinski, K., U.S. EPA | Mendoza, R., U.S. EPA | Memo re: Risk Assessment for the Pilsen Railroad and Alley Area Adjacent to the H. Kramer Smelter | 20 |
| 7 | 918531 | 11/3/14 | Weston Solutions, Inc. | U.S. EPA | Site Assessment Report - Addendum 1 | 27 |

| <u>NO.</u> | <u>SEMSID</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|---------------|-------------|--|-----------------------|--|--------------|
| 8 | 918530 | 2/6/15 | National Enforcement Investigations Center | U.S. EPA | Final Technical Report on the Characterization of Lead in Soils, Pilsen Neighborhood | 117 |
| 9 | 918523 | 3/26/15 | Mendoza, R., U.S. EPA | Everetts, B., IEPA | Letter re: Request for ARARs for Operable Unit 1 | 4 |
| 10 | 918528 | 3/30/15 | Everetts, B., IEPA | Mendoza, R., U.S. EPA | Letter re: ARARs at the Pilsen Soils Railroad Spur and Alley Site, Operable Unit 1 | 3 |
| 11 | 918532 | 5/15/15 | U.S. EPA | File | Envirofacts Search Results for H. Kramer & Co. | 61 |
| 12 | 918524 | 5/22/15 | Mendoza, R., U.S. EPA | Peachey, R., U.S. EPA | Memo re: Pilsen Soils OU1 Railroad Spur and Alley Site: Western Area, Rail Road Spur Soil Sample Results | 142 |
| 13 | - | - | Mendoza, R., U.S. EPA | Karl, R., U.S. EPA | Action Memorandum re: Request for Approval and Funding for a Time-Critical Removal Action at the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site (PENDING) | - |

ATTACHMENT II: Environmental Justice Analysis



EJSCREEN Report

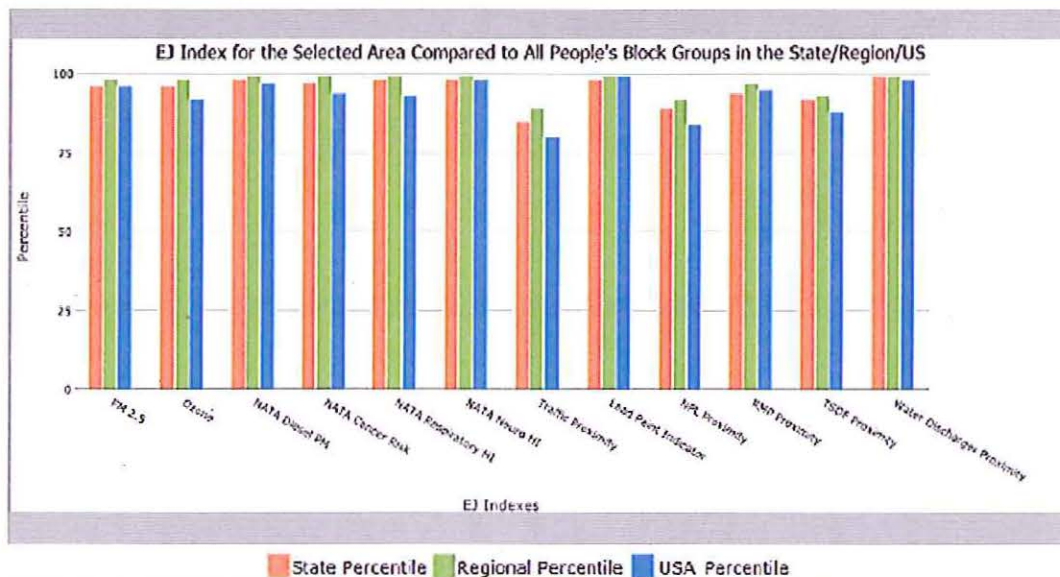


for .5 mile Ring Centered at 41.852438,-87.662395, ILLINOIS, EPA Region 5

Approximate Population: 11307

Pilsen Soils RR/Alley

| Selected Variables | State Percentile | EPA Region Percentile | USA Percentile |
|--|------------------|-----------------------|----------------|
| EJ Indexes | | | |
| EJ Index for PM2.5 | 06 | 03 | 06 |
| EJ Index for Ozone | 06 | 08 | 02 |
| EJ Index for NATA Diesel PM | 08 | 00 | 07 |
| EJ Index for NATA Air Toxics Cancer Risk | 07 | 00 | 04 |
| EJ Index for NATA Respiratory Hazard Index | 08 | 00 | 03 |
| EJ Index for NATA Neurological Hazard Index | 08 | 00 | 08 |
| EJ Index for Traffic Proximity and Volume | 85 | 89 | 80 |
| EJ Index for Lead Paint Indicator | 08 | 00 | 00 |
| EJ Index for Proximity to NPL sites | 89 | 92 | 84 |
| EJ Index for Proximity to RMP sites | 94 | 97 | 95 |
| EJ Index for Proximity to TSDFs | 92 | 93 | 88 |
| EJ Index for Proximity to Major Direct Dischargers | 99 | 99 | 98 |



This report shows environmental, demographic, and EJ indicator values. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.



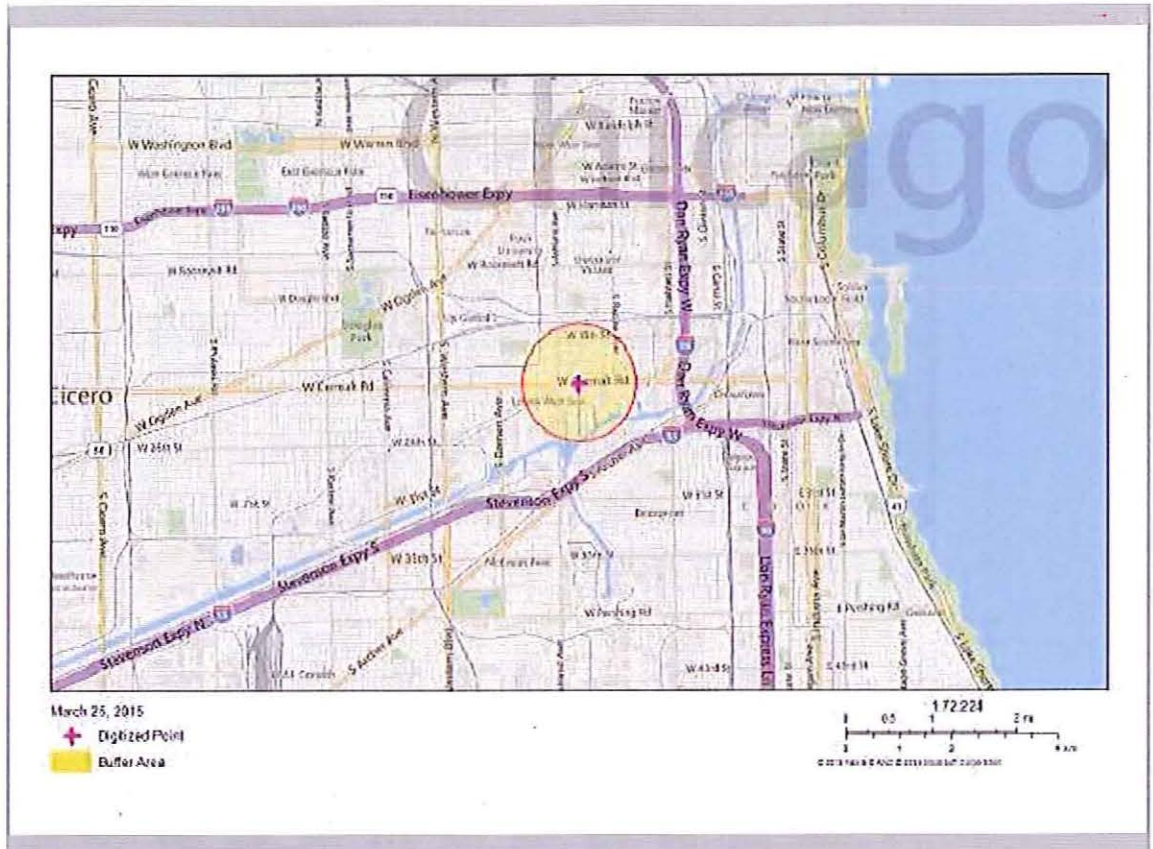
EJSCREEN Report



for .5 mile Ring Centered at 41.852438, -87.662395, ILLINOIS, EPA Region 5

Approximate Population: 11307

Pilsen Soils RR/Alley





EJSCREEN Report

for .5 mile Ring Centered at 41.852438,-87.662395, ILLINOIS, EPA Region 5



Approximate Population: 11307

Pilsen Soils RR/Alley

| Selected Variables | Raw Data | State Avg. | %ile in State | EPA Region Avg. | %ile in EPA Region | USA Avg. | %ile in USA |
|---|----------|------------|---------------|-----------------|--------------------|----------|-------------|
| Environmental Indicators | | | | | | | |
| Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$) | 14.3 | 13.4 | 91 | 13.3 | 86 | 10.7 | 96 |
| Ozone (ppb) | 40.9 | 42.8 | 5 | 45 | 7 | 46.3 | 18 |
| NATA Diesel PM ($\mu\text{g}/\text{m}^3$) [*] | 2.52 | 0.988 | 95 | 0.712 | 95-100th | 0.824 | 90-95th |
| NATA Cancer Risk (lifetime risk per million) [*] | 67 | 48 | 91 | 42 | 90-95th | 49 | 80-90th |
| NATA Respiratory Hazard Index [*] | 3.1 | 1.8 | 92 | 1.5 | 90-95th | 2.3 | 70-80th |
| NATA Neurological Hazard Index [*] | 0.17 | 0.073 | 95 | 0.087 | 95-100th | 0.083 | 95-100th |
| Traffic Proximity and Volume (daily traffic count/distance to road) | 22 | 69 | 43 | 69 | 46 | 110 | 39 |
| Lead Paint Indicator (% Pre-1960 Housing) | 0.91 | 0.43 | 94 | 0.39 | 94 | 0.3 | 96 |
| NPL Proximity (site count/km distance) | 0.034 | 0.089 | 42 | 0.085 | 41 | 0.086 | 38 |
| RMP Proximity (facility count/km distance) | 0.57 | 0.43 | 77 | 0.33 | 83 | 0.31 | 85 |
| TSDF Proximity (facility count/km distance) | 0.036 | 0.037 | 72 | 0.051 | 64 | 0.054 | 64 |
| Water Discharger Proximity (facility count/km distance) | 0.77 | 0.27 | 92 | 0.23 | 94 | 0.25 | 93 |
| Demographic Indicators | | | | | | | |
| Demographic Index | 77% | 34% | 92 | 28% | 95 | 35% | 93 |
| Minority Population | 89% | 38% | 87 | 24% | 94 | 36% | 89 |
| Low Income Population | 64% | 31% | 91 | 32% | 91 | 34% | 89 |
| Linguistically Isolated Population | 35% | 8% | 97 | 3% | 99 | 5% | 97 |
| Population With Less Than High School Education | 44% | 14% | 96 | 12% | 98 | 15% | 95 |
| Population Under 5 years of age | 7% | 6% | 57 | 6% | 59 | 7% | 58 |
| Population over 64 years of age | 8% | 13% | 30 | 13% | 23 | 13% | 27 |

^{*} The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <http://www.epa.gov/ttn/atw/natamain/index.html>.

ATTACHMENT III

INDEPENDENT GOVERNMENT COST ESTIMATE

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OF REMOVAL ACTION

ATTACHMENT VI

DETAILED CLEANUP CONTRACTOR ESTIMATE

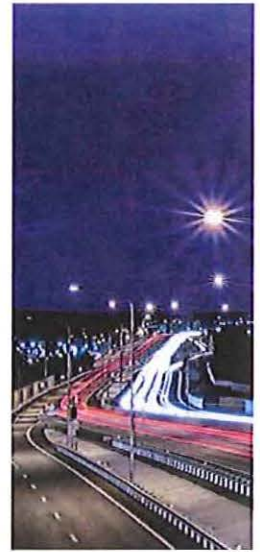
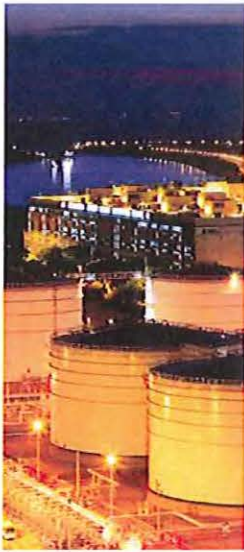
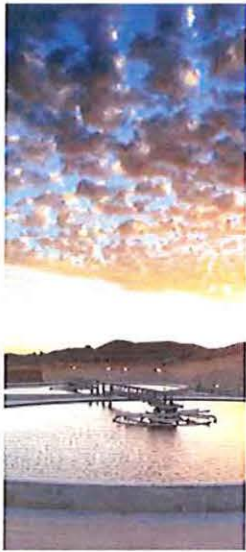
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**In the Matter of Pilsen Soil Operable Unit 1 Railroad
Spur and Alley Site, Chicago, Illinois**

**Appendix C
Removal Work Plan**



Confidential Settlement
Discussion Document



Removal Plan for Alley - Railroad

Pilsen Site
Chicago, Illinois
Revision 03

Table of Contents

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Figure Index

Figure 2.1 OU1 Remediation Areas

Table Index

Table 4.1 Remedial Cost Estimate
Rail Road and Alley

Appendices Index

Appendix A Remedial Cost Estimate Details
Appendix B TCLP Excavation Areas
Appendix C IEPA ARARs

1. Introduction

This document provides information on the removal and remediation of elevated lead in surface soil within the Pilsen area known as the Alley/Railroad Area. The United States Environmental Protection Agency (USEPA) has notified H Kramer & Company (H Kramer), the City of Chicago (City), and Burlington Northern Santa Fe Railway (BNSF) (hereafter collectively the Parties) that each is a potentially responsible party under CERCLA for alleged soil contamination at the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site in Chicago IL (EPA Site ID C5N8-01) (OU1). The Parties have worked with USEPA to develop this Removal Work Plan for Alley-Railroad to address environmental conditions at OU1 through a removal action.

This report provides the scope and remedial cost associated with the scope of work provided herein.

2. Background

2.1 Alley and Railroad Sampling Results

The results of sampling completed in the alley and railroad area are presented in the following documents:

- Site Assessment Report for Pilsen Soil Assessment Area: Rail Road/Alley Chicago, Cook County, Illinois Addendum 1; dated November 3, 2014
- Pilsen Soils OU1 Railroad Spur and Alley Site: Western Areas, Rail Road Spur Soil Sample Results: USEPA Memorandum dated May 22, 2015
- Pilsen Soils OU1 Railroad Spur and Alley Site: Western Areas, Rail Road Spur Reanalysis of Soil Sample ID PA-RR26—0624 for TCLP Lead: USEPA Memorandum dated August 21, 2015

This area is divided into the following ten parts based generally on land ownership and use as shown of Figure 2.1 and listed as follows:

1. **Area 1 Revised - Railroad West of Loomis (West Part):** This part is approximately 18 feet in width (defined as 9 feet on each side of the centerline of the rail road tracks) 490 feet long between Laflin and Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg but EPA samples collected in this area were below the TCLP lead criteria within the area. The rails and ties are in place and the spur is inactive.
2. **Area 2 Revised - Railroad West of Loomis (East Part):** This part is triangular in shape and approximately 120 feet long and between 18 and 45 feet wide at its widest point (defined as 9 feet on each side of the centerline of the rail road tracks with the area between the two sets of tracks at the east end included). This area is directly adjacent to Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg. The rails and ties are in place and the spur is inactive.
3. **Area 3 -Loomis Crossing:** This is the paved street section of Loomis where the railroad tracks formerly crossed the road. The rails and ties have been removed and there is street pavement or concrete sidewalks covering this area.

4. **Area 4 - Railroad East of Loomis (North):** This part is approximately 95 feet long and owned by H. Kramer and was used by BNSF. This part lies between Loomis and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead and has TCLP¹ lead within the area. The rail spur is inactive.
5. **Area 5- 21st Place:** - This part represents an approximate 135 foot by 75 foot area east of Loomis which is the entrance to H Kramer and is currently owned by the City. This area exceeds 800 mg/kg lead and also has TCLP lead within the area. The rail spur is inactive.
6. **Area 6 - Railroad East of Loomis (South):** This part represents an approximate 110 foot long section of railroad tracks used by BNSF and owned by H. Kramer. This part lies between the east-west alley and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive.
7. **Area 7- North South Alley:** This part is approximately 110 feet by 25 feet in area and is owned by the City. It has a gravel/fill surface and has lead above 800 mg/kg but EPA samples collected in this area were below the TCLP lead criteria within the area.
8. **Area 8 - Unpaved East- West Alley:** This part represents an approximate 325 feet of unpaved alley along the western part and is owned by the City. This area has lead levels above 800 mg/kg and has TCLP lead within the area.
9. **Area 9 - Paved East West Alley:** This part represents an approximate 175 feet of paved alley along the eastern part and is owned by the City. This area has lead levels above 800 mg/kg. Recent inspection of this area indicates that the pavement in this area is in poor shape.
10. **Area 10 - Railroad South of Alley:** This approximately 120 feet long railroad segment is owned by DeTrinh and 1358 Cermak LLC and was used by BNSF. This part lies between the east-west alley to the north and Cermak Road to the south. The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive.

Figure 2.1 shows the remediation area.

3. Removal/Remediation Objectives

3.1 Removal Action

The work will be completed as a removal action under Title 40 Code of Federal Regulations Part 300.415.

Consistent with the scope allowed under a Removal Action, the following work is included in the Removal Action

1. Fences, warning signs, or other security or site control precautions
2. Capping of contaminated soils

¹ Toxicity Characteristic Leaching Procedure (TCLP) lead concentrations above 5.0 milligrams per liter (mg/L)

3. Excavation, containment, treatment and disposal of hazardous and non-hazardous materials

3.2 Removal/Remediation Objectives

The Removal Plan has considered the factors identified in 40 CFR 300.415 (B) (2) (i)-(vii) to determine the appropriateness of removal action activities.

1. Excavate (with off-site disposal) or provision of a paved engineered barrier over soils containing lead at concentrations above 800 mg/kg Removal Management Level (Ingestion Pathway) for Industrial/Commercial properties.”
2. Surface cover materials to be implemented will be protective of nearby human populations. Geofabric and asphalt covers will provide an engineered protective barrier² to prevent migration of contaminants from the soils.
3. High levels of hazardous substances or pollutants (i.e. TCLP lead > 5 mg/L) will be treated in-situ removed from the site, disposed of properly. Geofabric and asphalt covers will provide an engineered barrier to prevent migration of contaminants remaining in the soils.
4. The removal action contractor will consider the daily weather conditions during removal activities and will protect stockpiled soils and exposed soils from erosion and weather effects.
5. Threat of fire or explosion will be considered throughout the removal action activities. Suitable precautions will be made to prevent exposure to or from these threats.

3.3 Supporting Documents

Prior to beginning the field program, a Health and Safety Plan (HASP) will be developed and implemented. The HASP will be developed in accordance with Federal Occupational Safety and Health Administration (OSHA) standards for hazardous waste operations (29 CFR 1910.120). The HASP will define the levels of personnel protective equipment (PPE) to be used and define the air monitoring to be conducted during soil removal activities.

USEPA policy requires that all work performed by or on behalf of USEPA involving the collection of environmental data be implemented in accordance with a USEPA-approved Quality Assurance Project Plan (QAPP). In addition to this Work Plan, a QAPP has been developed (GHD, September 2015) to integrate all technical and quality aspects of the project and documents, quality assurance (QA), quality control (QC), and technical activities and procedures associated with planning, implementing, and assessing environmental data collection operations. The QAPP will be submitted to the USEPA for review and approval.

The following sampling and monitoring activities will be performed for the removal action activities.

- Collecting soil samples from treated soils to ensure the treated soils are below to objective of 5 milligrams/per liter (mg/L) for lead

² Engineered barriers will consist of compacted gravel and/or compacted gravel with an asphalt cap. A pre-construction survey of the work areas (including adjacent areas) will be conducted to develop a cut and fill plan, and a grading plan to promote proper drainage and prevent ponding/flooding. A post construction survey will also be conducted to define the limits of the engineered barriers. .

- Conduct downwind particulate monitoring during earth moving activities associated with the removal action
- Conduct construction personnel air filter sampling for lead

Details regarding these sampling and monitoring activities (including monitoring action levels) are provided in the QAPP and/or HASP.

4. Evaluation of Remediation of Alley/Railroad Area

4.1 Description of Remedy

A cost estimate is provided in Appendix A. The railroad/alley work will be completed in a phased approach as described in Section 4.2. It is understood that due to the nature of this removal action under CERCLA, the City would approve the use of gravel as an engineered barrier (Area 1 Revised), would waive permit requirements, would waive storm water detention/ sewer requirements and would also waive any landscaping requirements. It is further assumed that the paving portion of the work will be completed without the requirements to develop detailed grading/design plans and any design approvals.

Given that the USEPA has already completed extensive sampling, no additional delineation or confirmation sampling will be required. Additionally, the new gravel placed in Areas 6 and 10 this past May will be excavated and staged for reuse. This gravel will be utilized as backfill and grading material during the remedial scope discussed below. Additionally water will be applied to the ground surfaces during earth working activities to control dust.

Prior to implementation of the remedy, a Site Specific Health and Safety Plan (HASP) will be developed. The HASP will be developed in accordance with Federal Occupational Safety and Health Administration ("OSHA") standards for hazardous waste operations (29 CFR 1910.120). No additional delineation or confirmation sampling (excavation or sidewalls) for total lead is proposed in conjunction with the work³. Previous soil sampling efforts completed by the USEPA and/or its contractors have fully characterized the lead distribution in soil within OU1.

A description of the remedial scope for each area is presented as follows:

1. **Area 1 Revised - Railroad West of Loomis (West Part)**⁴: This part is 490 feet long between Laflin and Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg. The removal plan for this area is as follows:

³ USEPA will collect confirmation samples at its discretion as part of its oversight role as defined under the Administrative Order on Consent (AOC). This sampling is limited to the following:

- The USEPA may use an XRF unit to screen the soil/gravel in Area 1 and collect up to two post excavation confirmation soil samples for total lead analyses to ensure soil/gravel above 800 mg/kg are removed from this area prior to installing the gravel barrier.
- The USEPA may collect one split confirmation sample of the treated TCLP soil from Areas 4, 5, or 8 to ensure the treatment objective of 5.0 mg/L is met.
- The USEPA may collect up to two co-located downwind air samples.
- The USEPA may collect one personnel OSHA lead filter sample.
- All sample analyses will be performed on an expedited rush 24-hour turnaround basis with the exception of the TCLP analysis which will be on a 48-hour turnaround basis.

⁴ Note the size of Area 1 has been revised to end near soil sample location PA-RR-26 and Area 2 has been extended to the west.

- a. BNSF will remove the rails and ties from this area.
 - b. H. Kramer will remove the organic soils that are not suitable for backfill and dispose offsite as non-hazardous waste. Soils above the RML will be removed (excavated) down to a depth of 6 inches from the existing grade. EPA's sampling in this area below 6 inches has shown that the RML has been met below 6 inches. This excavated material will be used as backfill in Areas, 4, 5, 6, 7, 8, or 9. After the surficial materials are removed a brightly colored geotextile fabric⁵ will be placed over the area. Then 6 inches of gravel will be placed as an engineered barrier (gravel supplied by BNSF). Bollard posts will be installed at the west end of this area, and at the parking lot cross over to prevent traffic from entering the pathway⁶.
2. **Area 2 Revised - Railroad West of Loomis (East Part):** This part is approximately 120 feet long and 18 to 45 feet in width at its widest point. This area is directly adjacent to Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg. The rails and ties are in place and the spur is inactive. No TCLP treatment will be required. The removal plan for this area is as follows:
- a. BNSF will remove the rails and ties from this area.
 - b. H. Kramer will remove the organic soils that are not suitable for backfill and dispose offsite as non-hazardous waste. Soils above the RML will not be removed from Area 2. A brightly colored geotextile fabric will be placed over the area. Then 3 inches of gravel will be placed as part of an engineered barrier (gravel supplied by BNSF). A bollard post will be installed at the east end of this area to prevent traffic from entering the pedestrian pathway.
 - c. H. Kramer will then place a 3-inch asphalt layer as an engineered barrier.
3. **Area 3 - Loomis Crossing:** This is the paved street section of Loomis where the railroad tracks formerly crossed the road. The rails and ties have been removed and there is street pavement or concrete sidewalks covering this area. No remediation is required because the pavement and sidewalks are in good condition.
4. **Area 4 - Railroad East of Loomis (North):** This part is 95 feet long and owned by H. Kramer and was used by BNSF. This part lies between Loomis and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead and has TCLP lead within the northeast corner of the area. The rail spur is inactive. The removal plan for this area is as follows:
- a. BNSF will remove the rails and ties from this area.
 - b. H. Kramer will treat in-situ the TCLP soil in the upper 0.5 feet of material within this area with a soil reagent⁷. The limits of the TCLP excavation area within Area 4 is defined in Appendix B. After treatment a waste characterization sample will be collected of the treated material for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material will be excavated and transported off-Site for disposal as non-hazardous material. The area will be re-graded and a brightly colored

⁵ Daylight Orange Nonwoven Geotextile or generally equivalent material

⁶ The paved portion of Area 1 which is a driveway between two parking lots is not included in the Area 1 remediation area.

⁷ Free Flow-200 heavy metals stabilizing reagent by Free Flow Technologies, Ltd. at a 4-percent application rate mixed in-situ with soil.

geotextile fabric will be placed over the area. Then a 6 inch layer of gravel will be placed and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

5. **Area 5 - 21st Place:** This part represents a 135 foot by 75 foot area east of Loomis which is the entrance to H Kramer and is owned by the City. This area exceeds 800 mg/kg lead and also has TCLP lead within the area. The rail spur is inactive. The removal Plan for this area is as follows:
 - a. BNSF will removed the rails and ties from this area
 - b. H. Kramer will treat in-situ the TCLP soil within this area with a soil reagent. The limits of the TCPL excavation area within Area 5 is defined in Appendix B. After treatment a waste characterization sample of the treated material will be collected for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material will be excavated and transported off-Site for disposal as non-hazardous material. After the TCLP excavation, surface soils and gravel from Areas 1, 5, 6, 7, 8 or 9 can be used as backfill for the excavated area. The area will be re-graded and a brightly colored geotextile fabric will be placed over the area.
 - c. The City will then place a 6-inch layer of gravel and the area will be covered with a 6-inches asphalt layer as an engineered barrier⁸.
6. **Area 6 - Railroad East of Loomis (South):** This part represents a 110 foot long section of railroad tracks used by BNSF and owned by H. Kramer. This part lies between the east-west alley and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive. The removal plan for this area is as follows:
 - a. BNSF will remove the rails and ties from this area.
 - b. H. Kramer will place a brightly colored geotextile fabric over the area. Then 6 inches of gravel will be placed and the area will be covered with a 3-inch asphalt layer as an engineered barrier.
7. **Area 7 - North South Alley:** This part is 110 feet by 25 feet in area and is owned by the City. It has a gravel/fill surface and has lead above 800 mg/kg but EPA samples collected in this area were below the TCLP lead criteria within the area. The removal plan for this area is as follows:
 - a. H. Kramer will re-grade the area and then place a brightly colored geotextile fabric over the area.
 - b. The City will then place a 6-inch layer and the area will be covered with a 3-inch asphalt layer as an engineered barrier.
8. **Area 8 - Unpaved East-West Alley:** This part represents 325 feet of unpaved alley along the western part and is owned by the City. This area has lead levels above 800 mg/kg and has TCLP lead within the area. The short section of the rail spur at the west end of this area is inactive. The removal plan for this area is as follows;

⁸ The western portion of Area 5 (area west of RR tracks) is covered with brick pavers. These pavers will not be removed but instead will be incorporated into the engineered barrier. The City will place 3-inches of asphalt over the brick pavers.

- a. BNSF will remove the rails and ties from this area.
 - b. H. Kramer will treat in-situ the TCLP soil within this area with a soil reagent. The limits of the TCPL excavation area within Area 8 is defined in Appendix B. After treatment a waste characterization sample of the treated material will be collected for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material will be excavated and transported off-Site for disposal as non-hazardous material. After the TCLP excavation, surface soils and gravel from Areas 1,,5,6,7,8, or 9 will be used as backfill for the excavated area. The area will be re-graded and a brightly colored geotextile fabric will be placed over the area
 - c. The City will then place 6 inches of gravel and the area will be covered with a 3-inch asphalt layer as an engineered barrier.
9. **Area 9 - Paved East West Alley:** This part represents 175 feet of paved alley along the eastern part and is owned by the City. This area has lead levels above 800 mg/kg. Remediation is needed in this area because the pavement is in poor condition. The removal plan for this area is as follows;
- a. H. Kramer will re-grade this area in conjunction with Area 8 and a brightly colored geotextile fabric will be placed over the area.
 - b. The City will then place 6 inches of gravel and the area will be covered with a 3-inch asphalt layer as an engineered barrier.
10. **Area 10 - Railroad South of Alley:** This 120 feet long railroad segment is owned by DeTrinh and 1358 Cermak LLC and was used by BNSF. This part lies between the east-west alley to the north and Cermak Road to the south. The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive. The removal plan for this area (pending access) is as follows:
- a. BNSF will remove the rails and ties from this area.
 - b. H. Kramer will install a brightly colored geotextile fabric over the area. Then 6 inches of gravel will be placed and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

4.2 Removal Phased Implementation

In order to implement the Removal Plan in an efficient manner, the parties have developed a phased approach to implement the scope of work described above. A schedule for implementing the work will be provided to the USEPA in a Removal Plan Addendum within 10 days after the AOC is signed. The Removal Plan will be completed in three phases as described below.

Phase I: BNSF will undertake and pay the cost of the work to remove the rails and ties, and transport and dispose of them appropriately. The railroad will also provide the gravel and materials for the required engineered barrier in Area 1 Revised 1 and Area 2 Revised that will complete the pedestrian walk way.

Phase II: H Kramer will treat in-situ the TCLP contaminated soil from Areas 4, 5 and 8 as required by the work plan. After receiving analysis confirming the treated soil are below 5 mg/L this soil will be excavated and transported off-site and disposed as a non-hazardous material. Excavate and transport surface materials from Areas 1, 5, 6, 7, 8, 9, and 10 for use as backfill material for the

Area 5 and 8 excavations, install a brightly colored geotextile fabric, lay and grade the materials to be provided by BNSF as part of Phase I, and prepare the subgrade for areas that are to be paved by the City and H Kramer as part of Phase III.

Phase III: After all the removal and preparation work for paving provided for in Phases I and II are completed:

- a. The City will provide granular base and pave the Areas it currently owns: Areas 5, 7, 8, and 9.
- b. H Kramer will pave the Areas it currently owns: Areas 4 and 6 (without sewers or storm water detention) and will pave Area 2 and 10. No permits or design approval will be required by the City. The work plan will serve as the design approval.
- c. H Kramer will pursue vacation of Areas 5 and 7 with the City, and after the work is completed and vacation is effected:
 - H Kramer will be responsible for O & M for the Areas it then owns: 4, 5, 6, and 7.
 - The City will be responsible for O & M for the Areas it then owns: 1, 2, 3, 8 and 9.

4.3 Overall Protection of Human Health and the Environment

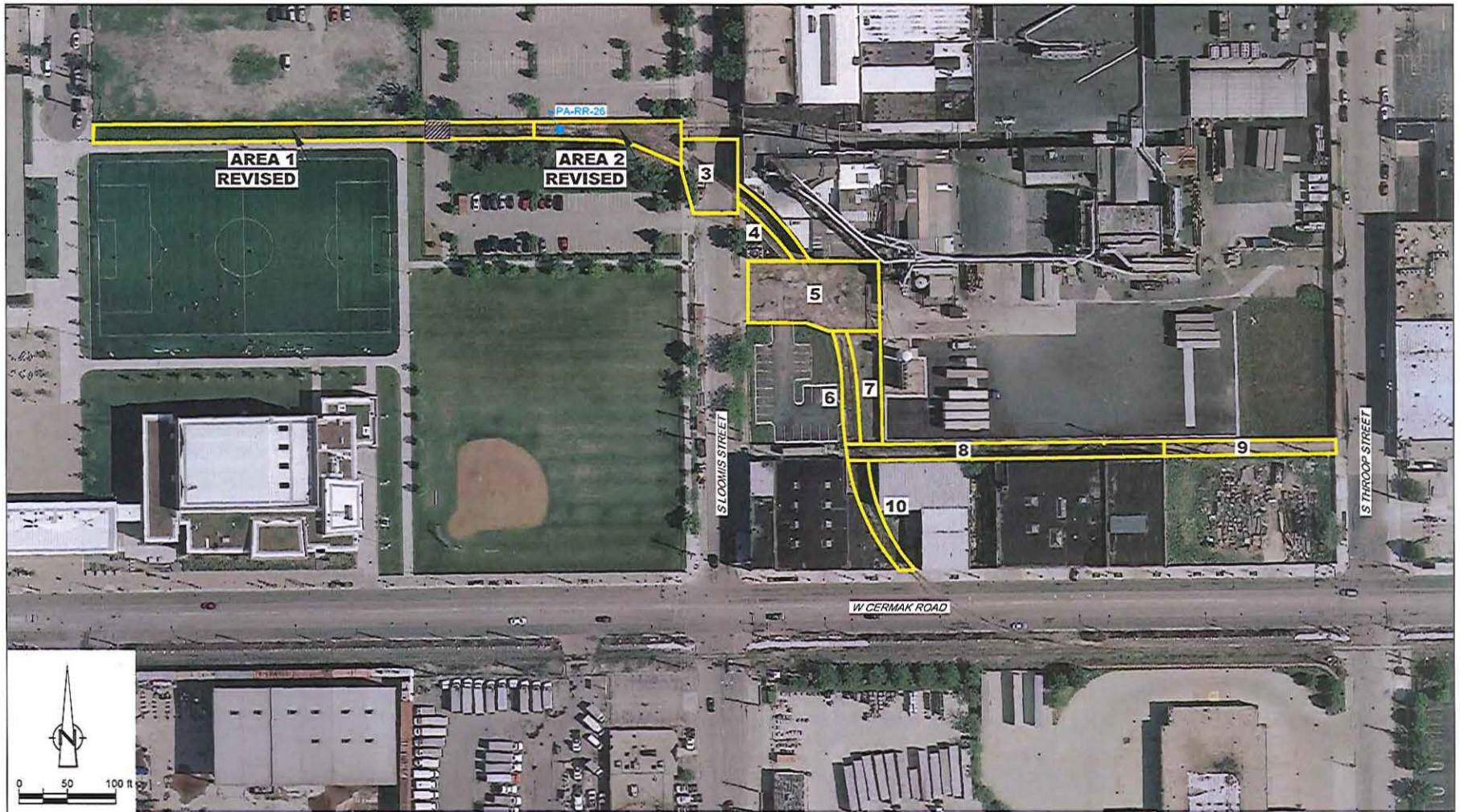
Contaminants of potential concern for the human health pathway are lead. The proposed remedial action is to excavate and dispose of soil that exceeds the TCLP criteria and to install engineered barriers over remaining soils that exceed the 800 mg/kg Removal Management Level (Ingestion Pathway) for Industrial/Commercial properties. Following remediation property owners will work closely with the USEPA to establish and implement institutional controls (Industrial commercial land use), and long-term inspection and maintenance programs to ensure that the containment remedy is maintained and undisturbed.

The Site remedy is required to meet the Illinois Environmental Protection Agency (IEPA) Applicable, Relevant, and Appropriate Requirements (ARARs). The IEPA ARARs are attached (see Appendix C) and the Site Remedy has been designed to meet these requirements.

4.4 Cost

The remedial cost estimate for the railroad- alley area is provided in Table 4.1 and details are provided in Appendix A.

Figure



LEGEND:

1 REMEDIATION AREA

PA-RR-26 ● EPA SAMPLE LOCATION AND IDENTIFIER

▨ PAVED DRIVEWAY IS NOT INCLUDED IN THE OUI REMEDIATION AREA

figure 2.1
 OUI REMEDIATION AREAS
 PILSEN SITE
 Chicago, Illinois

Table

Table 4.1

**Remedial Cost Estimate
OU1 Pilsen - Chicago, Illinois**

| <i>Description</i> | <i>Area</i> | <i>Unit</i> | <i>Quantity</i> | <i>Unit Price</i> | <i>Total</i> | <i>Comment</i> |
|--|-------------|-------------|-----------------|-------------------|--------------|----------------|
| Mobilization | | LS | 1 | \$ 18,000 | \$ 18,000 | |
| Site Facilities | | LS | 1 | \$ 16,000 | \$ 16,000 | |
| City of Chicago Permits | | LS | 1 | \$ - | \$ - | Not applicable |
| Soil Removal/grading | | Day | 15 | \$ 7,250 | \$ 108,750 | |
| Rail Removal | all RR | Day | 12 | \$ 7,250 | \$ 87,000 | |
| Non-regulated surface debris disposal | all RR | ton | 600 | \$ 65 | \$ 39,000 | |
| Non-hazardous debris transportation | all RR | ton | 600 | \$ 35 | \$ 21,000 | |
| TCLP soil treatment and excavation | 4 | ton | 70 | \$ 95 | \$ 6,685 | |
| | 5 | ton | 270 | \$ 95 | \$ 25,650 | |
| | 8 | ton | 178 | \$ 95 | \$ 16,910 | |
| Transport of TCLP treated soil (Areas 4, 5 & 8) | 4 | ton | 70 | \$ 25 | \$ 1,759 | |
| | 5 | ton | 270 | \$ 25 | \$ 6,750 | |
| | 8 | ton | 178 | \$ 25 | \$ 4,450 | |
| Disposal of organic soils | 1 | ton | 105 | \$ 65 | \$ 6,825 | Areas 1 & 2 |
| Disposal of organic soils | 2 | ton | 64 | \$ 65 | \$ 4,160 | Areas 1 & 2 |
| Transportation of organic soils | 1 | ton | 105 | \$ 35 | \$ 3,675 | Areas 1 & 2 |
| Transportation of organic soils | 2 | ton | 64 | \$ 35 | \$ 2,240 | Areas 1 & 2 |
| Non-regulated surface debris disposal | 5 | ton | 200 | \$ 65 | \$ 13,000 | |
| Non-hazardous debris transportation | 5 | ton | 200 | \$ 35 | \$ 7,000 | |

Table 4.1

**Remedial Cost Estimate
OU1 Pilsen - Chicago, Illinois**

| <i>Description</i> | <i>Area</i> | <i>Unit</i> | <i>Quantity</i> | <i>Unit Price</i> | <i>Total</i> | <i>Comment</i> |
|-------------------------------------|-------------|-------------|-----------------|-------------------|--------------|-----------------------------------|
| Backfill to replace TCLP excavation | 4 | ton | 70 | \$ 28 | \$ 1,970 | |
| | 5 | ton | 270 | \$ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| | 8 | ton | 178 | \$ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| Fabric Placement | 1 | SY | 980 | \$ 2.0 | \$ 1,960 | |
| | 2 | SY | 600 | \$ 2.0 | \$ 1,200 | |
| | 4 | SY | 264 | \$ 2.0 | \$ 528 | |
| | 5 | SY | 1125 | \$ 2.0 | \$ 2,250 | |
| | 6 | SY | 306 | \$ 2.0 | \$ 611 | |
| | 7 | SY | 306 | \$ 2.0 | \$ 611 | |
| | 8 | SY | 650 | \$ 2.0 | \$ 1,300 | |
| | 9 | SY | 350 | \$ 2.0 | \$ 700 | |
| | 10 | SY | 400 | \$ 2.0 | \$ 800 | |

Table 4.1

**Remedial Cost Estimate
OU1 Pilsen - Chicago, Illinois**

| <i>Description</i> | <i>Area</i> | <i>Unit</i> | <i>Quantity</i> | <i>Unit Price</i> | <i>Total</i> | <i>Comment</i> |
|--|-------------|-------------|-----------------|-------------------|--------------|-------------------------|
| Pedestrian Bollards | 1&2 | LS | 3 | \$ 1,000 | \$ 3,000 | |
| Pedestrian Gravel (6 inches) | 1 | ton | 288 | \$ 32 | \$ 9,216 | |
| Pavement with 6 inch gravel base | | | | | | |
| | Area 2 Rev. | SY | 600 | \$ 40 | \$ 24,000 | 3" gravel/3" of asphalt |
| | 4 | SY | 264 | \$ 50 | \$ 13,194 | 6" gravel/3" of asphalt |
| | 5 | SY | 1125 | \$ 60 | \$ 67,500 | 6" gravel/6" of asphalt |
| | 6 | SY | 306 | \$ 50 | \$ 15,278 | 6" gravel/3" of asphalt |
| | 7 | SY | 306 | \$ 50 | \$ 15,278 | 6" gravel/3" of asphalt |
| | 8 | SY | 650 | \$ 50 | \$ 32,500 | 6" gravel/3" of asphalt |
| | 9 | SY | 350 | \$ 50 | \$ 17,500 | 6" gravel/3" of asphalt |
| | 10 | SY | 400 | \$ 50 | \$ 20,000 | 6" gravel/3" of asphalt |
| | | | | Subtotal | \$618,251 | |
| CRA Engineering Review, Remedial Action Plan, HASP, Specifications, Bid Review, QAPP, Reporting | | LS | 1 | \$ 83,000 | \$ 83,000 | |
| Construction Oversight | | LS | 1 | \$ 75,000 | \$ 75,000 | |
| | | | | Sub-total | \$ 158,000 | |
| | | | | Subtotal | \$776,251 | |
| | | | | Contingency (15%) | \$116,438 | |
| | | | | Total | \$892,688 | |

Appendices

Appendix A

Remedial Cost Estimate Details

Table A.1

**Remedial Cost Estimate
OU1 Pilsen - Chicago, Illinois**

| <i>Description</i> | <i>Area</i> | <i>Unit</i> | <i>Quantity</i> | <i>Unit Price</i> | <i>Total</i> | <i>Comment</i> |
|--|-------------|-------------|-----------------|-------------------|--------------|----------------|
| Mobilization | | LS | 1 | \$ 18,000 | \$ 18,000 | |
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| City of Chicago Permits | | LS | 1 | \$ - | \$ - | Not applicable |
| Soil Removal/grading | | Day | 15 | \$ 7,250 | \$ 108,750 | |
| Rail Removal | all RR | Day | 12 | \$ 7,250 | \$ 87,000 | |
| Non-regulated surface debris disposal | all RR | ton | 600 | \$ 65 | \$ 39,000 | |
| Non-hazardous debris transportation | all RR | ton | 600 | \$ 35 | \$ 21,000 | |
| TCLP soil treatment and excavation | 4 | ton | 70 | \$ 95 | \$ 6,685 | |
| | 5 | ton | 270 | \$ 95 | \$ 25,650 | |
| | 8 | ton | 178 | \$ 95 | \$ 16,910 | |
| Transport of TCLP treated soil (Areas 4, 5 & 8) | 4 | ton | 70 | \$ 25 | \$ 1,759 | |
| | 5 | ton | 270 | \$ 25 | \$ 6,750 | |
| | 8 | ton | 178 | \$ 25 | \$ 4,450 | |
| Disposal of organic soils | 1 | ton | 105 | \$ 65 | \$ 6,825 | Areas 1 & 2 |
| Disposal of organic soils | 2 | ton | 64 | \$ 65 | \$ 4,160 | Areas 1 & 2 |
| Transportation of organic soils | 1 | ton | 105 | \$ 35 | \$ 3,675 | Areas 1 & 2 |
| Transportation of organic soils | 2 | ton | 64 | \$ 35 | \$ 2,240 | Areas 1 & 2 |
| Non-regulated surface debris disposal | 5 | ton | 200 | \$ 65 | \$ 13,000 | |
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Table A.1

**Remedial Cost Estimate
OU1 Pilsen - Chicago, Illinois**

| <i>Description</i> | <i>Area</i> | <i>Unit</i> | <i>Quantity</i> | <i>Unit Price</i> | <i>Total</i> | <i>Comment</i> |
|-------------------------------------|-------------|-------------|-----------------|-------------------|--------------|-----------------------------------|
| Backfill to replace TCLP excavation | 4 | ton | 70 | \$ 28 | \$ 1,970 | |
| | 5 | ton | 270 | \$ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| | 8 | ton | 178 | \$ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| Fabric Placement | 1 | SY | 980 | \$ 2.0 | \$ 1,960 | |
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| | 8 | SY | 650 | \$ 2.0 | \$ 1,300 | |
| | 9 | SY | 350 | \$ 2.0 | \$ 700 | |
| | 10 | SY | 400 | \$ 2.0 | \$ 800 | |

Table A.1

**Remedial Cost Estimate
OU1 Pilsen - Chicago, Illinois**

| <i>Description</i> | <i>Area</i> | <i>Unit</i> | <i>Quantity</i> | <i>Unit Price</i> | <i>Total</i> | <i>Comment</i> |
|--|-------------|-------------|-----------------|--------------------------|--------------|-------------------------|
| Pedestrian Bollards | 1&2 | LS | 3 | \$ 1,000 | \$ 3,000 | |
| Pedestrian Gravel (6 inches) | 1 | ton | 288 | \$ 32 | \$ 9,216 | |
| Pavement with 6 inch gravel base | | | | | | |
| | Area 2 Rev. | SY | 600 | \$ 40 | \$ 24,000 | 3" gravel/3" of asphalt |
| | 4 | SY | 264 | \$ 50 | \$ 13,194 | 6" gravel/3" of asphalt |
| | 5 | SY | 1125 | \$ 60 | \$ 67,500 | 6" gravel/6" of asphalt |
| | 6 | SY | 306 | \$ 50 | \$ 15,278 | 6" gravel/3" of asphalt |
| | 7 | SY | 306 | \$ 50 | \$ 15,278 | 6" gravel/3" of asphalt |
| | 8 | SY | 650 | \$ 50 | \$ 32,500 | 6" gravel/3" of asphalt |
| | 9 | SY | 350 | \$ 50 | \$ 17,500 | 6" gravel/3" of asphalt |
| | 10 | SY | 400 | \$ 50 | \$ 20,000 | 6" gravel/3" of asphalt |
| | | | | Subtotal | \$618,251 | |
| Engineering Review, Remedial Action Plan, HASP, Specifications, Bid Review, QAPP, Reporting | | LS | 1 | \$ 83,000 | \$ 83,000 | |
| Construction Oversight | | LS | 1 | \$ 75,000 | \$ 75,000 | |
| | | | | Sub-total | \$ 158,000 | |
| | | | | Subtotal | \$776,251 | |
| | | | | Contingency (15%) | \$116,438 | |
| | | | | Total | \$892,688 | |

Table A.2
Assumptions
Pilsen - Chicago, Illinois

| <i>Work Summary</i> | <i>Disposal</i> | <i>Depth</i> | <i>CY</i> | <i>Ton</i> |
|---|---|----------------------------------|-------------|------------|
| | <u>Areas with TCLP > 5</u> | | | |
| | Area 4 | RR-04 TCLP = 12 0-6 inch depth | 44 | 70 |
| | Area 5 | PA-RR07, 08 = 13 6-24 inch depth | 169 | 270 |
| | Area 8 | AC04 = 12 0-6 inch depth | 111 | 178 |
| | | AC03 = 12 0-6 inch depth | | |
| | | AY05 = 9.6 6-12 inch depth | | 518 |
| <u>Area 1 Revised</u> | | | | |
| BNSF removes rails and ties | | | | |
| H Kramer removes organic soils 0-0.2 feet | | | | |
| H Kramer excavates 0.2 to 0.5 feet of contaminated soil and places in Areas 4 or 5 | | | | |
| H Kramer places fabric, six inches of gravel (gravel supplied by BNSF) | | | | |
| <u>Area 2 + RR26 area Revised</u> | | | | |
| BNSF removes rails and ties | | | | |
| H Kramer removes organic soils 0-0.2 feet | | | | |
| H Kramer places fabric, 3 inches of gravel and 3 inches of pavement | | | | |
| <u>Area 3</u> | | | | |
| No remediation, area recently paved by City | | | | |
| <u>Area 4</u> | | | | |
| BNSF removes rails and ties | | | | |
| H Kramer treat and removes TCLP soil | | | | |
| H Kramer places backfill in TCLP hole with material from Areas 1, 2, 3, 5, 6, 7, 8 or 9 | | | | |
| H Kramer places fabric | | | | |
| H Kramer places 6 inches of gravel and 3 inches asphalt | | | | |
| <u>Area 5</u> | | | | |
| | <u>Areas with non-TCLP debris to be removed</u> | area (SF) | debris (CY) | (ton) |
| BNSF removes rails and ties | Area 5 | 10125 | 188 | 300 |
| H Kramer removes 6 inches of surface debris | | | | |
| H Kramer treat and removes TCLP soil | | | | |
| H Kramer places backfill in TCLP hole with material from Areas 1, 2, 3, 5, 6, 7, 8 or 9 | | | | |
| H Kramer places fabric (or supplies to City) | | | | |
| City places six inches of gravel and paves 6 inches | | | | |
| | TCLP | 518 | 32 | 5 |
| | Area 1 | | | 3 |
| | non-haz | 300 | 19 | 5 |
| | | 818 | | 15 |
| <u>Area 6</u> | | | | |
| Remove tracks, grade area flat | | | | |
| H Kramer places fabric | | | | |
| H Kramer places 6 inches of gravel and 3 inches asphalt | 16 tons of waste per truckload | | | |
| | 8 trucks per day | | | |

Table A.2
Assumptions
Pilsen - Chicago, Illinois

Work Summary

Area 7

Grade area flat
H Kramer places fabric (or supplies to City)
City places six inches of gravel and paves 3 inches

Area 8

H Kramer treats and removes TCLP soils
H Kramer regrades Area 8
H Kramer places fabric (or supplies to City)
City places six inches of gravel and paves 3 inches

Area 9

H Kramer regrades Area 8
H Kramer places fabric (or supplies to City)
City places six inches of gravel and paves 3 inches

Area 10

Remove tracks, grade area flat
H. Kramer places fabric, six inches of gravel
H Kramer places 6 inches of gravel and 3 inches asphalt

TCLP Soil Disposal

Characterized as D008 Waste
Disposal
Treatment and Disposal = \$95/ton
Transport = \$25/ton

Debris Disposal

Disposal
Treatment and Disposal = \$65/ton
Transport = \$35/ton

Surface Replacement Area 5

CA-6 six-inch thick Stone = \$28/ton
6 inch stone + 6 inch Asphalt = \$60/SY

Disposal

Contractor Equipment

| | unit | rate | days | total |
|------------------|------|----------|------|-----------------|
| Excavator | Day | \$ 1,600 | 1 | \$ 1,600 |
| Excavator | Day | \$ 1,600 | 1 | \$ 1,600 |
| Skid Steer | Day | \$ 1,500 | 1 | \$ 1,500 |
| Front End Loader | Day | \$ 1,600 | 1 | \$ 1,600 |
| Laborer | Day | \$ 950 | 1 | \$ 950 |
| | | | | <u>\$ 7,250</u> |

Depth

CY

Ton

No Stormwater Retention Pond will be required
No sewer upgrades will be required

place 6 inches of stone over all disturbed areas

Leave non-haz in place and cover with stone

Soil density = 1.6 ton / cubic yard

fabric to be placed at all disturbed surfaces

all areas to be completed concurrently

Table A.2
Assumptions
Pilsen - Chicago, Illinois

Work Summary Disposal Depth CY Ton

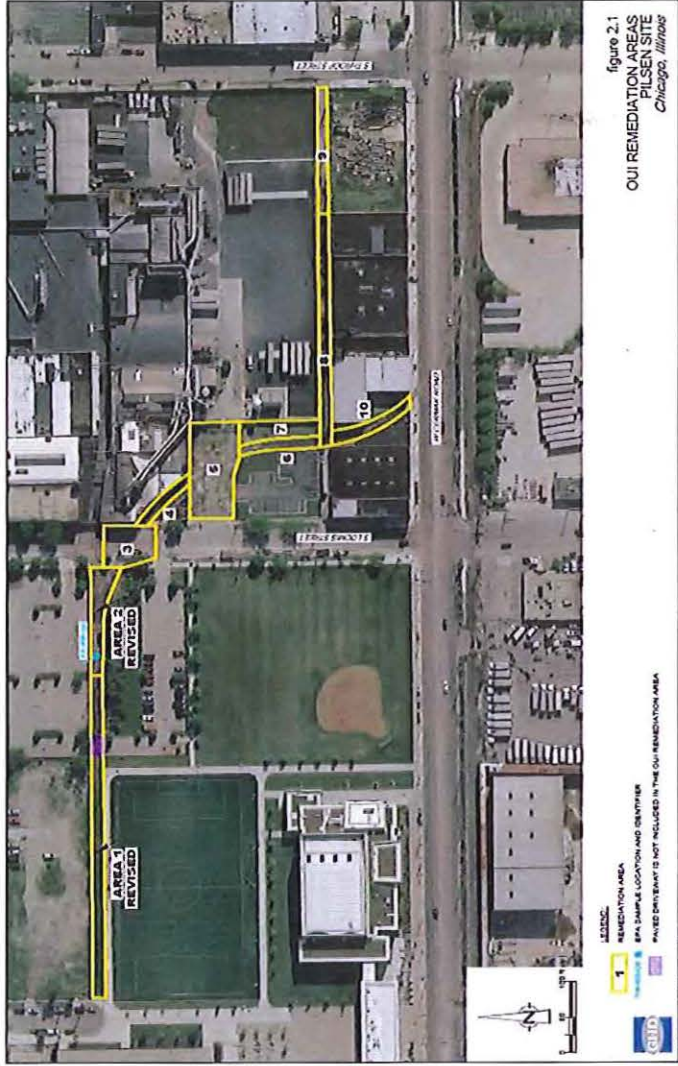


figure 2.1
OUI REMEDIATION AREAS
PILSEN SITE
Chicago, Illinois

Table A.3

Remedial Cost Estimate for Railroad and Alley Area
Pilsen - Chicago, Illinois

Areal Extent Estimates

| | N-S Width feet | E-W Length feet | Depth feet | Volume ft ³ | Area ft ² | CY | Ton | |
|--|----------------------|-----------------------|---------------|---------------------------|-------------------------|------------|--------------|--|
| 1 RR to west of Loomis | 18 | 490 | 0.2 | 1,764 | 8,820 | 65 | 105 | remove organic layer |
| 2 RR west of Loomis | 45 | 120 | 0.2 | 1,080 | 5,400 | 40 | 64 | remove organic layer 6 inches of gravel |
| | 45 | 120 | 0.25 | 1,350 | 5,400 | 50 | 80 | |
| 3 Loomis Crossing | 78 | 65 | 0 | 0 | 5,070 | 0 | 0 | |
| 4 RR tracks north of chiller | 95 | 25 | 0.5 | 1,188 | 2,375 | 44 | 70 | |
| 5 21st Place Drive (debris) (TCLP volume is 30% of area x 1.5 ft) | 75 | 135 | 0.5 | 5,063 | 10,125 | 188 | 300 | 100 tons will come from Area 1 |
| | | | 1.5 | 4,556 | | 169 | 270 | |
| 6 N-S RR Tracks East of parking lot | 110 | 25 | 0.5 | 1,375 | 2,750 | 51 | 81 | |
| 7 N-S alley | 110 | 25 | 0.5 | 1,375 | 2,750 | 51 | 81 | |
| 8 Unpaved W-E alley | 18 | 325 | 0.5 | 2,925 | 5,850 | 108 | 173 | |
| 9 Paved W-E alley | 18 | 175 | 0 | 0 | 3,150 | 0 | 0 | |
| 10 N-S RR tracks south of alley | 120 | 30 | 0.5 | 1,800 | 3,600 | 67 | 107 | |
| Totals | | | | 22,475 | 55,290 | 832 | 1,332 | |



Appendix B
TCLP Excavation Areas

Appendix B

TCLP Excavation Areas

OU1 Pilsen Site

Chicago, Illinois

The attached figures define the limits of the TCLP excavation in Areas 4, 5, and 8 based on the soil data collected by the EPA/Weston.

Area 4

- No additional delineation. Use Weston data.
- The TCLP area measures approximately 25' x 95' = 2,375 ft². Volume of 44 CY or 70 tons
- The plan is to treat in-situ the upper 0.5 feet of material within this area with a soil reagent¹. Once the analysis confirms the treated soil is below 5 mg/L, this material would be transported off-Site for disposal.
- No further delineation or confirmation sampling will be conducted because this has been completed through the USEPA sampling program.

Area 5

- The TCLP area measures approximately 55' x 55' = 3,025 ft². Volume of 168 CY or 269 tons.
- The upper 0.5 feet of material within this area (TCLP area as shown on the Figure) will be removed and either disposed of as non-TCLP debris or utilized as backfill in TCLP excavations.
- Then the area within the limits of the TCLP area from 0.5' to 2.0' feet below original grade as shown on the Figure will be treated in-situ with a soil reagent. After treatment a composite waste profile sample will be collected for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material would be transported off-Site for disposal.
- No further delineation or confirmation sampling will be conducted because this has been completed through the USEPA sampling program. The western and southern limits of the TCLP area of this excavation are defined by samples RR04, 06 (6-24") and RR10, 12 (6-24").

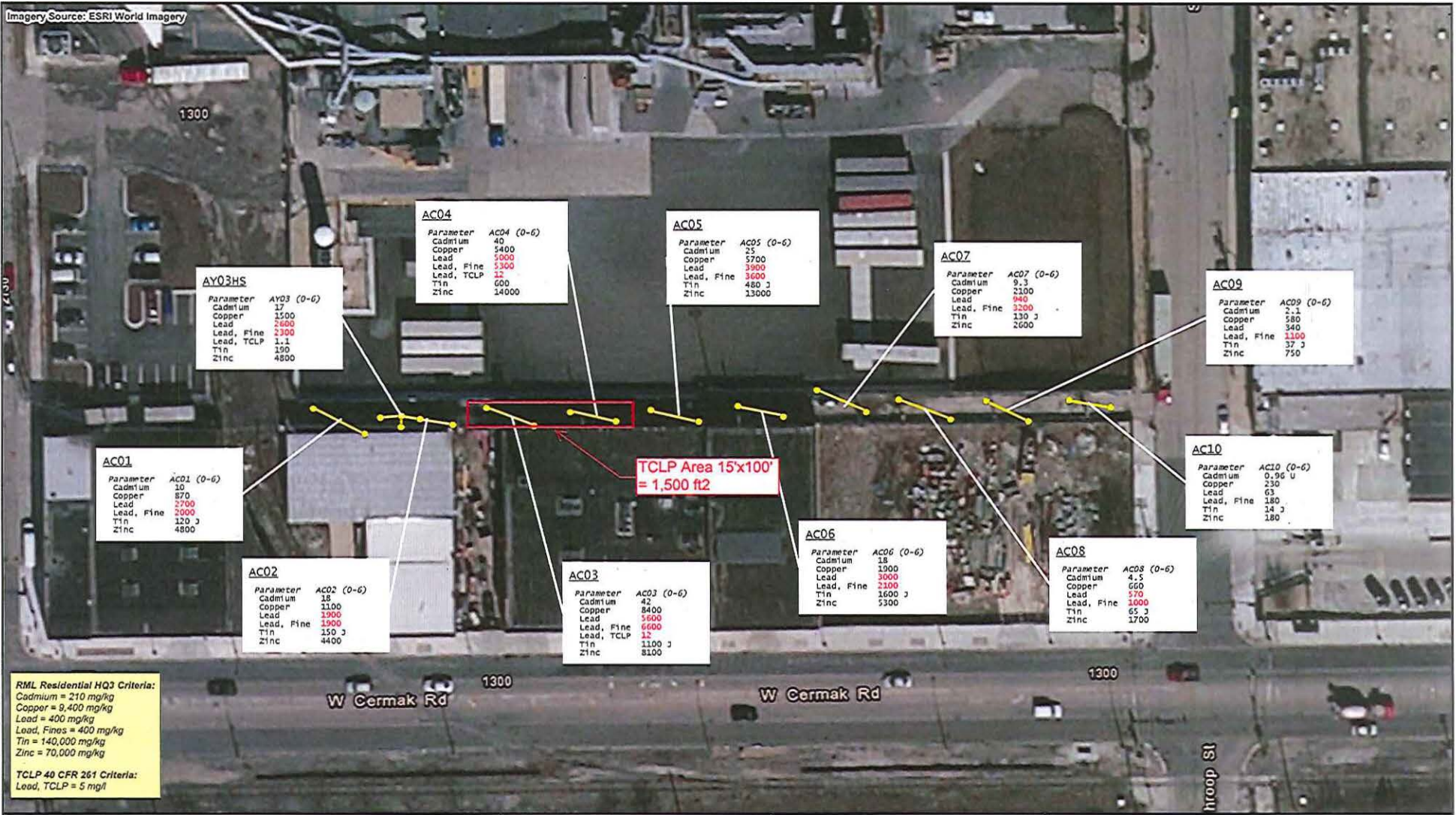
Area 8

- No additional delineation. Use Weston data.
- The TCLP area measures approximately 15' x 100' = 1,500 ft². Volume of 111 CY or 178 tons
- The area within the limits of the TCLP area as shown on the Figure will be treated in-situ from 0.0' to 2.0' with a soil reagent.
- After treatment a composite waste profile sample will be collected for expedited TCLP lead analysis.

¹ Free Flow Heavy Metals Treatment Reagent by Free Flow Technologies, Ltd. at a 4-percent application rate mixed in-situ with soil.

- Once the analysis confirms the treated soil is below 5 mg/L, this material would be transported off-Site for disposal.
- The western limit of the TCLP area is defined by samples AC02 and the eastern limit is defined by sample AC05 where the total lead concentrations is much lower and implies that the TCLP result would be less than 5 mg/L.
- No further delineation or confirmation sampling will be conducted because this has been completed through the USEPA sampling program.

Imagery Source: ESRI World Imagery



AY03HS

| Parameter | AY03 (0-6) |
|------------|------------|
| Cadmium | 17 |
| Copper | 1500 |
| Lead | 2600 |
| Lead, Fine | 2300 |
| Lead, TCLP | 1.1 |
| Tin | 190 |
| Zinc | 4800 |

AC04

| Parameter | AC04 (0-6) |
|------------|------------|
| Cadmium | 40 |
| Copper | 5400 |
| Lead | 5000 |
| Lead, Fine | 5300 |
| Lead, TCLP | 12 |
| Tin | 600 |
| Zinc | 14000 |

AC05

| Parameter | AC05 (0-6) |
|------------|------------|
| Cadmium | 25 |
| Copper | 5700 |
| Lead | 3900 |
| Lead, Fine | 3600 |
| Tin | 480 |
| Zinc | 13000 |

AC07

| Parameter | AC07 (0-6) |
|------------|------------|
| Cadmium | 9.3 |
| Copper | 2100 |
| Lead | 940 |
| Lead, Fine | 3200 |
| Tin | 130 |
| Zinc | 2600 |

AC09

| Parameter | AC09 (0-6) |
|------------|------------|
| Cadmium | 2.1 |
| Copper | 580 |
| Lead | 340 |
| Lead, Fine | 1100 |
| Tin | 37 |
| Zinc | 750 |

AC01

| Parameter | AC01 (0-6) |
|------------|------------|
| Cadmium | 10 |
| Copper | 870 |
| Lead | 2700 |
| Lead, Fine | 2900 |
| Tin | 120 |
| Zinc | 4800 |

TCLP Area 15'x100' = 1,500 ft2

AC10

| Parameter | AC10 (0-6) |
|------------|------------|
| Cadmium | 0.96 |
| Copper | 230 |
| Lead | 63 |
| Lead, Fine | 180 |
| Tin | 14 |
| Zinc | 180 |

AC02

| Parameter | AC02 (0-6) |
|------------|------------|
| Cadmium | 18 |
| Copper | 1100 |
| Lead | 1900 |
| Lead, Fine | 1900 |
| Tin | 150 |
| Zinc | 4400 |

AC03

| Parameter | AC03 (0-6) |
|------------|------------|
| Cadmium | 42 |
| Copper | 8400 |
| Lead | 5600 |
| Lead, Fine | 6600 |
| Lead, TCLP | 12 |
| Tin | 1100 |
| Zinc | 8100 |

AC06

| Parameter | AC06 (0-6) |
|------------|------------|
| Cadmium | 18 |
| Copper | 1900 |
| Lead | 3000 |
| Lead, Fine | 2100 |
| Tin | 1600 |
| Zinc | 5300 |

AC08

| Parameter | AC08 (0-6) |
|------------|------------|
| Cadmium | 4.5 |
| Copper | 660 |
| Lead | 570 |
| Lead, Fine | 1000 |
| Tin | 65 |
| Zinc | 1700 |

RML Residential HQ3 Criteria:
 Cadmium = 210 mg/kg
 Copper = 9,400 mg/kg
 Lead = 400 mg/kg
 Lead, Fine = 400 mg/kg
 Tin = 140,000 mg/kg
 Zinc = 70,000 mg/kg

TCLP 40 CFR 261 Criteria:
 Lead, TCLP = 5 mg/l

Legend

Composite Sampling Location
 Soil sample collected at each location (●), then homogenized with connected location to obtain the composite sample.

Result Units = mg/kg
 Except Lead, TCLP = mg/l

Red text indicates criteria exceedance

0 50 Feet

N

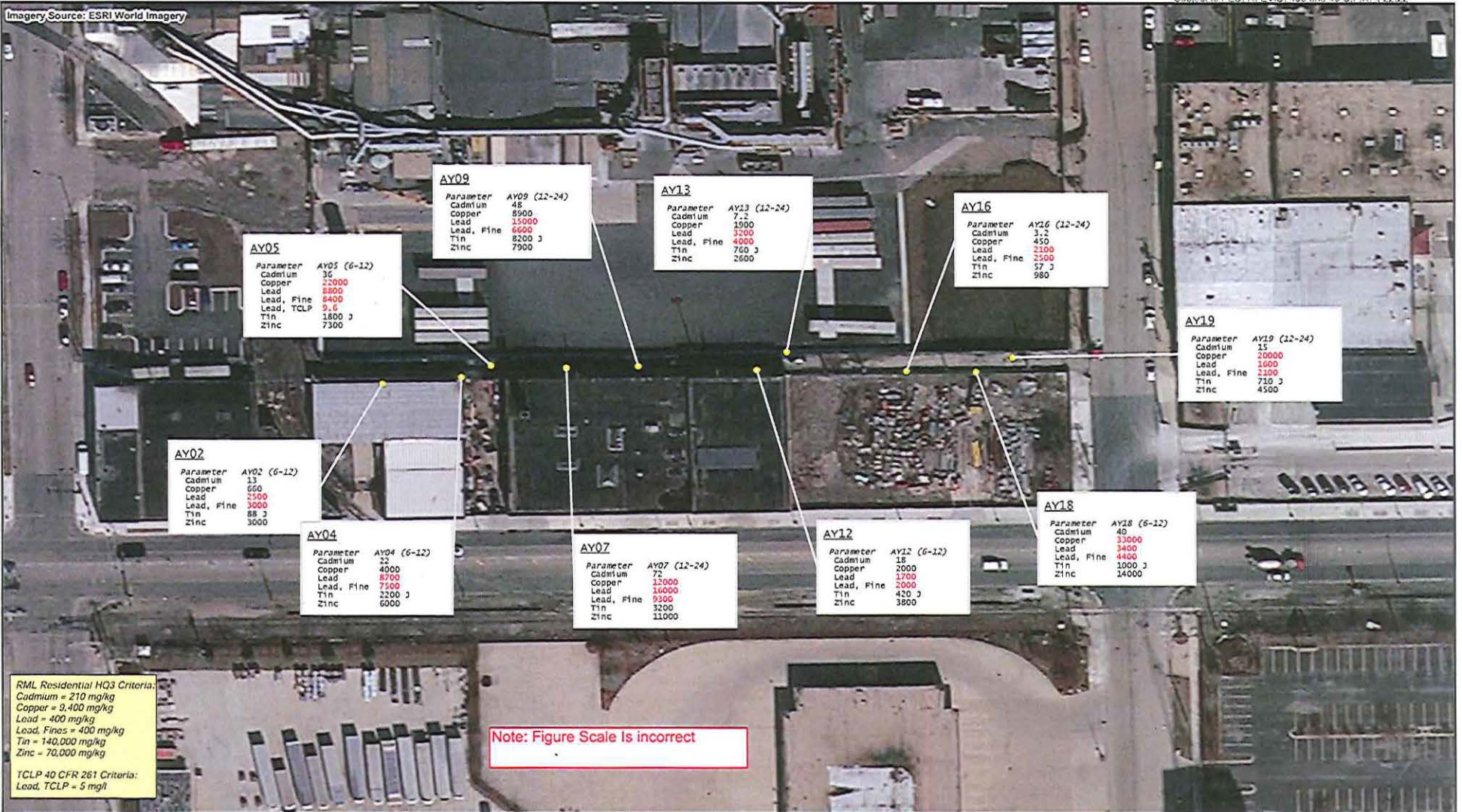
Prepared For:
 US EPA Region V
 Contract No.: EP-S5-06-04
 TDD: S05-0001-1211-002
 DCN: 2038-2A-BLKW

Prepared By:
 WESTON SOLUTIONS, INC
 750 E. Bunker Court
 Suite 500
 Vernon Hills, Illinois 60061

Figure 4-2
 Alley Composite Sampling Results Map
 Pilsen Area Soil Site: Railroad/Alley
 Chicago, Cook County, Illinois

FILE: D:\Pilsen\mrd\SAR_RR_Alley\F4-2_Alley_Comp_Results.mxd 2/26/2014 3:56:31 PM wojdak

Imagery Source: ESRI World Imagery



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Legend


- Sampling Locations

Red text indicates criteria exceedance

Result Units = mg/kg
 Except Lead, TCLP = mg/l

0 100 Feet

N

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 WESTON SOLUTIONS, INC
 750 E. Bunker Court
 Suite 500
 Vernon Hills, Illinois 60061

Figure 4-1
 Alley Grab Sampling Results Map
 Pilsen Area Soil Site: Railroad/Alley
 Chicago, Cook County, Illinois

Appendix C
IEPA ARARs



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829
BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

(217) 524-1663

March 30, 2015

Mr. Ramon Mendoza
Federal On-Scene Coordinator
U.S. Environmental Protection Agency, Region V
Superfund Division, Removal Branch 2 SE-5J
77 West Jackson
Chicago, IL 60604

Re: Operable Unit 1 – Pilsen Soils Railroad Spur and Alley Site
LPC# pending – Cook County
SF/Tech

Dear Mr. Mendoza:

Per your request, Illinois EPA is identifying Applicable, Relevant, and Appropriate Requirements (ARARs) for the Operable Unit 1 – Pilsen Soils Railroad Spur and Alley Site located in Chicago, Illinois. Throughout this time-critical removal activity, please forward to me the Action Memorandum, Removal Action Report(s), periodic Pollution Reports (POLREPS), and other relevant site information in order to keep the Illinois EPA Bureau of Land files current and accurate.

To assist U.S. EPA, the Illinois EPA has identified the following State ARARs for the immediate removal of containers. Containers include drums, tanks, and roll-off-boxes. For the ARARs listed in the attachment to this letter, USEPA is considered to be the generator of the waste.

In Illinois, our Resource Conservation and Recovery Act (RCRA) regulations are essentially identical to the Federal RCRA regulations. The essential difference between the Federal and State ARARs for solid wastes is the classification of Special Waste in Illinois.

As part of the removal coordination effort between Illinois EPA and U.S. EPA, please contact me at the above number if you have any additional site-specific questions or additional requests.

Sincerely,

Bruce Everetts
Office of Site Evaluation
Division of Remediation Management
Bureau of Land

bcc: Division File, w/ attachments

**STATE of ILLINOIS ARARs
for
IMMEDIATE REMOVALS of CONTAINERS**

| Regulatory Citation | Requirement |
|-----------------------------------|--|
| | Determine the Regulatory Classification of the material |
| 35 IAC 722.111 (40 CFR 262.11) | The generator of a solid waste must determine whether it is a hazardous waste. |
| 35 IAC 808.110 | The waste will probably be classified as a Special Waste. Special wastes are hazardous wastes, industrial process wastes, and pollution control wastes. Pollution control wastes include contaminated media. |
| | |
| | Obtain IEPA & USEPA Identification Numbers |
| 35 IAC 722.112 (40 CFR 262.12) | A generator must obtain a USEPA identification number prior to transporting hazardous waste off-site. |
| 35 IAC 809.501 | A generator must obtain an IEPA identification number in order to properly complete an Illinois manifest. |
| | |
| | Transportation of Wastes Off-Site |
| 35 IAC 723.120 (40 CFR 263.20) | Hazardous waste must be manifested to a facility that is permitted to accept it. |
| 35 IAC 809.501 | Special waste must be manifested to a facility that is permitted to accept it. |
| 35 IAC 809.201 | All vehicles that haul special waste on public highways in Illinois must have a Special Waste Hauling Permit. |
| | |
| | On-Site Management of Wastes |
| 35 IAC 722.134 (40 CFR 262.34) | Containers of hazardous waste can be stored on-site for less than 90 days without obtaining a permit or interim status provided that they are managed in accordance with the requirements at 35 IAC Part 725, Subpart I: <ul style="list-style-type: none"> - the containers must be in good condition (non-leaking), - the containers must be compatible with the wastes placed in them, |

**STATE of ILLINOIS ARARs
for
IMMEDIATE REMOVALS of CONTAINERS**

| Regulatory Citation | Requirement |
|-----------------------------------|---|
| | <ul style="list-style-type: none"> - the containers must always be closed except when it is necessary to add or remove waste, - the containers must not be opened, or managed in a way that may cause them to rupture or leak, - the containers must be inspected weekly, - incompatible wastes must not be placed in the same container, - a container of waste that is incompatible with other wastes must be separated from the other wastes, - containers of ignitable or reactive waste must be located at least 50 feet from the property line, |
| 35 IAC 722.134 (40 CFR 262.34) | The 90 day exclusion only applies to wastes that are managed in containers, tanks, drip pads or containment buildings. Hazardous waste that is placed on the ground is subject to all of the regulations for a waste pile as soon as it is placed on the ground. |
| | |

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**In the Matter of Pilsen Soil Operable Unit 1 Railroad
Spur and Alley Site, Chicago, Illinois**

**Appendix D
TCLP Lead Location Map**



FILE: D:\Pilsen\med\SAR_RR_Ally\F4-3_RR_Comp_Results.mxd 2/26/2014 4:02:52 PM wojdak

RML Residential HQ3 Criteria:
 Cadmium = 210 mg/kg
 Copper = 9,400 mg/kg
 Lead = 400 mg/kg
 Lead, Fines = 400 mg/kg
 Tin = 140,000 mg/kg
 Zinc = 70,000 mg/kg

TCLP 40 CFR 261 Criteria:
 Lead, TCLP = 5 mg/l


Legend

Composite Sampling Location
 Soil sample collected at each location (●), then homogenized with connected location to obtain the composite sample.


Result Units = mg/kg
 Except Lead, TCLP = mg/l
 Red text indicates criteria exceedance

0 75 Feet

N



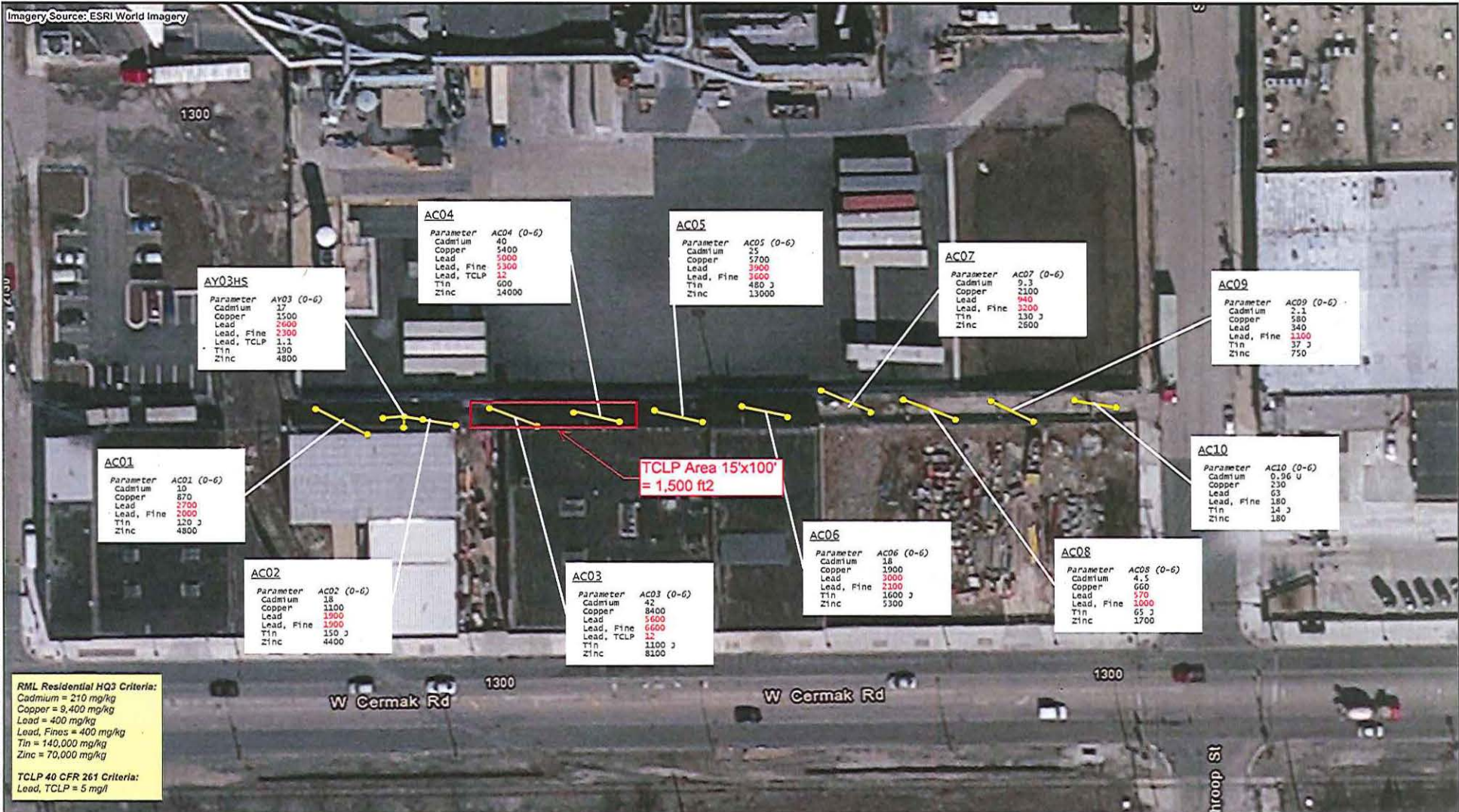
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Prepared By:
 WESTON SOLUTIONS, INC
 750 E. Bunker Court
 Suite 500
 Vernon Hills, Illinois 60061

Figure 4-3
 Railroad Property Composite Sampling Results Map
 Pilsen Area Soil Site: Railroad/Alley
 Chicago, Cook County, Illinois

Imagery Source: ESRI World Imagery



RML Residential HQ3 Criteria:
 Cadmium = 210 mg/kg
 Copper = 9,400 mg/kg
 Lead = 400 mg/kg
 Lead, Fines = 400 mg/kg
 Tin = 140,000 mg/kg
 Zinc = 70,000 mg/kg

TCLP 40 CFR 261 Criteria:
 Lead, TCLP = 5 mg/l

Legend
 Composite Sampling Location
 Soil sample collected at each location (●), then homogenized with connected location to obtain the composite sample.

Result Units = mg/kg
 Except Lead, TCLP = mg/l
 Red text indicates criteria exceedance
 0 50
 Feet



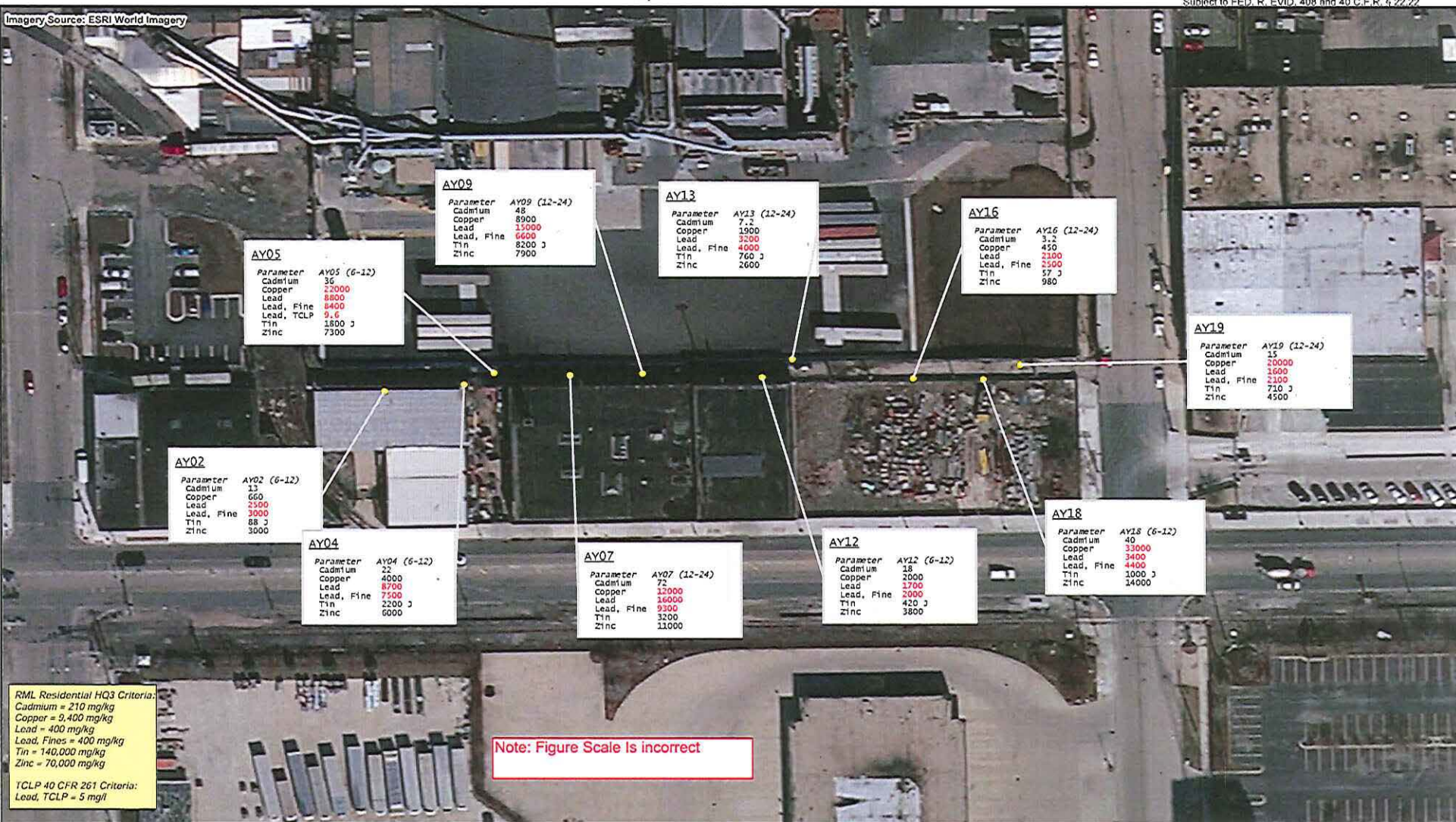
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 WESTON SOLUTIONS, INC
 750 E. Bunker Court
 Suite 500
 Vernon Hills, Illinois 60061

Figure 4-2
 Alley Composite Sampling Results Map
 Pilsen Area Soil Site: Railroad/Alley
 Chicago, Cook County, Illinois

Imagery Source: ESRI World Imagery



RML Residential HQ3 Criteria:
 Cadmium = 210 mg/kg
 Copper = 9,400 mg/kg
 Lead = 400 mg/kg
 Lead, Fines = 400 mg/kg
 Tin = 140,000 mg/kg
 Zinc = 70,000 mg/kg

TCLP 40 CFR 261 Criteria:
 Lead, TCLP = 5 mg/l

Note: Figure Scale Is incorrect

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Legend

- Sampling Locations

Red text indicates criteria exceedance

Result Units = mg/kg
 Except Lead, TCLP = mg/l

0 100 Feet

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Figure 4-1
 Alley Grab Sampling Results Map
 Pilsen Area Soil Site: Railroad/Alley
 Chicago, Cook County, Illinois