UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 7

IN THE MATTER OF:	
Sporlan Valve Plant 1 Site	Docket No. CERCLA-07-2016-0007
SV Land, LLC, Respondent	
Proceeding under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. § 9606(a).	

UNILATERAL ADMINISTRATIVE ORDER
FOR REMOVAL ACTION

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order (Order) is issued under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, (CERCLA), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of the United States Environmental Protection Agency (EPA) by Executive Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987), and further delegated to the Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-B. This authority was further redelegated by the Regional Administrator of EPA Region 7 to the Director of EPA Region 7's Superfund Division by Regional Delegation Nos. R7-14-014-C and R7-14-014-D.

2. This Order pertains to the Sporlan Valve Plant 1 Site located in Washington, Missouri (the "Site"). This Order requires Respondent to conduct removal actions described herein to abate an imminent and substantial endangerment to the public health or welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

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

II. PARTIES BOUND

4. This Order applies to and is binding upon Respondent and its successors and assigns. Any change in ownership or control of the Site or change in the corporate or partnership status of Respondent, including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondent's responsibilities under this Order.

5. Respondent shall provide a copy of this Order to each contractor hired to perform the Work required by this Order and to each person representing Respondent with respect to the Site or the Work, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with this Order. Respondent or its contractors shall provide written notice of the Order to all subcontractors hired to perform any portion of the Work required by this Order. Respondent shall nonetheless be responsible for ensuring that its contractors and subcontractors perform the Work in accordance with the terms of this Order.

III. DEFINITIONS

6. Unless otherwise expressly provided in this Order, terms used in this Order 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 Order or in appendices to or documents incorporated by reference into this Order, the following definitions shall apply:

"Enforcement Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on July 28, 2016, by the Regional Administrator, EPA Region 7 or his/her delegate, and all attachments thereto. The "Enforcement Action Memorandum" is attached as Appendix 3.

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

"Contaminants of Concern" or "COCs" shall mean trichloroethylene (TCE), dichloroethylene (DCE), vinyl chloride (VC) and benzene.

"Day" or "day" shall mean a calendar day. In computing any period of time under this Order, 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 Order as provided in Section VIII.

"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.

"MDNR" shall mean the Missouri Department of Natural Resources and any successor departments or agencies of the State.

"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.

"Order" shall mean this Unilateral Administrative Order and all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.

"Paragraph" shall mean a portion of this Order identified by an Arabic numeral or an upper or lower case letter.

"Parties" shall mean EPA and Respondent.

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

"Removal Action Work Plan" or "RAWP" shall mean the document submitted pursuant to Paragraph 28 of this Order.

"Respondent" shall mean SV Land, LLC.

"Section" shall mean a portion of this Order identified by a Roman numeral.

"Site" shall mean the Sporlan Valve Plant 1 Superfund Site, encompassing approximately four to six acres, located at 611 East 7th Street in Washington, Franklin County, Missouri, and any areas where COCs from this property have come to be located.

"State" shall mean the State of Missouri.

"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.

"Work" shall mean all activities Respondent is required to perform under this Order, except those required by Section XV (Retention of Records).

IV. FINDINGS OF FACT

7. The Site was the former location of an 80,000 square foot manufacturing facility on an approximately four to six acre property, formerly owned and operated by Sporlan Valve Company, which became operational in approximately 1939 (Appendix 1). Sporlan Valve Company manufactured refrigeration valve parts used in air conditioners and supermarket refrigeration cases at the Site. Over the course of the facility's manufacturing history, three above-ground storage tanks (ASTs) ranging in size from 200 to 2,000 gallons, were used to store trichloroethylene (TCE) for the plant's degreasing processes. The 2,000 gallon AST was located outside and just north of the former manufacturing building, and was positioned on a concrete pad with no secondary containment.

8. TCE is an industrial solvent that poses a potential human health hazard to the central nervous system, kidney, liver, immune system, male reproductive system, and developing fetus. TCE is characterized by the EPA as "carcinogenic in humans" by all routes of exposure.

9. During a Phase II environmental site assessment conducted on behalf of Parker Hannifin in March 2004, ten soil samples and one groundwater sample were collected from the Site and analyzed for contamination. Analytical results from this sampling event documented elevated levels of TCE in soil and groundwater at the Site.

10. In October 2004, Parker Hannifin purchased Sporlan Valve Company via an asset sale, which excluded the real property associated with the Site. Respondent purchased the real property associated with the Site in December 2004.

11. In January 2008, Respondent enrolled the Site in the Missouri Brownfields Voluntary Cleanup Program (BVCP), and on-Site structures were demolished in 2011. Respondent performed investigation of soil and groundwater at on-site and off-site locations including twelve on-site groundwater monitoring events commencing in May 2007, eleven off-site groundwater monitoring events commencing in July 2008, nine off-site plume boundary groundwater monitoring events commencing in September 2009, and eight residential soil vapor monitoring events commencing in October 2008. These investigations and monitoring events were performed with oversight from the BVCP after the Respondent entered the program in January 2008. Investigations conducted at the Site while it was enrolled in the BVCP documented the presence of TCE in the shallow groundwater under the former manufacturing facility at levels in excess of 10,000 micrograms per liter (µg/L). Further sampling

documented that the TCE groundwater contamination had migrated off the facility property to an area immediately to the south and east.

12. Respondent withdrew the Site from the BVCP in April 2015.

13. In July 2015, MDNR conducted vapor intrusion sampling, collecting indoor air, crawlspace or sub-slab vapor, and sump water at twelve residences located down-gradient from the Site. The analytical data from this sampling, along with previous sub-slab results collected while the Site was enrolled in the BVCP, documented levels of TCE above the EPA's residential screening levels for indoor air and/or sub-slab vapor at residential properties above the TCE-contaminated shallow groundwater.

14. Following MDNR's receipt of vapor intrusion sampling results documenting the presence of TCE in the residential area at levels exceeding EPA's residential screening levels, the Site was referred by MDNR to EPA for a removal action on August 20, 2015. MDNR provided its July 2015 sampling data to the Respondent on August 24, 2015. As a result of MDNR's data and comparison of the data to the EPA's residential screening levels, Respondent complied with EPA's direction to install a vapor mitigation system in one residence where the MDNR indoor air data exceeded the EPA's residential screening and action levels and a second residence where TCE was detected in sub-slab vapors exceeding EPA's regional screening and action levels; although the TCE concentrations in indoor air at this specific residence were below the EPA regional screening level.

15. The full characterization of groundwater contamination and possible exposures resulting from vapor intrusion from that contamination is not yet known.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

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

a. The Sporlan Valve Plant 1 Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

c. Respondent is a liable party under Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1), as it is the "owner" and "operator" of the facility, 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).

d. The COC contamination found at the Site, as identified in the Findings of Fact above, includes a "hazardous substance" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

e. The conditions described in Paragraphs 7-15 of the Findings of Fact above constitute an actual and/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 at the Site may constitute a threat to public health or welfare or the environment, based on the factors set forth in Section 300.415(b)(2) of the NCP. These factors include, but are not limited to, the following: (i) actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances; this factor is present at the Site due to the existence of COCs in groundwater which may cause adverse health effects to nearby populations through exposure to COC vapors via vapor intrusion; and (ii) the unavailability of other appropriate federal or state response mechanisms to respond to the release, as evidenced by the State referring the Site to EPA for action on August 20, 2015.

g. The conditions described in the Findings of Fact above may 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).

h. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment.

VI. ORDER

17. Based upon the Findings of Fact, Conclusions of Law and Determinations set forth above, and the administrative record, Respondent is hereby ordered to comply with all provisions of this Order and any modifications to this Order, including all appendices to this Order and all documents incorporated by reference into this Order.

VII. OPPORTUNITY TO CONFER

18. Within five days after this Order is signed by EPA, Respondent may, in writing, request a conference with EPA to discuss this Order, including its applicability, the factual findings and the determinations upon which it is based, the appropriateness of any actions Respondent is ordered to take, or any other relevant and material issues or contentions that Respondent may have regarding this Order.

19. Respondent may appear in person or by an attorney or other representative at the conference. Any such conference shall be held at least five days after the conference is requested. Respondent may also submit written comments or statements of position on any matter pertinent to this Order no later than five days after the conference or within ten days after this Order is signed by EPA if Respondent does not request a conference. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Any request for a conference or written comments or statements should be submitted to:

Kristen Nazar
Attorney, Office of Regional Counsel

U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219
913-551-7450
nazar.kristen@epa.gov

VIII. EFFECTIVE DATE

20. This Order shall be effective five days after the Order is signed by EPA unless a conference is requested or written materials are submitted in accordance with Section VII (Opportunity to Confer). If a conference is requested or written materials are submitted, this Order shall be effective on the later of the 10th day after the day of the conference, or the 10th day after written materials, if any, are submitted, unless EPA determines that the Order should be modified based on the conference or written materials. In such event, EPA will notify Respondent, within the ten day period that EPA intends to modify the Order. The modified Order shall be effective five days after it is signed by EPA.

IX. NOTICE OF INTENT TO COMPLY

21. On or before the Effective Date, Respondent shall notify EPA in writing of Respondent's irrevocable intent to comply with this Order. Such written notice shall be sent to EPA as provided in Paragraph 19. Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date, any "sufficient cause" defense asserted by Respondent under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice required by this Paragraph shall not be deemed to be acceptance of any Respondent's assertions. Failure of Respondent to provide such notification within this time period shall, as of the Effective Date, be treated as a violation of this Order.

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

22. Selection of Contractors, Personnel. All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within thirty days after the Effective Date, and before the Work outlined below begins, Respondent shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such Work. If, after the commencement of the Work, Respondent retains additional contractor(s) or subcontractor(s), Respondent shall notify EPA of the name(s) and qualification(s) of such contractor(s) or subcontractor(s) retained to perform the Work at least seven days prior to commencement of Work by such additional contractor(s) or subcontractor(s). EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If EPA disapproves of a selected contractor or subcontractor, Respondent shall retain a different contractor or subcontractor and shall notify EPA of that contractor's or subcontractor's name and qualifications within seven days after receipt of EPA's disapproval. With respect to any proposed contractor, Respondent shall demonstrate that the proposed contractor demonstrates compliance with ASQ/ANSI E4:2014 "Quality management systems for environmental information and technology programs – Requirements with guidance for use" (American Society for Quality,

February 2014), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, Reissued May 2006) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondent shall be subject to EPA's review for verification that such persons meet minimum technical background and experience requirements.

23. Within seven days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of the Work required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, email address, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during the Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, email address, and qualifications within seven days following receipt of EPA's disapproval. Respondent shall have the right to change its Project Coordinator, subject to EPA's right to disapprove. Respondent shall notify EPA seven days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Communications between Respondent and EPA, and all documents concerning the activities performed pursuant to this Order, will be directed to the Project Coordinator. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondent.

24. EPA has designated Heath Smith as its On-Scene Coordinator (OSC) for this Order. Mr. Smith's contact information is:

Heath Smith
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219
smith.heath@epa.gov
Phone: 636-326-4724

EPA will notify Respondent of a change of its OSC. Communications between Respondent and EPA, and all documents concerning the activities performed pursuant to this Order, shall be directed to EPA's OSC in accordance with Paragraph 29.a(1).

25. EPA's OSC shall be responsible for overseeing Respondent's implementation of this Order. The OSC shall have the authority vested in a Remedial Project Manager (RPM) and an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Order, or to direct any other response action when s/he determines that conditions at the Site constitute an emergency situation or may present a threat to public health or welfare or the environment. Absence of EPA's OSC from the Site shall not be cause for stoppage or delay of Work.

XI. WORK TO BE PERFORMED

26. Respondent shall perform, at a minimum, all actions necessary to implement the following items. The actions to be implemented generally include the following:

a) Establish a point of contact who affected homeowners can access via phone, email or in person with questions regarding the proposed action;

b) Design, install and ensure effectiveness of a vapor mitigation system (VMS) in structures impacted or threatened to be impacted by vapor intrusion from the plume of contaminated groundwater and soil gas migrating at the Site. This will include properties without mitigation systems already installed located within the Tier 1 area of the figure in Appendix 2. Within the area, preemptive mitigation in lieu of sampling has been determined to be appropriate considering the following:

1) Concentrations of COCs in shallow groundwater indicate conditions that are conducive for vapor intrusion issues in residential homes.
2) Homes in the residential neighborhood over the known COC plume are predominantly homes constructed over basements.
3) The EPA Vapor Intrusion Screening Level (VISL) calculator, which provides a general guideline for screening levels of sub-slab COCs indicates homes above the COC plume are at risk of VI issues. Concentrations of TCE in groundwater exceeding 10 (micrograms per liter or ug/L) represent concentrations of concern.
4) A completed exposure pathway has been observed at one of the properties at the Site. In addition, two properties have had concentrations that exceeded proposed removal criteria and have required the installation of VMSs.

The presence of elevated levels of COCs in shallow groundwater beneath homes and documented completed exposure pathways make the option of preemptive mitigation available.

Properties within the Tier 1 area include: 125, 143-155, 175-182, and 192-194. Upon additional EPA sampling, however, alternative properties may be substituted.

VMS systems will include the installation of a sub-slab or crawl space depressurization system including electric fan. During system installation, cracks in walls and floors of the basement and drains must be sealed to eliminate potential pathways for exposure. The VMS will be designed to control levels of contaminants of concern to below EPA sub-slab and indoor air action levels, as listed below:

Contaminant of Concern	Residential Screening Level* ($\mu g/m^3$)	Residential Action Level** ($\mu g/m^3$)
Indoor Air		
Benzene	0.36	3.6
1,1-DCE	21	210
TCE	0.20	2.0
Vinyl Chloride	0.17	1.7
Sub-Slab/Exterior Soil Gas***		
Benzene	12	120
1,1-DCE	700	7,000
TCE	6.7	67
Vinyl Chloride	5.7	57

*The Residential Screening Levels were obtained from the EPA's November 2015 Residential Air Regional Screening Levels, based on the lower of a $1x10^{-6}$ excess lifetime cancer risk or a non-cancer hazard quotient of 0.1.

**The Residential Action Levels were obtained from the EPA's November 2015 Residential Air Regional Screening Levels, based on the lower of a $1x10^{-5}$ excess lifetime cancer risk or a non-cancer hazard quotient of 1.

***Sub-slab screening and action levels were calculated using an attenuation factor of 0.03

c) Confirm that indoor air results are less than EPA action levels for contaminants of concern (TCE, DCE, vinyl chloride and benzene) for the three properties in which VMSs have been installed, and following installation of any additional VMSs. Performance sampling will be conducted 30 days after VMS installation. If contaminants are greater than EPA action levels, or if a VMS fan is not operational, system modifications will be submitted to the EPA for review and approval within 15 days of receipt of the sampling and inspection results. System modifications will be implemented within 30 days of EPA approval.

27. All work performed shall be in accordance with the June 2015 EPA guidance document "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air." For any regulation or guidance referenced in the Order, 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 Respondent receives notification from EPA of the modification, amendment, or replacement.

28. Removal Action Work Plan and Implementation.

a. Within twenty-one days after the Effective Date, in accordance with Paragraph 29 (Submission of Deliverables), Respondent shall submit to EPA for review and approval a draft work plan for performing the removal actions (the "Removal Action Work Plan" or "RAWP") generally described in Paragraph 26 above. The draft RAWP shall provide a description of, and an expeditious schedule for the performance of, the Work.

b. EPA may approve, disapprove, require revisions to, or modify the draft RAWP in whole or in part. If EPA requires revisions, Respondent shall submit a revised draft

RAWP within fourteen days after receipt of EPA's notification of the required revisions. Respondent shall implement the RAWP as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the RAWP, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

c. Upon approval or approval with modifications of the RAWP Respondent shall commence implementation of the Work in accordance with the schedule included therein. Respondent shall not commence or perform any Work except in conformance with the terms of this Order. Respondent shall notify EPA at least 48 hours prior to performing any Work on-Site pursuant to the EPA-approved RAWP.

d. Unless otherwise provided in this Order, any additional deliverables that require EPA approval under the RAWP shall be reviewed and approved by EPA in accordance with this Paragraph.

e. Any non-compliance with any EPA-approved plans, reports, specifications, schedules, or other deliverables shall be considered a violation of this Order. Determinations of non-compliance shall be made by EPA. Approval of the RAWP shall not limit EPA's authority under this Order to require Respondent to conduct activities consistent with this Order to accomplish the Work outlined in this Section.

29. Submission of Deliverables

a. General Requirements for Deliverables.

(1) Except as otherwise provided in this Order, Respondent shall transmit all submissions required by this Order electronically to EPA's OSC using the contact information contained in Paragraph 24 above. Respondent shall submit all deliverables required by this Order or any approved work plan to EPA in accordance with the schedule set forth in such plan.

(2) Respondent shall submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Paragraph 29.b. All other deliverables shall be submitted to EPA in the form specified by the OSC. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches, Respondent 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 as specified in Region 7's Geospatial Data Deliverables Standard Operating 2341.01A. Region 7 prefers vector data be submitted in UTM Zone 14-16 (NAD83) in meters but will accept most Well Known Identified (WKID) projections. Projected coordinates

(e.g. latitude/longitude in decimal degrees, 6 significant digits) may optionally be included but must be documented. Raster data, such as aerial photography, may be submitted in their native projection (WKID projections preferred). All geospatially related materials must be documented and accompanied by 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 optional 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/. 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.

(3) Spatial data submitted by Respondent do not, and are not intended to, define the boundaries of the Site.

30. Sampling and Analysis Plan. Within fourteen days after the Effective Date, Respondent shall submit a Sampling and Analysis Plan to EPA for review and approval. This plan shall consist of a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP) that is consistent with the RAWP, the NCP, and applicable guidance including, but not limited to, "Guidance for Quality Assurance Project Plans (QA/G-5)" EPA/240/R-02/009 (December 2002), "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" EPA 240/B-01/003 (March 2001, reissued May 2006), and "Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3 EPA/505/B-04/900A-900C (March 2005). Upon its approval by EPA, the Sampling and Analysis Plan shall be incorporated into and become enforceable under this Order.

31. Health and Safety Plan. Within thirty days after the Effective Date, Respondent shall submit for EPA review and comment a Health and Safety Plan that ensures the protection of on-Site workers and the public during performance of on-Site Work under this Order. This plan shall be prepared in accordance with "OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities," Pub. 9285.0-OlC (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. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the performance of the Work.

32. Community Involvement. If requested by EPA, Respondent shall participate in community involvement activities, including participation in (a) the preparation of information regarding the Work for dissemination to the public, with consideration given to including mass media and/or Internet notification, and (b) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site. Respondent's support of EPA's community involvement activities may include providing online access to initial submissions and updates of deliverables to (a) any community advisory groups, (b) any technical assistance grant recipients and their advisors, and (c) other entities to provide them with a reasonable opportunity for review and comment. All community involvement activities conducted by Respondent at EPA's request

are subject to EPA's oversight. Upon EPA's request, Respondent shall establish a community information repository at or near the Site to house one copy of the administrative record.

33. Progress Reports. Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Order on a monthly basis, or as otherwise requested by EPA, from the date of receipt of EPA's approval of the RAWP until issuance of Notice of Completion of Work pursuant to Section XXIV, 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.

34. Final Report. Within thirty days after completion of all Work required by this Order, with the exception of any continuing obligations required by this Order, including record retention. Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Order. EPA will review and approve the final report in accordance with Section XXIV (Notice of Completion of Work). The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP, "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 Order, 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 actions (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 Respondent's Project Coordinator: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I 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."

35. Off-Site Shipments.

a. Respondent may ship hazardous substances from the Site to an off-Site facility only in compliance with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondent obtains 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).

b. Respondent may ship hazardous substances from the Site to an out-of-state waste management facility only if, prior to any shipment, it provides written notice to the appropriate state environmental official in the receiving facility's state and to the OSC. This notice requirement will 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 substances to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondent shall also 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 substances to a different out-of-state facility. Respondent shall provide the notice after the award of the contract for the removal action and before such substances are shipped.

c. Respondent may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only in compliance with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the Action Memorandum. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

XII. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

36. Respondent 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), and "Uniform Federal Policy for Quality Assurance Project Plans," Parts 1-3, EPA/505/B-04/900A-900C (March 2005).

37. Access to Laboratories.

a. Respondent shall ensure that EPA personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondent pursuant to this Order. In addition, Respondent 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). Respondent shall ensure that the laboratories that it utilizes for the analysis of samples taken pursuant to this Order 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 using EPA-accepted 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, Respondent may use other appropriate analytical method(s), as long as (i) quality assurance/quality control (QA/QC) criteria are contained in the method(s) and the method(s) are included in the QAPP, (ii) the analytical method(s) are at least as stringent as the methods listed above, and (iii) 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. Respondent shall ensure that all laboratories that it uses for analysis of samples taken pursuant to this Order have a documented Quality System that complies with ASQ/ANSI E4:2014 "Quality management systems for environmental information and technology programs – Requirements with guidance for use" (American Society for Quality, February 2014), 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. Respondent shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order are conducted in accordance with the procedures set forth in the QAPP approved by EPA.

b. Upon request, Respondent shall provide split or duplicate samples to EPA or its authorized representatives. Respondent shall notify EPA not less than seven days in advance of any sample collection activity. In addition, EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall provide to Respondent split or duplicate samples of any samples it takes as part of EPA's oversight of Respondent's implementation of the Work.

c. Respondent shall submit to EPA, in the next monthly progress report as described in Paragraph 33 (Progress Reports) copies of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondent with respect to the Site and/or the implementation of this Order.

XIII. ACCESS REQUIREMENTS

38. Agreements Regarding Access. Respondent shall, with respect to any property to which access is required for the performance of Work, use best efforts to secure from the owner of such property an agreement, enforceable by Respondent and EPA, providing that such owner shall provide to EPA, Respondent, and their representatives, contractors, and subcontractors with access at all reasonable times to such property to conduct any Work.

39. Best Efforts. As used in this Section, "best efforts" means the efforts that a reasonable person in Respondent's position 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 as required by this Section. If Respondent is unable to accomplish what is required through "best efforts" it shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondent or take independent action in obtaining such access and/or use restrictions. EPA reserves the right to seek payment from Respondent for all costs, including cost of attorneys' time, incurred by the United States in obtaining such access.

40. Respondent shall not Transfer any interest that it has in the Site unless it has first secured EPA's approval of, and transferee's consent to, an agreement that is enforceable by EPA, and requires the transferee to provide access to EPA to oversee or conduct the Work.

41. 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, Respondent shall cooperate with EPA's efforts to secure and ensure compliance with such institutional controls.

42. In the event of any transfer of any property at the Site by Respondent, unless EPA otherwise consents in writing, Respondent shall continue to comply with its obligations under this Order, including the obligation to secure access and ensure compliance with any land, water, or other resource use restrictions regarding such property.

43. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, as well as all of its rights to require land, water, or other resource use restrictions, including enforcement authorities related thereto under CERCLA and any other applicable statute or regulations.

XIV. ACCESS TO INFORMATION

44. Respondent 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 Respondent's possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, 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. Respondent 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.

45. Privileged and Protected Claims.

a. Respondent may assert that 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 Respondent complies with Paragraph 45.b and except as provided in Paragraph 45.c.

b. If Respondent asserts a claim of privilege or protection, it 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, Respondent shall provide the Record to EPA in redacted form to mask the privileged or protected portion only. Respondent 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 Respondent's favor.

c. Respondent may make no claim of privilege or protection regarding 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 the portion of any Record that Respondent is required to create or generate pursuant to this Order.

46. Business Confidential Claims. Respondent may assert that all or part of a Record provided to EPA under this Section or Section XV (Retention of Records) 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). Respondent shall segregate and clearly identify all Records or parts thereof submitted under this Order for which Respondent asserts 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 Respondent 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 Respondent.

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

XV. RETENTION OF RECORDS

48. During the pendency of this Order and for a minimum of ten years after Respondent's receipt of EPA's notification pursuant to Section XXIV (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control, or that come into its possession or control, that relate in any manner to its liability under CERCLA with respect to the Site, provided, however, that Respondent must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. 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 its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that Respondent (and its contractors and agents) must retain, in addition, copies of all data generated during 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.

49. At the conclusion of this document retention period, Respondent shall notify EPA at least 90 days prior to the destruction of any such Records, and, upon request by EPA, and except as provided in Paragraph 45, Respondent shall deliver any such Records to EPA.

50. Within seven days after the Effective Date, Respondent shall submit a written certification to EPA's OSC 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 its potential liability by the United States, and that it has fully complied with any and all EPA 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. If Respondent is unable to so certify, it shall submit a modified certification that explains in detail why it is unable to certify in full with regard to all Records.

XVI. COMPLIANCE WITH OTHER LAWS

51. Nothing in this Order limits Respondent's 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 Order 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. Respondent shall identify ARARs in the RAWP subject to EPA approval.

52. 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, Respondent shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XVII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

53. Emergency Response. If any event occurs during performance of the Work that causes or threatens to cause a release of any hazardous substance 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, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondent shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan. Respondent shall also immediately notify EPA's OSC or, in the event of his/her unavailability, EPA's Regional Duty Officer at (913) 281-0991, of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by

this Paragraph, and EPA takes such action instead, EPA reserves the right to pursue cost recovery.

54. Release Reporting. Upon the occurrence of any event during performance of the Work that Respondent is required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-To-Know Act (EPCRA), 42 U.S.C. § 11004, Respondent shall immediately orally notify EPA's OSC, or, in the event of his/her unavailability, EPA's Regional Duty Officer at (913) 281-0991, and the National Response Center at (800) 424-8802. This reporting requirement is in addition to, and not in lieu of, the reporting required by CERCLA § 103 or EPCRA § 304.

55. For any event covered under this Section, Respondent shall submit a written report to EPA within seven days after the onset of such event, setting forth the action or event that occurred and the measures taken, and to be taken, to mitigate any release or threat of release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release or threat of release.

XVIII. ENFORCEMENT/WORK TAKEOVER

56. Any willful violation, or failure or refusal to comply with any provision of this Order may subject Respondent to civil penalties of up to $37,500 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), and the Civil Monetary Penalty Inflation Adjustment Rule, 69 Fed. Reg. 7121, 40 C.F.R. Part 19.4. In the event of such willful violation, or failure or refusal to comply, EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. Respondent may also be subject to punitive damages in an amount up to three times the amount of any costs incurred by the United States as a result of such failure to comply, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

XIX. RESERVATIONS OF RIGHTS BY EPA

57. Nothing in this Order 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 Order shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law. EPA reserves the right to bring an action against Respondent under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order or the Site.

XX. OTHER CLAIMS

58. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by

Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

59. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Order, 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 under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

60. Nothing in this Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), or 40 C.F.R. § 300.700(d).

61. No action or decision by EPA pursuant to this Order 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. MODIFICATION

62. EPA's OSC may make modifications to any plan or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by EPA within seven days, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Order may be modified in writing by signature of the EPA Region 7 Superfund Division Director.

63. If Respondent seeks permission to deviate from any approved work plan or schedule, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving approval from EPA's OSC pursuant to Paragraph 622.

64. No informal advice, guidance, suggestion, or comment by EPA's OSC or other EPA representative regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXII. DELAY IN PERFORMANCE

65. Respondent shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to EPA's OSC within 48 hours after Respondent first knew or should have known that a delay might occur. Respondent shall adopt all reasonable measures to avoid or minimize any such delay. Within seven days after notifying EPA by telephone and email, Respondent shall provide to EPA written notification fully describing the nature of the delay, the anticipated duration of the delay, any justification for the delay, all actions taken or to be taken to prevent or minimize the delay or the effect of the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and any reason why Respondent should not be held strictly accountable for failing to comply with any relevant requirements of this Order. Increased costs or expenses

associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

66. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondent under the terms of Paragraph 65 shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondent's obligations to fully perform all obligations under the terms and conditions of this Order.

XXIII. ADDITIONAL REMOVAL ACTIONS

67. If EPA determines that additional removal actions not included in an approved plan are necessary to protect public health, welfare, or the environment, EPA will notify Respondent of that determination and will either modify this Order or issue a new Order to address any additional removal actions.

XXIV. NOTICE OF COMPLETION OF WORK

68. When EPA determines, after EPA's review of the final report, that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including record retention, EPA will provide written notice to Respondent. If EPA determines that any Work has not been completed in accordance with this Order, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the RAWP, if appropriate, in order to correct such deficiencies within fourteen days after receipt of the EPA notice. The modified RAWP shall include a schedule for correcting such deficiencies. Within fourteen days after receipt of written approval of the modified RAWP, Respondent shall implement the modified and approved RAWP and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the EPA-approved modified RAWP shall be a violation of this Order.

XXV. ADMINISTRATIVE RECORD

69. EPA will establish an administrative record which contains the documents that form the basis for the issuance of this Order. No later than 60 days after initiation of on-Site removal activity, it shall be made available for review by appointment on weekdays at the EPA Region 7 Records Center, 11201 Renner Blvd., Lenexa, Kansas, or through EPA's website. To review the administrative record, please contact Chris Whitley at 913-551-7394.

XXVI. SEVERABILITY

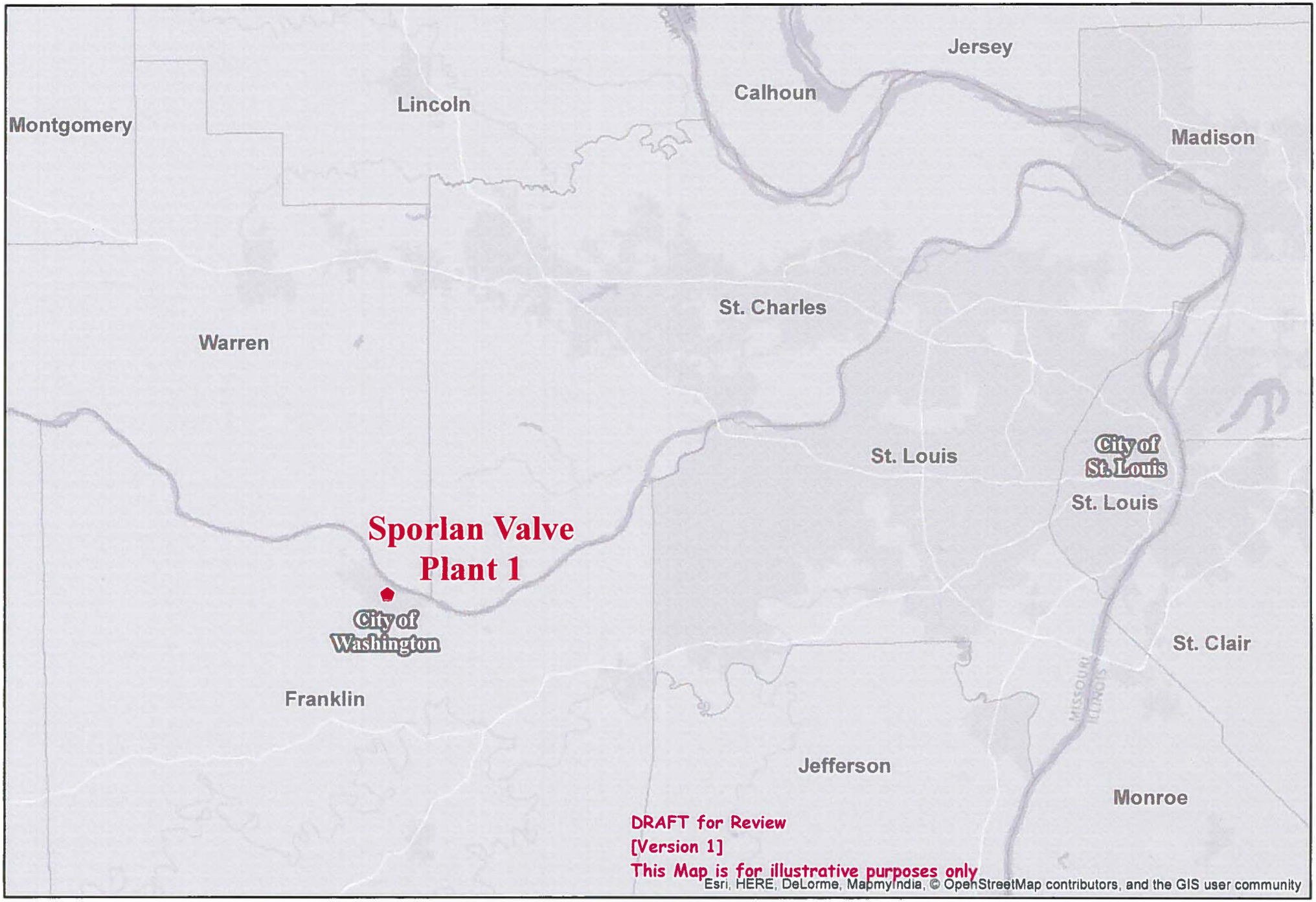
70. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

BY: _____ DATE: 7-28-14

Mary P. Peterson, Director
Superfund Division
Region 7
U.S. Environmental Protection Agency

EFFECTIVE DATE: August 5, 2014

Appendix 1



NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.

CJM 4/20/2016

Sporlan Valve Overview Locator

0 5 10 20

Miles

Former Sporlan Valve Plant 1
Washington, Missouri

Appendix 2

NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.

CJM 1/21/2016
Sporlan Valve Site Map

Data Sources:
Sporlan Property and Parcel Outlines, estimated and derived from Fig 2 provided by MDNR, 2015
Monitoring Wells from GPS by EPA, 2015
1 Ft Contours, derived from LiDAR, 2009
6 Inch Imagery provided by MSDIS, 2012
Streets provided by Navteq, 2015

Feet
0 50 100

Monitoring Wells
SV Land Property

Work to be Completed
Tier 1 (Action Required)
Tier 2 (Assessment Required)
1 Foot Contours

Former Sporlan Valve Plant 1
Washington, Missouri

Appendix 3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

JUL 2 8 2016

ENFORCEMENT ACTION MEMORANDUM

SUBJECT: Request for a Time-Critical Removal Action at the Sporlan Valve Plant 1 Site

FROM: Heath Smith, On-Scene Coordinator
Emergency Response and Removal South Branch

THRU: Kenneth S. Buchholz, Chief
Emergency Response and Removal North Branch

TO: Mary P. Peterson, Director
Superfund Division

Site ID: B7A8
BB001

I. PURPOSE

The purpose of this Enforcement Action Memorandum is to document the decision to initiate a Potentially Responsible Party (PRP) led removal action due to the release of chlorinated volatile organic compounds (VOCs) at Sporlan Valve Plant # 1, Washington, Franklin County, Missouri (Site). The VOCs trichloroethylene (TCE), dichloroethylene (DCE), vinyl chloride (VC) and benzene, which are hazardous substances as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601(14), have been detected in the groundwater, soil vapor, subslab gas and indoor air at the Site. Groundwater concentrations of TCE exceed federal Maximum Contaminant Levels (MCLs) and site-specific screening levels for indoor air and subslab contaminants developed by the U.S. Environmental Protection Agency and considered protective by the Agency for Toxic Substances and Disease Registry (ATSDR). Groundwater, soil gas, subslab vapor and indoor air sample results indicate a direct connection between TCE-contaminated groundwater and TCE subslab and indoor air samples at residential properties at levels considered harmful to human health. This is known as a completed vapor intrusion pathway.

PRP removal activities at the Site will include, but are not limited to, the following response actions:

Design, install and ensure effectiveness of a vapor mitigation system (VMS) in the structures(s) where subslab and/or indoor air concentrations of TCE, DCE, VC and benzene exceed site action levels, or in structures identified to be eligible for pre-emptive mitigation. The mitigation system will include installation of a subslab VMS or crawl space depressurization system, including an electric fan; sealing cracks in walls and floors of the basement; and sealing drains that could be a pathway. The VMS will be designed to control levels of VOCs to below subslab and indoor air action levels.

There are no nationally significant or precedent-setting issues associated with the Site, and the Site is not on, nor is it proposed for inclusion on, the National Priorities List (NPL). This response action will be conducted in accordance with Section 104(a)(1) of CERCLA, and 40 C.F.R § 300.415 (removal action) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), to abate or eliminate the immediate threats posed to public health and/or the environment.

The uncontrolled conditions of the hazardous substances present at the Site require that this action be classified as a time-critical removal action.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID#:	MON000703541
SITE#:	B7A8 (BB001)
REMOVAL CATEGORY:	Time-Critical Removal Action
NATIONALLY SIGNIFICANT:	No

A. Site Description

The Site consists of an unoccupied four-acre parcel at 611 East 7th Street in Washington, Franklin County, Missouri, and a groundwater contamination plume originating at the property and migrating beyond the property boundaries (Figures 1 and 2). The full extent of this plume has not been identified, but based on groundwater monitoring results, it is known to extend to the south past 8th Street and to the east past MacArthur Street, traveling beneath residential structures. Vapor Intrusion (VI) sampling conducted in 2015 by the Missouri Department of Natural Resources (MDNR) identified concentrations of TCE that exceeded indoor air screening levels at three residential properties. During this sampling event, four residential properties were also identified to have subslab TCE vapor exceeding screening levels.

1. Removal site evaluation

a) Site Background – Operational History 1939 to 2011

The Site was first developed as a refrigeration valve manufacturing facility in 1939. Continuous additions were constructed until 1968 when a final addition was added, bringing the total area of the factory to 80,000 square feet. In 2011, the brick building and concrete slab were demolished and the Site was cleared.

Since first construction, the facility was operated as a refrigeration valve manufacturing plant with the following operations: plating, degreasing, machining, brazing, assembly and testing. Over the course of the facility's manufacturing history, three above-ground storage tanks (ASTs), ranging in size from 200 to 2,000 gallons, were used to store TCE for the plant's degreasing processes. A 2,000-gallon AST was located outside and just north of the former manufacturing building, and was positioned on a concrete pad with no secondary containment. Three underground storage tanks (USTs) used to store fuel oil were present at the Site. The fuel oil USTs ranged in size from 2,000 to 10,000 gallons. The Site operated from approximately 2003 to 2005 (exact dates unknown).

TCE is an industrial solvent that poses a potential human health hazard to the central nervous system, kidney, liver, immune system, male reproductive system, and developing fetus. TCE is characterized by the EPA as "carcinogenic in humans" by all routes of exposure.

b) Site Background – Phase I Environmental Site Assessment – 2003

A Phase I Environmental Site Assessment was completed by SECOR International Incorporated (SECOR) on August 15, 2003. The report was commissioned by Parker Hannifin Corporation. It concluded that there were multiple recognized environmental conditions present at the Site. 1) Because the 2,000-gallon TCE AST did not have secondary containment, the report concluded there was a recognized environmental condition. 2) Because of the age of the fuel oil USTs, unknown construction material, and lack of a leak detection monitoring system, the report concluded there was a recognized environmental condition. Based on these and other conditions, SECOR recommended further investigation of the property.

c) Site Background – Phase II Limited Soil Investigation – 2004

A Phase II Limited Soil Investigation was completed by SECOR in 2004. The report was commissioned by Parker Hannifin Corporation. Nine soil borings were advanced from 8 to 20 feet below ground surface (bgs) or to bedrock, whichever came first, along the perimeter of the (by then demolished) factory building. The investigation identified TCE concentrations as high as 739 micrograms per kilogram (µg/kg) in soil near the TCE AST. The report concluded that "based on the limited results from this investigation, soil and groundwater beneath the Site appear to have been impacted by historical site activities." (SECOR, 2004)

d) Site Background – Gore Surveys – 2006

A subsurface vapor survey (soil gas mass level survey) was conducted by W.L. Gore and Associates, Inc. (Gore) in 2006. Forty passive vapor sampling devices were installed beneath the factory floor in areas where subsurface contamination was suspected. Results of the survey provided information about the relative mass of TCE and associated breakdown compounds beneath the floor. Chlorinated compounds were observed in the soil gas at high mass levels, with TCE and DCE being the most prevalent. Elevated levels of total petroleum hydrocarbons (TPH) were also observed. Source areas and well-defined soil gas plumes were observed below the former factory. The report concluded that additional soil gas sampling is recommended since the survey did not identify the full extent of the source area.

e) Site Background – Phase III Supplemental Investigation – 2012

A Phase III Supplemental Investigation was completed by ENVIRON International Corporation (ENVIRON) in 2012. The report was commissioned by the Sporlan Valve Company. The objectives of the Phase III investigation included determining the presence of groundwater and potential contamination source areas via a test trench, and delineating TCE impacts in soil in the source area via test pits. Laboratory data identified the following contaminants: TCE, DCE, methylene chloride, tetrachloroethylene (PCE), 1,1,2-trichloroethane, and VC. TCE was detected in all surface soil samples at concentrations ranging from 66.2 µg/kg to 2,710 µg/kg. TCE was detected in all subsurface samples at concentrations ranging from 36.8 µg/kg to 9,390 µg/kg.

f) Site Background – Investigations under oversight of the Missouri Brownfields Voluntary Clean-up Program (BVCP) – 2008-2014

The Site was accepted into the BVCP on January 9, 2008. The BVCP oversaw the installation of five permanent groundwater monitoring wells on the Sporlan property and

seven at locations south and east of the property by SV Land, LLC ("SV Land"). Multiple rounds of monitoring were conducted between 2009 and 2015. The maximum TCE concentration observed was 12,100 µg/L from a well located on the Sporlan property just north of 7th Street. The TCE concentration in the well that is furthest downgradient has increased steadily from 76 micrograms per liter (µg/L) in 2009 to 194 µg/L in 2015.

The BVCP also oversaw installation of subslab monitoring ports beneath four residences adjacent to the property along 7th Street. By 2015, eight rounds of subslab sampling had occurred at each of the four residences. TCE was measured in subslab vapor at 760 micrograms per cubic meter (µg/m^3) in October 2012 below one of the homes. No indoor air samples were collected during rounds of VI monitoring.

During the period of BVCP oversight, in 2011 the valve manufacturing plant building and slab were demolished and the factory site cleared.

Also, in 2012, during the period of BVCP oversight, three heating oil USTs were removed. A release of heating oil was discovered beneath the 10,000-gallon UST requiring the removal and off-site disposal of 67 tons of petroleum-contaminated soil.

In April 2015, SV Land withdrew the Site from participation in the BVCP.

g) Site Background – MDNR Site Inspection/Removal Site Evaluation – 2015

In July 2015, MDNR conducted VI sampling, collecting indoor air, crawlspace or subslab vapor and sump water at 12 residences located downgradient from the Site. The analytical data from this sampling, along with previous subslab results collected while the Site was enrolled in the BVCP, documented levels of TCE above health-based screening levels in indoor air and/or subslab vapor above the TCE-contaminated shallow groundwater. Concentrations of TCE were found to exceed indoor air screening levels at three residential properties. A maximum of 3.9 µg/m^3 was detected in indoor air at one residential property along 7th Street. Concentrations of TCE were found to exceed subslab vapor screening levels at four residential properties. A maximum concentration of 820 µg/m^3 was detected in subslab air at a residence located north of 8th Street.

Following MDNR's receipt of vapor intrusion sampling results documenting the presence of TCE at levels exceeding MDNR's and the EPA's health-based screening levels, the Site was referred by MDNR to the EPA for a removal action on August 20, 2015.

h) Site Background – EPA Vapor Intrusion Sampling Analysis – 2015

Based on the information provided to the EPA from the 2015 MDNR Site Inspection, the EPA determined that one residence had a completed exposure pathway. The report acknowledged the lack of quarterly monitoring at properties being assessed for VI. The report recommended, among other things, additional quarterly VI monitoring in residential properties and completion of plume delineation (horizontal and vertical).

MDNR's 2015 Site Inspection, along with the EPA's review of the data generated by that Site Inspection, resulted in the installation of vapor mitigation systems (VMSs) at two residential properties

(property IDs 153 and 176). VMS system installation was arranged by SV Land Company LLC, and installation was conducted between September 10 and September 16, 2015 with EPA oversight.

The full extent of groundwater contamination in this residential area, and possible exposures resulting from vapor intrusion from the contaminated shallow groundwater, is not yet known.

i) Site Background – Site Ownership

In October 2004, Parker Hannifin purchased the Sporlan Valve Company via an asset sale, which excluded the real property associated with the Site. SV Land purchased the real property associated with the Site in December 2004.

2. Physical location and Site characteristics

As mentioned above, the Site is located at 611 East 7th Street, Washington, Franklin County, Missouri (Figure 1). Locally, the topography slopes from the north (6th Street) to the south (Busch Creek) with approximately 55 feet of relief between the two points. The Site is centrally located within the city of Washington and is approximately a half mile from the Missouri River.

A release or releases of TCE have occurred at the Site. These releases have potentially occurred over a period of several decades and have resulted in the contamination of the vadose zone and shallow groundwater beneath the Site. Existing monitoring well data indicate that the TCE plume is migrating away from the release point(s) in shallow groundwater, primarily towards the south and southeast, beneath a number of residences. TCE levels in groundwater near the release point(s) are near the solubility limit, strongly suggesting the presence of dense non-aqueous phase liquid (DNAPL) in the subsurface.

The maximum TCE concentrations observed in groundwater, soil gas, and indoor air are as follows:

- Groundwater – TCE concentrations as high as 12,100 µg/L
- Subslab (Soil Gas) – TCE concentrations as high as 820 µg/m^3
- Indoor Air – TCE concentrations as high as 3.9 µg/m^3

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

A release of hazardous substances, pollutants, or contaminants is present due to documented vapor intrusion at the Site. A completed exposure pathway exists for vapor intrusion, as TCE has been documented in the groundwater (as high as 12,100 µg/L), in the subslab (as high as 820 µg/m^3) and in indoor air (as high as 3.9 µg/m^3) at the Site.

MDNR and the EPA have determined that there is a completed vapor intrusion exposure pathway at the Site.

4. National Priorities List (NPL) status

The Site is not currently on, nor is it proposed for inclusion on, the NPL.

5. Maps, pictures, and other graphic representations

Figure 1 – Site location

Figure 2 – Depiction of Work to be Completed

B. Other Actions to Date

1. Previous actions

Previous actions by the EPA, MDNR, and SV Land are documented in Section II.A.1.

2. Current actions

SV Land has recently installed two VMS systems as a result of the vapor intrusion sampling conducted by MDNR in 2015. In addition, the EPA has initiated an Integrated Assessment at the Site which is intended to further characterize on-site and off-site impacts due to releases from Sporlan Valve Plant #1.

C. State and Local Authorities' Roles

1. State and local actions to date

As detailed above, MDNR has a long history with the Site. The Site was enrolled in Missouri's BVCP from 2008 to 2015, when it was removed from the program and referred to the EPA.

2. Potential for continued state/local response

Since MDNR has referred the Site to the EPA, it is not expected that the State will provide continued response, other than as requested by the EPA. MDNR will receive copies of all documents that SV Land must submit to the EPA pursuant to the Unilateral Administrative Order, discussed above, and the EPA expects to consult with MDNR as appropriate. No other state or local authority with the resources to conduct a response at the Site has been identified.

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

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

300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.

VOCs, including TCE, produce vapors that travel through soil. These vapors can enter buildings through cracks in the foundation or other openings such as a sump. Analytical results from samples collected by MDNR document that TCE been released into the soil and groundwater at the Site. TCE

has migrated through groundwater and through vapors from contaminated groundwater into nearby residences. Actual vapor intrusion exposure has been documented at the Site, and there is a potential for additional vapor intrusion to occur at the Site.

300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release.

The Site is no longer being monitored under the state BVCP, and no other appropriate federal or state response mechanisms are available. As discussed above, this Site was referred to the EPA by MDNR.

IV. ENDANGERMENT DETERMINATION

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

V. PROPOSED ACTIONS AND ESTIMATED COST

A. Proposed Actions

The response actions described in this action memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the Site.

1. Proposed action description

The proposed response action to be conducted by SV Land will include the following tasks:

a) Develop and implement a Site Health and Safety Plan;

b) Establish a point of contact with authority to act on behalf of SV Land in which affected homeowners can contact via phone, email or in person with questions regarding the proposed action;

c) Design, install and ensure effectiveness of a VMS in structures impacted or threatened to be impacted by vapor intrusion from the plume of contaminated groundwater and soil gas migrating from the Site. This will include properties without mitigation systems already installed located within the Tier 1 area depicted in Figure 2. Within the area, preemptive mitigation in lieu of sampling has been determined to be appropriate considering the following:

1) Concentrations of TCE in shallow groundwater indicate conditions that are conducive for vapor intrusion issues in residential homes.

2) Homes in the residential neighborhood over the known TCE plume are predominantly homes constructed over basements.

3) The EPA Vapor Intrusion Screening Level (VISL) calculator, which provides a general guideline for screening levels of subslab TCE, indicates homes above the TCE plume are at risk for VI issues. Concentrations of TCE in groundwater exceeding 10 µg/L represent concentrations of concern. This level has been exceeded at 4 of 12 or 33% of the homes sampled. The removal action level for subslab soil vapors has been exceeded at 2 of 12 or 17% of homes sampled.

4) A completed exposure pathway has been observed at one of the properties at the Site. In addition 2 properties have had concentrations that exceeded proposed removal criteria and have required the installation of VMSs.

The presence of elevated levels of TCE in shallow groundwater beneath homes and documented completed exposure pathways make the option of preemptive mitigation available.

Properties within the Tier 1 area include: 125, 143-155, 175-182, and 192-194. Upon additional EPA sampling, however, alternative properties may be substituted.

VMS systems will include the installation of a subslab or crawl space depressurization system including electric fan. During system installation, cracks in walls and floors of the basement and drains must be sealed to eliminate potential pathways for exposure. The VMS will be designed to control levels of the contaminants of concern to below EPA subslab and indoor air action levels, as listed below:

Contaminant of Concern	**Residential Screening Level* ($\mu g/m^3$)**	**Residential Action Level** ($\mu g/m^3$)**
Indoor Air		
Benzene	0.36	3.6
1,1-DCE	21	210
TCE	0.20	2.0
Vinyl Chloride	0.17	1.7
Subslab/Exterior Soil Gas***		
Benzene	12	120
1,1-DCE	700	7,000
TCE	6.7	67
Vinyl Chloride	5.7	57

*The Residential Screening Levels were obtained from the EPA's November 2015 Residential Air Regional Screening Levels, based on the lower of a $1x10^{-6}$ excess lifetime cancer risk or a non-cancer hazard quotient of 0.1.
**The Residential Action Levels were obtained from the EPA's November 2015 Residential Air Regional Screening Levels, based on the lower of a $1x10^{-5}$ excess lifetime cancer risk or a non-cancer hazard quotient of 1.
***Subslab screening and action levels were calculated using an attenuation factor of 0.03.

d) Respondent shall confirm that indoor air results are less than EPA action levels for contaminants of concern (TCE, DCE, vinyl chloride and benzene) for the three properties in which VMSs have been installed, and following installation of any additional VMSs. Performance sampling will be conducted 30 days after VMS installation. If contaminants are greater than EPA action levels, or if a VMS fan is not operational, system modifications will be submitted to the EPA for review and approval within 15 days of receipt of the sampling and inspection results. System modifications will be implemented within 30 days of EPA approval.

All work performed shall be in accordance with the June 2015 EPA guidance document "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air."

SV Land shall keep the public informed and maintain public relations per 40 C.F.R. § 300.155 of the NCP. This includes providing detailed information about the contaminant of concern and sample results to each property owner, and conducting/participating in a public meeting to inform the public of Site contamination and vapor intrusion issues.

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 at a facility in compliance, as determined by the EPA, with the EPA Off-Site Rule, 40 C.F.R. § 300.440.

Post-Removal Site Control

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal site control consistent with the provisions of Section 300.415(1) of the NCP. Elimination of hazardous substances, pollutants and contaminants that pose a substantial threat of release is expected to minimize requirements for post-removal site control.

2. Contribution to remedial performance

The proposed removal action will not impede future responses based upon the available information. Rather, it is expected that the proposed removal action will contribute to future remedial performance, should any be required, as these actions will address immediate exposures which will complement remedial performance.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

Section 300.415(j) of the NCP provides that removal actions shall, to the extent practicable considering the exigencies of the situation, attain ARARs under federal environmental or state environmental facility siting laws. The following specific ARARs have been identified for this action:

Federal

- Occupational Safety and Health Act Standards at 29 C.F.R Part 1910 will be applicable to all actions.

State

- State ARARs will be developed by MDNR and evaluated for the Site.

4. Project schedule

The proposed activities will require an estimated 150 on-site working days to complete.

B. Estimated costs

The removal action is expected to be funded by SV Land. The EPA expects there to be costs to oversee the PRP's actions at the Site.

Extramural Costs	
Removal Costs	$ 60,000
Extramural Cost Contingency (20 percent)	$ 12,000
Total Removal Action Project Ceiling	$ 72,000

EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Refer to the enforcement section for a breakout of these costs.

VI. ENFORCEMENT

As discussed above, the removal action will be completed by SV Land pursuant to a Unilateral Administrative Order. See the Confidential Enforcement Addendum for this Site. For NCP consistency purposes, it is not a part of this Action Memorandum. The total EPA costs for this removal action based on full cost-accounting practices are estimated to be $72,000.

Direct Extramural Costs	$ 72,000
Direct Intramural Costs	3,000
EPA Indirect Costs (50.21 percent of all costs)	$ 37,658
Total Removal Action Project Ceiling	$112,658

Direct costs include direct extramural and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost-accounting methodology effective October 2, 2000. These estimates do not include prejudgment 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.

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

Delayed action will result in a continued threat to public health or welfare or the environment.

VIII. OUTSTANDING POLICY ISSUES

None.

IX. RECOMMENDATION

This decision document represents the selected removal action for addressing the hazardous substances, pollutants or contaminants present at the Sporlan Valve Plant 1 Site, Washington, Franklin County, Missouri. The removal action 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.

Conditions at the Site meet NCP section 300.415(b) criteria for a removal action, and I recommend your approval of this proposed PRP-lead removal action. The removal project ceiling, if approved, will be $72,000. This amount comes from the Regional Removal Advice of Allowance.

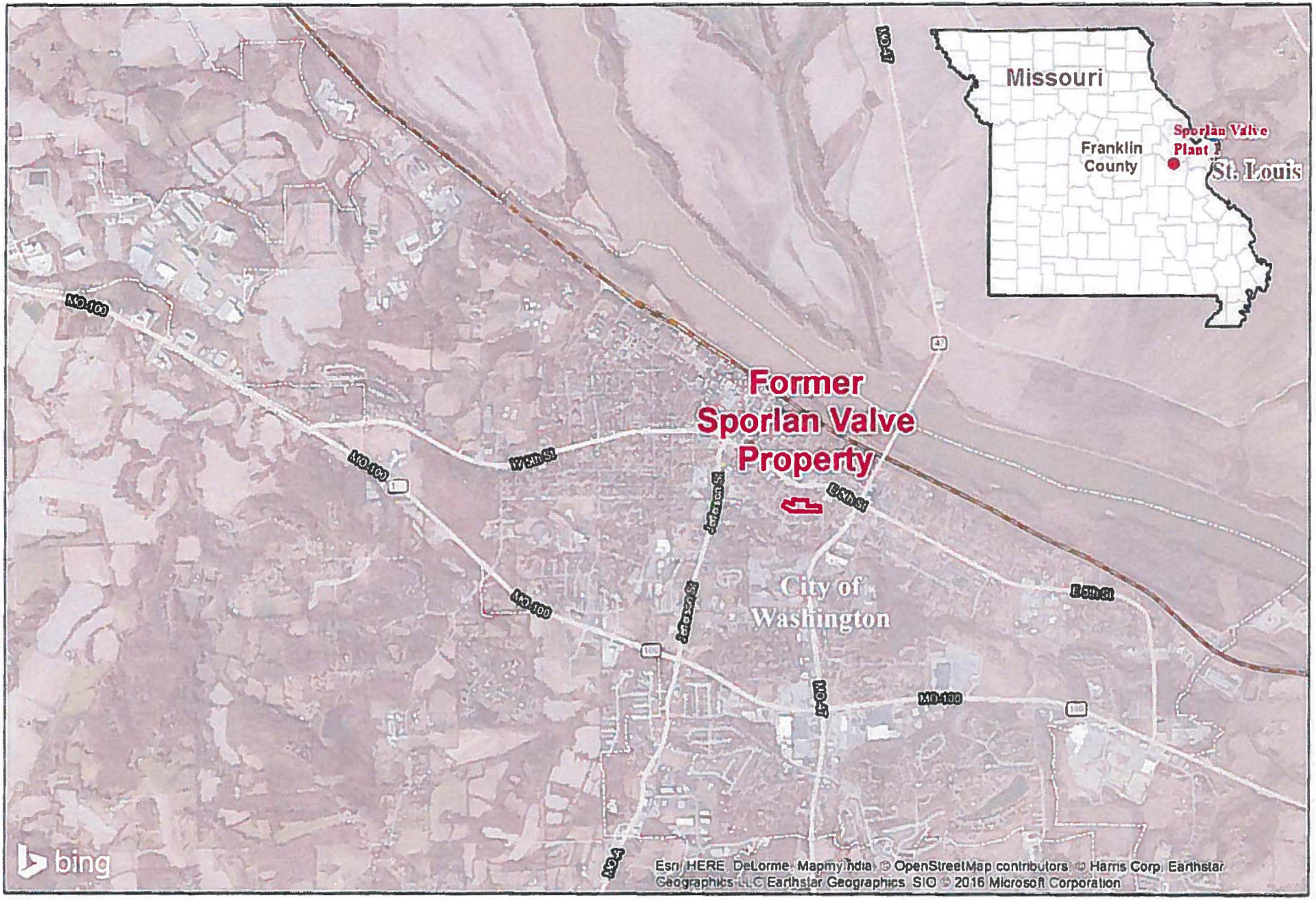
Approved:

Mary P. Peterson, Director
Superfund Division

7-28-16
Date

Attachments:

Figure 1: Site Location
Figure 2: Depiction of Work to be Completed

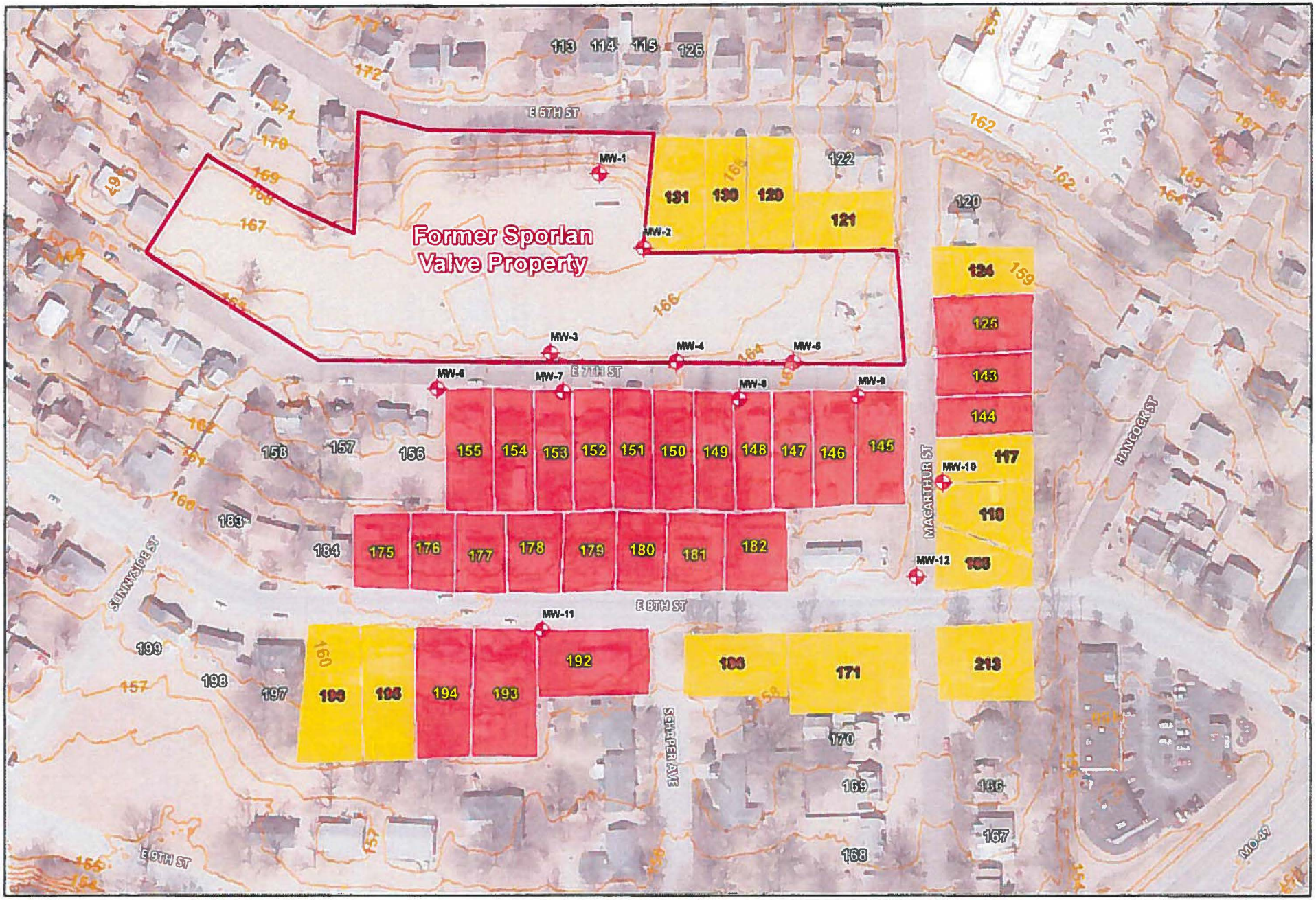


NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.

CJM 4/20/2016
Sporlan Valve Overview Locator

0 0.5 1 2
Miles

Figure 1 **Site Location Map**
Former Sporlan Valve Plant 1
Washington, Missouri



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CJM 1/21/2016
Sporlan Valve Site Map

Data Sources:
Sporlan Property and Parcel Outlines, estimated and derived from Fig 2 provided by MDNR, 2015
Monitoring Wells from GPS by EPA, 2015
1 Ft Contours, derived from LiDAR, 2009
6 inch imagery provided by MSDIS, 2012
Streets provided by Navteq, 2015

Figure 2 **Former Sporlan Valve Plant 1 Washington, Missouri**