U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 RENNER BOULEVARD
LENEXA, KANSAS 66219

IN THE MATTER OF:

Soulard Second Street, L.L.C.

Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 – 9675.

EPA Docket Nos.
CERCLA-07-2019-0124

ADMINISTRATIVE SETTLEMENT AGREEMENT AND COVENANT NOT TO SUE

TABLE OF CONTENTS

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent (Settlement) is entered into voluntarily by and between the United States on behalf of the U.S. Environmental Protection Agency (EPA) and Soulard Second Street, L.L.C., a Delaware limited liability company (Purchaser). This Settlement provides for the performance of certain actions by Purchaser at or in connection with a discrete portion of the property located at or near 200 Russell Boulevard, St. Louis, Missouri (the "Property").

2. This Settlement is issued under the authority vested in the President of the United States by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. §§ 9601 – 9675. This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2923 (Jan. 29, 1987), and further delegated to Regional Administrators by EPA Delegation Nos. 14-14-C (Administrative Actions Through Consent Orders, January 18, 2017). This authority was further redelegated by the Regional Administrator of EPA Region 7 to the Director of the Superfund Division by Regional Delegation R7-14-14C. This Settlement is also entered into pursuant to the authority of the Attorney General to compromise and settle claims of the United States.

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

4. Purchaser represents that it is a bona fide prospective purchaser (BFPP) as defined by Section 101(40) of CERCLA, 42 U.S.C. § 9601(40), that it has and will continue to comply with Section 101(40) during its ownership of the Property, and thus qualifies for the protection from liability under CERCLA set forth in Section 107(r)(1) of CERCLA, 42 U.S.C. § 9607(r)(1), with respect to the Property. In view, however, of the nature and extent of the Work to be performed in connection with the Work to be taken at the Property, and the risk of claims under CERCLA being asserted against Purchaser notwithstanding Section 107(r)(1) as a consequence of Purchaser's activities at the Property pursuant to this Settlement, one of the purposes of this Settlement is to resolve, subject to the reservations and limitations contained in Section XIV (Reservations of Rights by United States), any potential liability of Purchaser under CERCLA for the Existing Contamination as defined by Paragraph 10 below.

5. The resolution of this potential liability, in exchange for Purchaser's performance of the Work, is in the public interest.

6. EPA and Purchaser recognize that this Settlement has been negotiated in good faith and that the actions undertaken by Purchaser in accordance with this Settlement do not constitute an admission of any liability. Purchaser agrees to comply with and be bound by the terms of this Settlement and further agrees that it will not contest the basis or validity of this Settlement or its terms.

II. PARTIES BOUND

7. This Settlement applies to and is binding upon EPA and upon Purchaser and its successors and assigns. Except as otherwise provided herein, any change in ownership or

corporate status of Purchaser including, but not limited to, any transfer of assets or real or personal property shall not alter Purchaser's responsibilities under this Settlement. After satisfactory completion of the Work to be Performed in Paragraphs 32a through f, Purchaser may transfer any portion or all of the Property; however, Purchaser shall include in any transfer of the property, a requirement that the transferee assume the ongoing maintenance obligations in Paragraph 32c and ongoing monitoring and maintenance obligations in Paragraph 32g.

8. Each undersigned representative of Purchaser certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement and to execute and legally bind Purchaser to this Settlement.

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

III. DEFINITIONS

10. Unless otherwise expressly provided in this Settlement, terms used in this Settlement that are defined in CERCLA and RCRA 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:

"Acquisition Date" shall mean the date that the Purchaser acquires the Property, currently projected to be April 9, 2019.

"BFPP" shall mean a bona fide prospective purchaser as described in Section 101(40) of CERCLA, 42 U.S.C. § 9601(40).

"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 XXII.

"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.

"Existing Contamination" shall mean:

a. any hazardous substances, pollutants or contaminants present or existing on or under the Property as of the Effective Date;

b. any hazardous substances, pollutants or contaminants that migrated from the Property prior to the Effective Date; and

c. any hazardous substances, pollutants or contaminants presently at the Facility that migrate onto or under or from the Property after the Effective Date.

"Facility" shall mean the former JF Queeny manufacturing facility comprised of approximately 38 acres of land bordered by commercial/industrial property to the north, south and west, and a rail yard and the Mississippi River to the east. A map with the Facility and the Property clearly delineated is included as Appendix A to this Settlement.

"Institutional Controls" or "ICs" shall mean Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, or other resource use to minimize the potential for human exposure to Waste Material at or in connection with the Site; (b) limit land, water, or other resource use to implement, ensure non-interference with, or ensure the integrity of the response action; and/or (c) provide information intended to modify or guide human behavior at or in connection with 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/superfund/superfund-interest-rates.

"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.

"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 Purchaser.

"Property" shall mean that portion of the Facility, encompassing an area of approximately 8.3 acres located on South 2nd Street, which is legally described in Appendix A

attached hereto and made a part hereof, to be acquired by Purchaser. A map clearly depicting the Property is included as Appendix A to this Settlement.

"Proprietary Controls" shall mean the Environmental Covenant recorded on title with the City of St. Louis by SWH Investments II, LLC ("SWH") and EPA on April 26, 2018 (Book 4262018, Page 43) (Appendix B) running with the land that: (a) limit land, water, or other resource use and/or provide access rights and (b) are created pursuant to common law or statutory law by an instrument that is recorded by the owner in the appropriate land records office.

"Purchaser" shall mean Soulard Second Street, L.L.C., a Delaware limited liability company.

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

"Response Action Work Plan" shall mean the EPA-approved document describing the Work set forth in Section VII, Paragraph 32 of this Settlement, attached as Appendix C to this Settlement.

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

"Settlement" shall mean this Administrative Settlement Agreement and Covenant not to Sue and all appendices attached hereto (listed in Section XX (Appendices)), and any subsequently approved modification thereto. In the event of conflict between this Settlement and any appendix, this Settlement shall control.

"State" shall mean the State of Missouri.

"Statement of Basis" shall mean the EPA's February 2, 2018 Statement of Basis document summarizing the proposed final remedy to be implemented at the Facility.

"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 (a) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (d) "hazardous waste" under Section 1004(5) of RCRA, 42 U.S.C. § 6903(5).

"Work" shall mean all those activities Purchaser is required to perform under Section VII (Work to be Performed) of this Settlement, except those required by Section IX (Record Retention).

IV. STATEMENT OF FACTS

11. The Property includes two Solid Waste Management Units (SWMUs), the former "FF" and "VV" buildings and surrounding open areas and is a part of the Facility. Purchaser intends to redevelop the Property into a new large commercial building and sell the Property and building once completed.

12. The Facility encompasses approximately 38 acres of land in an area zoned for commercial and industrial use. The Facility operated as a chemical manufacturing facility originally known as the JF Queeny – Monsanto Chemical Works, which has an EPA ID of MOD004954111.

13. The Facility began operation in 1901, and has manufactured more than 200 products, using more than 800 raw materials. The Facility ceased production operations in 2006. Products previously manufactured at the Facility include, but are not limited to: process chemicals such as maleic anhydride; fumaric acid; toluene sulfonic acid; paranitrophenetole; plasticizers such as phthalate esters and toluene sulfonamides; synthetic functional fluids such as Pydrauls™, Skydrols™, and coolanols; food and fine chemicals such as salicylic acid, aspirin, methyl salicylate, benzoic acid and ethavan; and pesticide and herbicide chemicals such as Lasso™.

14. Effective September 1, 1997, Monsanto transferred its chemical businesses to Solutia, Inc. (Solutia). Under the agreement between the two parties, the Facility was transferred to, and was owned and operated by Solutia. Pursuant to this agreement, Solutia agreed to assume, and indemnify Monsanto for, certain liabilities related to its chemical businesses, including the Facility.

15. Monsanto, and/or its successor, Solutia, previously conducted investigations of the Facility that are summarized in a RCRA Facility Investigation ("RFI") Report dated July 2002.

16. On June 30, 2006, Solutia submitted an *Updated 2005 Risk Assessment and Conceptual Risk Management Plan* ("RA") to EPA. The RA presents the conceptual risk management plan and media cleanup objectives for the four solid waste management units (SWMUs) at the Facility which posed either a current or future unacceptable risk to human health and the environment. The *Updated 2005 Risk Assessment and Conceptual Risk Management Plan* ("2005 Risk Assessment") was approved by EPA on February 28, 2007.

17. The RFI and RA process evaluated all known SWMUs at the Facility and EPA determined that four SWMUs would be carried in the evaluation process for further investigation and possible response. Releases of solid wastes, hazardous wastes and/or hazardous constituents from these four SWMU were determined by the 2005 Risk Assessment to pose potential risks to human health (under an industrial use scenario) and/or environmental receptors. Of the four SWMUs, two have been addressed through interim actions, and are located offsite. The Former FF and Former VV Buildings are located on site, have been previously partially addressed, and are the subject of the Work Purchaser is obligated to perform under this Settlement and the

continuing obligations set forth in the EPA-approved Environmental Covenant recorded on the Facility on April 26, 2018.

18. The Former FF Building area includes a footprint of the former building and the surrounding area including the location of a former underground storage tank ("UST"). The Former FF Building was a production area used for the manufacture of trichlorocarbanilide (TCC), a bacteriostat used in soap. Production of TCC began at the Facility in 1951 and in early 1991 the operations ceased and the production area was dismantled. The UST formerly stored tetrachloroethylene (PCE) which was used in the production of TCC. In 1987 a release of PCE occurred from the UST which has since been removed. Monsanto installed and operated four recovery wells to mitigate the release. Halogenated volatile organic compounds (HVOCs) including PCE and its degradation products trichloroethylene (TCE), cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride have all been detected in groundwater in this area in excess of EPA's Maximum Contaminant Levels (MCLs). Historically, free product, both dense non-aqueous phase liquids (DNAPL) and light non-aqueous phase liquids (LNAPL) were found in monitoring wells in the area. The LNAPL was comprised primarily of toluene. DNAPL and LNAPL were not identified in the most recent groundwater sampling. Chlorobenzene has also been detected in groundwater in the Former FF Building area at concentrations greater than its MCL. These HVOC chemical compounds create a vapor intrusion risk for any building erected on top of the area. As part of the Final Decision issued on April 30, 2018, EPA selected as part of the final remedy the installation of a vapor barrier/vent system designed to ensure that subterranean vapors do not accumulate inside the inhabited areas of any new building in concentrations exceeding risk levels described in the focused human health risk assessment ("HHRA") contained in the EPA-approved September 26, 2017 *Revised Final Corrective Measures Study Report* ("CMS").

19. The Former VV Building area includes a footprint of the former building and surrounding area. The Former VV Building served as the production area known as "Central Drumming." Activities at this location involved the unloading and bulk storage of a wide variety of liquid materials and the repackaging of these materials into smaller quantities. Activities involved a railcar unloading area where aroclors were unloaded and pumped into storage prior to repackaging for shipment. In 1993, Monsanto replaced a section of track along the eastern side of the VV Building and approximately 40 cubic yards of PCB-impacted soil were removed and sent offsite for disposal. In 2004, repairs were made to a water line and approximately 150 cubic yards of PCB-impacted soil were removed and sent offsite for disposal. Environmental Operations, Inc. ("EOI") removed approximately 3300 tons of PCB-contaminated soil from this area. The project remediation goal for PCB concentrations at the VV Building area was established at 100 mg/kg. PCB concentrations in soil above 10 mg/kg and less than 100 mg/kg are considered permissible to leave in place if there are appropriate restrictions, including surface barriers to prevent potential exposure to site workers and trespassers, since the property will remain industrial/commercial.

20. In a letter dated April 9, 2008, Solutia informed the EPA of the sale of the Facility to SWH Investments II, LLC ("SWH"), a Missouri limited liability company. SWH's plans for

the Facility included clearing remaining structures for purposes of light commercial and/or industrial development.

21. On May 29, 2008, SWH and Environmental Operations, Inc. ("EOI") provided the EPA with a Letter of Intent to purchase the Facility and negotiate an agreement with the EPA to complete the remedial obligations at the Facility and to implement the necessary institutional controls to restrict the use of the property in the future to prevent unacceptable exposures to human health and the environment.

22. On September 30, 2009, SWH and its "guarantor of interim measures," EOI, entered into an Administrative Order on Consent with the EPA which, among other things, provided for the performance of interim measures and the submittal of a focused Corrective Measures Study (CMS) to EPA for review and approval.

23. On December 17, 2015, SWH and EOI submitted an Interim Measure Completion Report which detailed the activities that EOI conducted at the Facility between March 2010 and May 2015 for the purpose of implementing an interim remedial response and to evaluate site-wide groundwater at the former FF Building area. These activities included a preliminary investigation for the former FF Building area. In August 2010, nine probes were made in the area to assess the existing conditions. Tests on the samples did not suggest the presence of any non-aqueous phase liquids. In November 2011, January 2013 and September 2013, chemical reagents were injected into the subsurface to treat any high concentration source areas of chlorinated compounds.

24. Sampling results from groundwater monitoring wells from May 2015 indicated that active degradation of chlorinated compounds was occurring. Concentrations of the contaminants of concern in groundwater at the source area had dropped by at least 75% as compared to concentrations from 2000, placing them close to or below the MCLs. Data suggested that the contaminant plume had stabilized and contracted back toward the source.

25. On January 28, 2016, the EPA issued a letter approving the Interim Measures Work Plan Completion Report with conditions expressed in the letter. As part of the approval, only the silty clay/fill unit at and around the former FF area was to be evaluated for active remediation alternatives that include thermal treatment and excavation. In a subsequent meeting with EPA on March 11, 2016, the alternatives were refined to include only thermal treatment and soil vapor extraction with a sparge component in the silty clay/fill unit at and around the former FF area.

26. On July 31, 2016, SWH and EOI submitted the draft CMS to EPA. On February 14, 2017, EPA issued a letter to SWH and EOI commenting on the CMS and requesting certain clarifications and revisions. On March 9, 2017 EOI responded to EPA's comments by letter. On April 28, 2017, EPA issued a letter responding to EOI's March 9 letter. EOI further responded with a Revised CMS on June 30, 2017 addressing EPA's comments. In its September 5, 2017 letter to EOI, EPA commented on the Revised CMS, making various clarifications and noting the pending transfer of two parcels to others.

27. On September 26, 2017, SWH and EOI submitted the Revised Final CMS to the EPA. The purpose of the CMS was to identify, screen and evaluate potential corrective measure alternatives that could be used to reduce risks to human health and the environment. Based on the HHRA, and an evaluation of corrective measures alternatives for technical effectiveness and relative cost contained in the CMS, the CMS determined that for the Former FF Building and Former VV Building areas, the recommended corrective action should be the use of a restrictive covenant and activity and use limitations, coupled with natural attenuation and groundwater monitoring.

28. On September 1, 2017, SWH entered into a Purchase Agreement with Opus Development Company, L.L.C. (ODC), a Delaware limited liability company, for the sale of the Property. ODC transferred its purchaser's interest in the Purchase Agreement to Purchaser (a wholly-owned subsidiary of ODC) by an Assignment of Purchase Agreement and Assumption Agreement dated as of October 22, 2018.

29. On February 2, 2018, the EPA issued a Statement of Basis for public comment incorporating the administrative record and summarizing the proposed final remedy to be implemented at the Facility. The EPA's proposed final remedy is explained in detail in the administrative record, including the CMS, and consists of monitored natural attenuation, which will include groundwater monitoring and vapor intrusion monitoring of potentially impacted structures, and engineering and institutional controls to provide protection by restricting site uses which might result in exposures to residual contaminants by prohibiting residential development, the domestic use of groundwater, and the proper characterization and appropriate management of any materials that are excavated whenever areas of contaminated soil are disturbed. On April 18, 2018, EPA issued an e-mail to EOI stating that issuance of a Final Decision Document will constitute final approval of the CMS. The Final Decision Document was issued on April 30, 2018. This Settlement does not affect the obligations of the signatories to the September 30, 2009 Administrative Order on Consent, namely SWH Investments II and Environmental Operations, Inc.

V. DETERMINATIONS

30. Based on the Statement of Facts set forth above, and the Administrative Record, EPA has determined that:

a. The Monsanto John F. Queeny Facility 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 Statement of Facts above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

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

d. The conditions described in the Statement of Facts 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).

e. The Work 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

31. In consideration of and in exchange for the United States' Covenant Not to Sue in Section XIII and the Release and Waiver of Liens in Section XVII, Purchaser agrees to comply with all provisions of this Settlement, including, but not limited to, all appendices to this Settlement and all documents incorporated by reference into this Settlement.

VII. WORK TO BE PERFORMED

32. Following the Acquisition Date, Purchaser shall perform the following six items (which shall together comprise the "Response Action") in a manner consistent with the EPA-approved CMS, EPA's February 2, 2018 Statement of Basis, the April 30, 2018 Decision Document, Institutional Controls and Response Action Work Plan (as described in paragraph 34 below):

a. Installation of a vapor mitigation system beneath the proposed new commercial/industrial building consisting of a vapor barrier membrane with an active sub-slab depressurization system;

b. Installation of a remote, telemetry-based system to monitor, on a real-time basis, the continued operation and functionality of the installed vapor mitigation system. This monitoring system must be capable of providing notifications or alerts of operation malfunction to Purchaser and notification to EPA within 72 hours;

c. Installation of an engineered barrier over the PCB-impacted areas, consisting of the floor slab of the new building and asphalt paving located in the former VV Building area. During the period of Purchaser's ownership of the Property, Purchaser shall inspect the barrier every 6 months, and perform any maintenance required to maintain the integrity and function of the barrier;

d. Preparation and implementation of a Soil Management Plan to manage any contaminants of concern in soil excavated at the Property during and subsequent to the Property redevelopment;

e. Placing permanent survey markers at the corners of the areas containing residual contaminants of concern above the concentrations described in the HHRA prepared by EOI and approved by the EPA for the Facility;

f. Installing warning layers as notification of the presence of hazardous constituents in soil; and

g. During Purchaser's ownership of the Property, on-going monitoring and maintenance of the vapor mitigation system, telemetry-based monitoring system, and the engineered PCB barrier, by creation of an EPA-approved operations and maintenance plan that describes the controls, provides warnings and sets out procedures for satisfying the requirements of the Environmental Covenant (Appendix B).

33. Purchaser shall perform all actions required by this Settlement Agreement in accordance with all applicable local, state, and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(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 BFPP Agreement 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.

34. Work Plan and Implementation

a. Purchaser has submitted to EPA for approval the Response Action Work Plan which provides a description of, and a schedule for, implementation of the Response Action.

b. EPA approved the Response Action Work Plan per correspondence dated February 21, 2019. Purchaser shall implement the Response Work Plan after the Effective Date as approved in writing by EPA in accordance with the schedule approved by EPA. The Response Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement.

c. EPA acknowledges that the Response Action will be an integral part of the redevelopment of the Property and as such will be implemented as part of the construction schedule.

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

35. Submission of Deliverables

a. **General Requirements for Deliverables**

(1) Except as otherwise provided in this Settlement, Purchaser shall direct all submissions required by this Settlement to: Bruce Morrison, EPA Region 7, AWMD/WRAP, 11201 Renner Boulevard, Lenexa, Kansas 66219, 913 551-7755, morrison.bruce@epa.gov.

(2) Purchaser shall submit all deliverables required by this Settlement to EPA in accordance with the schedule set forth in such plan.

(3) Purchaser shall submit all deliverables in two hard copies and in electronic form.

36. Quality Assurance and Sampling

a. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to the sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures specified in the Work Plan. Upon request by EPA, Purchaser shall allow EPA or its authorized representatives to take split and/or duplicate samples. Purchaser shall notify EPA not less than 30 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Purchaser to take split or duplicate samples of any samples it takes as part of its oversight of Purchaser's implementation of the Work.

37. Final Report. Within 45 days after Purchaser's completion of the requirements of Paragraphs 32a through f of this Settlement during its ownership of the Property, Purchaser shall submit for EPA review and approval a Final Report summarizing the actions taken to comply with this Settlement. The Final Report shall include a description of the activities conducted to implement the Work Plan, annotated photos depicting the progress of the Work at the Property, a listing of quantities and types of materials removed from the Property (if any), 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 response 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 Purchaser or Purchaser'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."

38. Off-Facility Shipments. Purchaser shall conduct a complete hazardous waste determination pursuant to 40 C.F.R. § 262.11 for all solid wastes, contaminated debris, and contaminated media and soils generated at the Site during the implementation of the Work Plan. All wastes, debris, media and soils that are determined to be hazardous waste, contaminated by

hazardous waste or contain hazardous waste will be directed to a permitted hazardous waste treatment, storage and/or disposal facility, in accordance with applicable federal, state and local laws and regulations, including 40 C.F.R. § 300.440. Purchaser shall ensure that all necessary hazardous waste manifests, land disposal restriction notices and associated shipping documentation accompanies each off-site shipment of solid and hazardous waste. These shall be included in the Final Report.

VIII. ACCESS/NOTICE TO SUCCESSORS/INSTITUTIONAL CONTROLS

39. Purchaser agrees to provide EPA, its authorized officers, employees, representatives, and all other persons performing response actions under EPA oversight, an irrevocable right of access at all reasonable times to the Property and to any other property owned or controlled by Purchaser to which access is required for the implementation of response actions at the Property, until such time as the Work at the Property is complete and EPA has issued a Notice of Completion pursuant to Section XXI (Notice of Completion). EPA agrees to provide reasonable notice to Purchaser of the timing of response actions to be undertaken at the Site and other areas owned or controlled by Purchaser. Notwithstanding any provision of this Settlement Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and other authorities.

40. Purchaser shall comply with any activity and use limitations and institutional controls set forth in the Environmental Covenant (Appendix B) placed on the Property on April 26, 2018 and shall not contest EPA's authority to enforce any such land use restrictions and institutional controls on the Site.

41. For so long as Purchaser is an owner or operator of the Facility, Purchaser shall require that assignees, successors in interest, and any lessees, sublessees and other parties with rights to use the Facility shall provide access and cooperation to EPA, its authorized officers, employees, representatives, and all other persons performing response actions under EPA oversight. Purchaser shall require that assignees, successors in interest, and any lessees, sublessees, and other parties with rights to use the Site implement and comply with any land use restrictions and institutional controls on the Site in connection with a response action, and not contest EPA's authority to enforce any land use restrictions and institutional controls on the Facility.

42. Upon sale or other conveyance of the Facility or any part thereof, Purchaser shall require that each grantee, transferee or other holder of an interest in the Facility or any part thereof shall provide access and cooperation to EPA, its authorized officers, employees, representatives, and all other persons performing response actions under EPA oversight. Purchaser shall require that each grantee, transferee or other holder of an interest in the Facility or any part thereof shall implement and comply with any land use restrictions and institutional controls on the Facility in connection with a response action and not contest EPA's authority to enforce any land use restrictions and institutional controls on the Facility. The recording of the Environmental Covenant placed on the Property on April 26, 2018 (Appendix B) shall fulfill Purchaser's duty to require subsequent grantees, transferees or other holders of an interest in the Facility to implement and comply with such restrictions.

43. Purchaser shall provide a copy of this Settlement Agreement to any current lessee or sublessee.

IX. RECORD RETENTION, DOCUMENTATION, AND AVAILABILITY OF INFORMATION

44. Purchaser shall preserve all documents and information relating to the Work, or relating to the hazardous substances, pollutants or contaminants found on or released from the Property until ten (10) years after EPA provides Purchaser with notice, pursuant to Section XXI (Notice of Completion of Work), that all Work has been fully performed in accordance with this Settlement, and shall provide them to EPA upon request.

45. Purchaser may assert a business confidentiality claim pursuant to 40 C.F.R. § 2.203(b) with respect to part or all of any information submitted to EPA pursuant to this Settlement Agreement, provided such claim is allowed by Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). Analytical and other data specified in Section 104(e)(7)(F) of CERCLA shall not be claimed as privileged or confidential by Purchaser. EPA shall disclose information covered by a business confidentiality claim only to the extent permitted by, and by means of the procedures set forth at, 40 C.F.R. Part 2 Subpart B. If no such claim accompanies the information when it is received by EPA, EPA may make it available to the public without further notice to Purchaser.

X. DISPUTE RESOLUTION

46. 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. If EPA contends that Purchaser is in violation of this Settlement Agreement, EPA shall notify Purchaser in writing, setting forth the basis for its position. Purchaser may dispute EPA's position pursuant to Paragraph 47.

47. If Purchaser disputes EPA's position with respect to Purchaser's compliance with this Settlement or objects to any EPA action taken pursuant to this Settlement, Purchaser shall notify EPA in writing of its position unless the dispute has been resolved informally. EPA may reply, in writing, to Purchaser's position within 14 days of receipt of Purchaser's notice. EPA and Purchaser shall have 14 days from EPA's receipt of Purchaser's written statement of position to resolve the dispute through informal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Such extension may be granted orally but must be confirmed in writing.

48. 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. If the Parties are unable to reach an agreement within the Negotiation Period, the Director of EPA Region 7's Superfund Division will review the dispute on the basis of the parties' written statements of position and issue a written decision on the dispute to Purchaser. EPA's decision shall be incorporated into and become an enforceable part of this Settlement. Purchaser's obligations under this Settlement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this

Section, Purchaser shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

XI. FORCE MAJEURE

49. Purchaser agrees to perform all requirements of this Settlement within the time limits established under this Settlement, unless the performance is delayed by a force majeure. For purposes of this Settlement, a "Force Majeure" is defined as any event arising from causes beyond the control of Purchaser, or any entity controlled by Purchaser, including but not limited to its contractors or subcontractors, which delays or prevents the performance of any obligation under this Settlement despite Purchaser's best efforts to fulfill the obligation. The requirement that Purchaser 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.

50. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement, whether or not caused by a force majeure event, Purchaser shall notify EPA orally within 72 hours of when Purchaser first knew that the event might cause a delay. Within 5 business days thereafter, Purchaser 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; Purchaser's rationale for attributing such delay to a force majeure; and a statement as to whether, in the opinion of Purchaser, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements regarding an event shall preclude Purchaser from asserting any claim of force majeure for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

51. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Settlement that are affected by the force majeure event 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 event, EPA will notify Purchaser in writing of its decision. If EPA agrees that the delay is attributable to a force majeure event, EPA will notify Purchaser in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

52. If Purchaser elects to invoke the dispute resolution procedures set forth in Section X (Dispute Resolution), they shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Purchaser shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and

that Purchaser complied with the requirements of Paragraphs 49 and 50. If Purchaser carries this burden, the delay at issue shall be deemed not to be a violation by Purchaser of the affected obligation of this Settlement.

XII. CERTIFICATION

53. By entering into this Settlement, Purchaser certifies that to the best of its knowledge and belief it has fully and accurately disclosed to EPA all information known to Purchaser and all information in the possession or control of its officers, directors, employees, contractors and agents which relates in any way to any Existing Contamination or any past or potential future release of hazardous substances, pollutants or contaminants at or from the Site and to its qualification for this Settlement. Purchaser also certifies that to the best of its knowledge and belief it has not caused or contributed to a release or threat of release of hazardous substances or pollutants or contaminants at the Site. Purchaser certifies that it currently has no ownership interest in the Site and that it has not caused or contributed to the Existing Contamination, and that it is not affiliated with any entity that is liable or potentially liable for the Existing Contamination. Purchaser further certifies to the representations made under Paragraph 4. If the United States determines that information provided by Purchaser is not materially accurate and complete, the Settlement, within the sole discretion of EPA, shall be null and void and EPA reserves all rights it may have.

XIII. COVENANT NOT TO SUE BY UNITED STATES

54. In consideration of the Work that will be performed by Purchaser under the terms of this Settlement, and except as otherwise specifically provided in this Settlement, the United States covenants not to sue or to take administrative action against Purchaser pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a) for Existing Contamination. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Purchaser of all obligations under this Settlement. These covenants are also conditioned upon the veracity of the information provided to EPA by Purchaser relating to Purchaser's involvement with the Facility and the certification made by Purchaser in Paragraph 53. This covenant not to sue extends only to Purchaser and does not extend to any other person.

XIV. RESERVATIONS OF RIGHTS BY UNITED STATES

55. 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 or the United States 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.

56. The covenant not to sue set forth in Section 54 does not pertain to any matters other than those expressly identified therein. The United States reserves, and this Settlement is

without prejudice to, all rights against Purchaser with respect to all other matters, including, but not limited to:

a. liability for failure by Purchaser to meet a requirement of this Settlement;

b. criminal liability;

c. liability for violations of federal or state law that occur during or after implementation of the Work other than as provided in the Work Plan, the Work, or otherwise ordered by EPA;

d. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

e. liability resulting from the release of hazardous substances, pollutants or contaminants at or in connection with the Property after the Effective Date, not within the definition of Existing Contamination;

f. liability resulting from exacerbation of Existing Contamination by Purchaser, its successors, assigns, lessees, or sublessees; and

g. liability arising from the disposal, release or threat of release of Waste Materials by Purchaser outside of the Facility.

57. With respect to any claim or cause of action asserted by the United States, Purchaser shall bear the burden of proving that the claim or cause of action, or any part thereof, is attributable solely to Existing Contamination and that Purchaser has complied with all of the requirements of 42 U.S.C. § 9601(40).

58. Work Takeover. In the event EPA determines that Purchaser has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA deems necessary. Prior to taking over the Work, EPA will issue written notice to Purchaser specifying the grounds upon which such notice was issued and providing Purchaser with 14 days within which to remedy the circumstances giving rise to EPA's issuance of the notice. Purchaser may invoke the procedures set forth in Section X 45(Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. 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.

XV. COVENANT NOT TO SUE BY PURCHASER

59. Purchaser covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to Existing Contamination, the Work, or 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 claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Missouri Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, or at common law; or

c. any claim pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), or state law.

60. Purchaser reserves, 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 Purchaser's deliverables or activities.

61. 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).

XVI. EFFECT OF SETTLEMENT/CONTRIBUTION

62. Nothing in this Settlement precludes the United States or Purchaser from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any person not a party to this Settlement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2) and (3), to pursue any such persons to obtain additional response costs or response actions and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

63. If a suit or claim for contribution is brought against Purchaser, notwithstanding the provisions of Section 107(r)(1) of CERCLA, 42 U.S.C. § 9607(r)(1), with respect to Existing Contamination (including any claim based on the contention that Purchaser is not a BFPP, or has lost its status as a BFPP as a result of response actions taken in compliance with this Settlement or at the direction of EPA's RPM), the Parties agree that this Settlement shall then constitute an administrative settlement pursuant to which Purchaser 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 Purchaser 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 all response actions taken or to be taken with respect to Existing Contamination and the Work.

64. If Purchaser is found, in connection with any action or claim it may assert to recover costs incurred or to be incurred with respect to Existing Contamination, not to be a BFPP, or to have lost its status as a BFPP as a result of response actions taken in compliance with this Settlement, the Parties agree that this Settlement shall then constitute an administrative settlement pursuant to which Purchaser has, as of the Effective Date, resolved its liability to the United States within the meaning of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

65. Purchaser agrees that with respect to any suit or claim brought by it for matters related to this Settlement, it will notify EPA in writing no later than sixty (60) days prior to the initiation of such suit or claim.

66. Purchaser also agrees that with respect to any suit or claim brought against it for matters related to this Settlement, it will notify EPA in writing within ten (10) days of service of the complaint on it. In addition, Purchaser agrees that it will notify EPA within ten (10) days of service or receipt of any Motion for Summary Judgment and within ten (10) days of receipt of any order from a court setting a case for trial, for matters related to this Settlement.

XVII. RELEASE AND WAIVER OF LIEN

67. Subject to the Reservation of Rights in Section XIV of this Settlement, upon satisfactory completion of the Work specified in Section VII (Work to be Performed), EPA agrees to release and waive any lien it may have on the Property now and in the future under Section 107(r) of CERCLA, 42 U.S.C.§ 9607(r), for costs incurred or to be incurred by EPA in responding to the release or threat of release of Existing Contamination.

XVIII. INDEMNIFICATION

68. Purchaser shall indemnify, save, and hold harmless the United States, its officials, agents, employees, contractors, subcontractors, and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Purchaser, Purchaser's officers, directors, employees, agents, contractors, or subcontractors, and any persons acting on Purchaser's behalf or under their control, in carrying out activities pursuant to this Settlement. In addition, Purchaser agrees to pay the United States all costs it incurs, including but not limited to attorneys' fees and other expenses of litigation, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Purchaser, Purchaser's officers, directors, employees, agents, contractors, subcontractors, and any persons acting on Purchaser's 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 Purchaser in carrying out activities pursuant to this Settlement. Neither Purchaser nor any such contractor shall be considered an agent of the United States.

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

70. Purchaser waives all 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 Purchaser 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, Purchaser 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 contract, agreement, or arrangement between Purchaser and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XIX. MODIFICATION

71. Any requirements of this Settlement may be modified in writing by mutual agreement of the Parties.

72. If Purchaser seeks permission to deviate from any approved work plan or schedule, Purchaser shall submit a written request to EPA for approval outlining the proposed modification and its basis. Purchaser may not proceed with the requested deviation until receiving oral or written approval from EPA.

73. No informal advice, guidance, suggestion, or comment by EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Purchaser shall relieve Purchaser of its obligation to obtain any formal approval required by this Settlement, or to comply with all requirements of this Settlement, unless it is formally modified in writing.

XX. APPENDICES

74. The following appendices are attached to and incorporated into this Settlement Agreement.

a. Appendix A shall mean a map delineating the Facility and the Property.

b. Appendix B shall mean the Environmental Covenant, as described in Paragraph 10.

c. Appendix C shall mean the Response Action Work Plan.

XXI. NOTICE OF COMPLETION

75. 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, such as continued compliance with CERCLA § 101(40) with respect to the Property in accordance with Paragraph 4 of this Settlement, including record retention and compliance with institutional controls, EPA will provide written notice to Purchaser of its approval within 90 days after receipt of the Final Report. If EPA determines that any such Work has not been completed in accordance with this Settlement, EPA will notify Purchaser, provide a list of the deficiencies, and require that Purchaser modify the Work Plan if

appropriate in order to correct such deficiencies. Purchaser shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Purchaser to implement the approved modified Work Plan shall be a violation of this Settlement.

XXII. EFFECTIVE DATE

76. The effective date of this Settlement shall be the date upon which EPA issues written notice to Purchaser that EPA has fully executed the Settlement Agreement after review of and response to any public comments received.

XXIII. DISCLAIMER

77. This Settlement in no way constitutes a finding by EPA as to the risks to human health and the environment which may be posed by contamination at the Property nor constitutes any representation by EPA that the Property is fit for any particular purpose.

XXIV. PAYMENT OF COSTS

78. If Purchaser fails to comply with the terms of this Settlement, it shall be liable for all litigation and other enforcement costs incurred by the United States to enforce this Settlement or otherwise obtain compliance.

XXV. NOTICES AND SUBMISSIONS

79. Any notices, documents, information, reports, plans, approvals, disapprovals, or other correspondence required to be submitted from one party to another under this Settlement, shall be deemed submitted either when an email is transmitted and received, it is hand-delivered, or as of the date of receipt by certified mail/return receipt requested, express mail, or facsimile.

Submissions to Purchaser shall be addressed to:

Margaret Knowlton
Director, Environmental Risk
Opus Holding, L.L.C.
10350 Bren Road West
Minnetonka, MN 55343
Email: Margaret.Knowlton@opus-group.com

With copies to:

Jon K. Wactor, Esq.
Wactor & Wick LLP Environmental Attorneys
3640 Grand Avenue, Suite 200
Oakland, CA 94610
Email: jonwactor@ww-envlaw.com

All submissions to U.S. EPA shall be addressed to:

Bruce Morrison
EPA Region 7, AWMD-WRAP
11201 Renner Boulevard
Lenexa, Kansas 66219
Telephone: (913) 551-7755
Email: morrison.bruce@epa.gov.

XXVI. PUBLIC COMMENT

80. This Settlement shall be subject to a thirty (30) day public comment period, after which EPA may modify or withdraw its consent to this Settlement if comments received disclose facts or considerations which indicate that this Settlement is inappropriate, improper or inadequate.

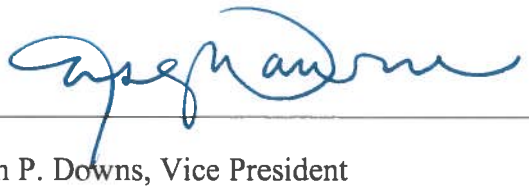
The undersigned representative of Purchaser certifies that it is fully authorized to enter into the terms and conditions of this Settlement and to bind the party it represents to this document.

IT IS SO AGREED:

FOR SOULARD SECOND STREET, L.L.C.

BY: Opus Development Company, L.L.C.,

Its sole member



February 22, 2019

Joseph P. Downs, Vice President — Date

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

2/27/2019
Date

Mary P. Peterson
Mary P. Peterson
Director
Superfund Division

2/27/2019
Date

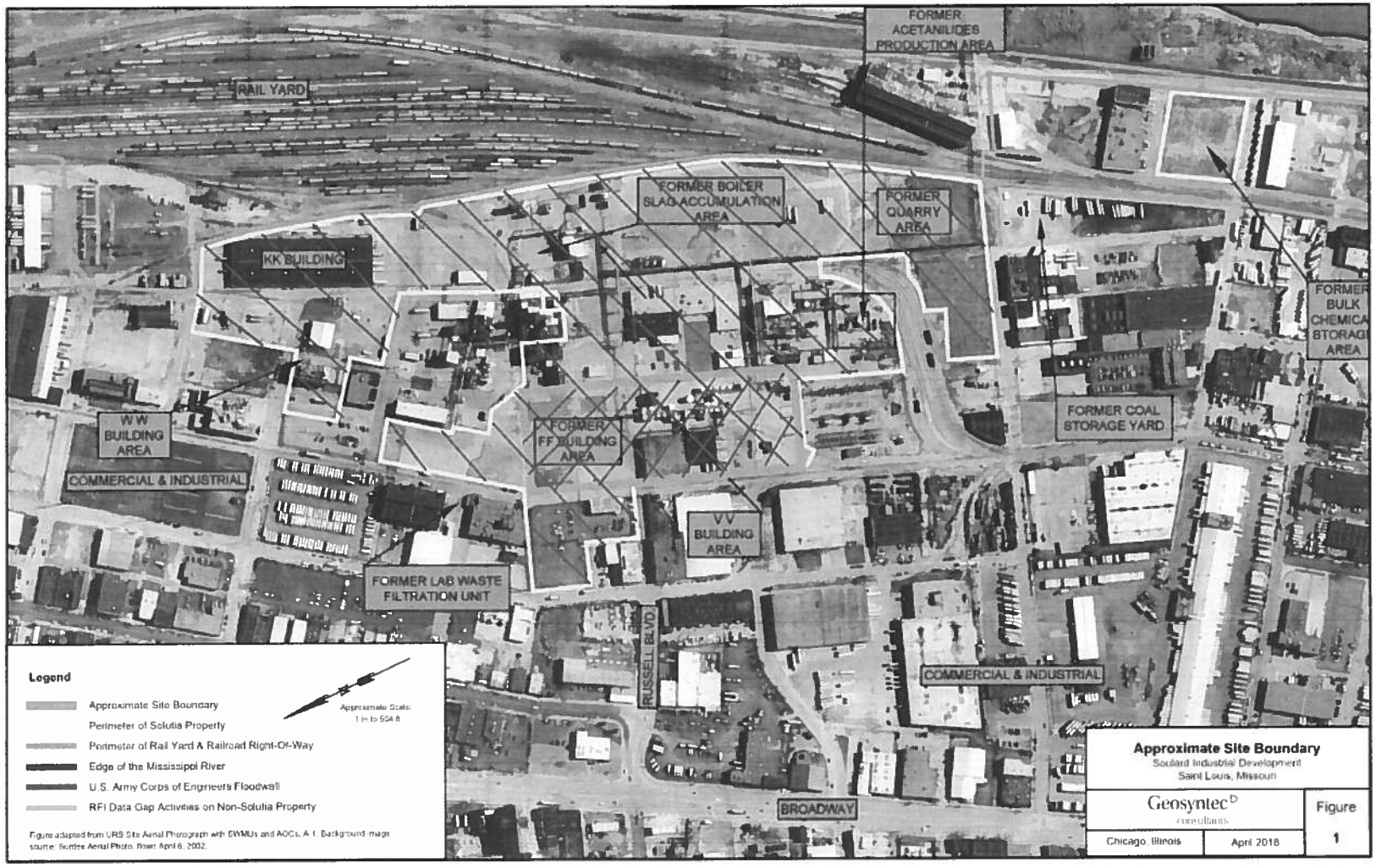
Alex Chen
Alex Chen
Senior Counsel
Office of Regional Counsel

FOR THE UNITED STATES DEPARTMENT OF JUSTICE

3/4/19
Date

Nathaniel Douglas
Deputy Chief
Environmental Enforcement Section
Environment & Natural Resources Division

APPENDIX A



Facility

Property

BOOK PAGE
04262018-0043

RECORDER OF DEEDS
CITY OF ST. LOUIS
RECORDED-CERTIFIED ON
04/26/2018 8:59 AM

SHARON QUIGLEY-CARPENTER
RECORDER OF DEEDS

PAGES: 15
AMOUNT DUE: 93.00
4980413
THIS DOCUMENT WAS eRECORDED

APPENDIX B

(ABOVE SPACE RESERVED FOR RECORDER'S USE)

Document Title:	Environmental Covenant
Document Date:	April 12, 2018
Grantor:	SWH Investments II, LLC c/o Environmental Operations, Inc. 1530 South Second Street, Suite 200 St. Louis, MO 63104
Grantee:	SWH Investments II, LLC c/o Environmental Operations, Inc. 1530 South Second Street, Suite 200 St. Louis, MO 63104
Department:	U.S. Environmental Protection Agency 11201 Renner Boulevard Lenexa, KS 66219
Legal Description:	See attached Exhibit A

ENVIRONMENTAL COVENANT

This Environmental Covenant ("Covenant") is entered into by and between the Grantor, SWH Investments II, LLC ("Owner"), a Missouri limited liability company, the Grantee, SWH Investments II, LLC ("Holder"), and the U.S. Environmental Protection Agency ("EPA" or "Department") pursuant to the Missouri Environmental Covenants Act ("MoECA"), Sections 260.1000 through 260.1039, RSMo. Owner, Holder, and the Department may collectively be referred to as the "Parties" herein.

RECITALS

WHEREAS, Owner has fee simple title to certain real property located in the City of St. Louis, Missouri, which consists of property that formerly comprised the J. F. Queeny Facility. This facility is currently subject to a hazardous waste management facility storage and incinerator permit issued to Monsanto Company on November 8, 1989 (Permit No. MOD004954111) by the Missouri Department of Natural Resources ("MDNR") pursuant to the Missouri Hazardous Waste Management Law and implementing regulations, and a corrective action permit issued (same date and permit number) to Monsanto-John F. Queeny Plant by EPA pursuant to the Resource Conservation and Recovery Act and implementing regulations. This property is legally described in Exhibit A (the "Property");

WHEREAS, Owner desires to grant to Holder this Covenant, as provided in MoECA, subjecting the Property to certain activity and use limitations for the purpose of ensuring the protection of human health and the environment by minimizing the potential for exposure to contamination that remains on the Property and to ensure that the Property is not developed, used, or operated in a manner incompatible with the environmental response project implemented at the Property;

WHEREAS, on September 30, 2009, Owner, Environmental Operations, Inc. ("EOI"), and EPA entered into an Administrative Order on Consent ("AOC") for the performance of an environmental response project at the Property. This AOC is on file with the EPA Region 7 Hearing Clerk under Docket No. RCRA-07-2009-0015. Pursuant to this AOC, Owner and EOI agreed, and were ordered, to, among other things, conduct Interim Measures at the Property in accordance with the schedule and requirements of an EPA-approved Interim Measures Work Plan ("IMWP") which was incorporated into and enforceable as an element of the AOC. In summary and in pertinent part, the EPA-approved IMWP required Owner and EOI to perform, at a minimum, the following tasks:

a. The excavation and proper disposal of all soils contaminated with polychlorinated biphenyls ("PCBs") at levels exceeding 100 parts per million ("ppm") in the area of the former VV Building located on the Property. This also includes disposal sampling, verification sampling and backfilling the area of excavation to surface grade using clean materials;

b. Based on verification sampling, after the excavation of soils exceeding 100 ppm, and fill of excavated areas, Owner and EOI were required to delineate all soil

areas associated with the former VV Building area which have PCBs remaining at concentrations greater than 10 ppm, and install a cap over these areas (constructed in accordance with the approved IMWP);

c. The installation of monitoring wells in the former VV Building area to demonstrate that PCB contamination in soils has not migrated to groundwater;

d. The installation of multiple temporary injection wells at the former FF Building located on the Property, with wells in the Former Bulk Chemical Storage Area ("FBCSA") and Acetanilides Production Area; and

e. The injection of oxidation reagents into the temporary injection wells described above for the purpose of chemically destroying source material in the capillary fringe and upper saturation zone to enhance the long-term biodegradation of volatile organic compounds ("VOCs").

WHEREAS, upon completion of the environmental response project described above, certain contaminants of concern will remain on the Property above levels that allow for the unrestricted use of the Property; and

WHEREAS, the environmental response project described above is deemed protective if, and only if, the activity and use limitations described in this Covenant remain in place for as long as the contaminants of concern remain at the Property above levels that allow for the unrestricted use of the Property.

NOW THEREFORE, Owner, Holder, and EPA as the "Department" as defined at Section 260.1003(3) of MoECA, agree to the following:

1. **Parties.**
The Owner, Holder, and EPA are parties to this Covenant, and may enforce it as provided in Section 260.1030, RSMo.

2. **Activity and Use Limitations.**
Owner hereby subjects the Property to, and agrees to comply with, the following activity and use limitations:

   a. **No Residential Land Use** - Based on reports on file at EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, the Property currently meets EPA's and MDNR's standards for non-residential use. Therefore, contaminants of concern remaining at the Property do not pose a significant current or future risk to human health or the environment so long as the following restrictions remain in place. The Property shall <u>not</u> be used for residential purposes, which for purposes of this Covenant include, but are not limited to: single family homes, duplexes, multi-plexes, apartments, condominiums, schools, retirement or

senior/child care facilities, or any land use where persons can be expected to reside.

b. **No Drilling or Use of Groundwater** - Based on reports on file at EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, contaminants of concern remain in groundwater in one or more zones beneath the Property at levels exceeding Maximum Contaminant Levels ("MCLs") set forth in the Safe Drinking Water Act, 42 U.S.C. §§ 300j-26, and regulations promulgated thereunder at 40 C.F.R. Part 141. The MCLs are the maximum permissible levels of contaminants in water which is delivered to any user of a public water system. Therefore, in addition to any applicable state or local well use restrictions, the following restrictions shall apply to the Property:

(i) Groundwater from the Property shall not be consumed or otherwise used for any purpose, except as approved by EPA or MDNR for the collection of samples for environmental analysis purposes, collection or treatment of groundwater for remedial purposes, or collection or treatment of groundwater as part of excavation or construction activities;

(ii) There shall be no drilling or other artificial penetration of any groundwater-bearing unit(s) containing contaminants, unless Owner/Transferee has notified EPA or MDNR at least 30 days prior to such activity and

(iii) Installation of any new groundwater wells on the Property is prohibited, except for wells used for investigative, monitoring, and/or remediation purposes installed in accordance with a work plan approved by EPA or MDNR.

c. **Disturbance of Soil** - Based on reports on file at EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, the contaminants of concern remaining at the Property exceed EPA's and MDNR's standards for non-residential use and construction worker exposure, but do not pose a significant current or future risk to human health or the environment with respect to non-residential uses of the Property so long as the soil is not disturbed such that exposure may result. Therefore, soil at the Property shall not be excavated or otherwise disturbed in any manner except for minor excavations (surface to 12 inches in depth) without the prior written approval of EPA or MDNR. If an Owner/Transferee desires to disturb soil at the Property, then such Owner/Transferee shall submit a notification to EPA or MDNR at least 30 days before the soil disturbance activities are scheduled to begin. Based on the potential hazards associated with the soil disturbance activities, EPA or MDNR may deny the request to disturb the soils or may require specific protective or remedial actions before allowing such soil disturbance activities to occur. Contaminated soil may be disturbed if necessary during an emergency (such as water or

gas main break, fire, explosion or natural disaster), in which case the Owner/Transferee shall ensure that notification is provided to EPA or MDNR orally or in writing as soon as practicable, but no later than 48 hours after the disturbance begins. Any contaminated soil disturbed as part of an emergency response action must be returned to its original location and depth, or properly characterized, managed and disposed of, in accordance with all applicable local, state, and federal requirements. Within 30 days after such emergency has been abated, the Owner/Transferee shall provide a written report to EPA or MDNR describing such emergency and any response actions.

d. **Construction Worker Notice** - In the event that construction or excavation work is to be performed that may expose workers to contaminated soil on the Property, Owner/Transferee shall ensure that actual notice is provided in advance, both orally and in writing, to any person or entity performing any work that will or is likely to result in exposure to such soil, so that appropriate protective measures are taken to protect such workers' health and safety in accordance with applicable health and safety laws and regulations. Such notice shall include, but not be limited to, providing a copy of this Covenant to any individuals conducting or otherwise responsible for the work. Owner/Transferee shall maintain copies of any such written notice for a period of at least 3 years, and shall provide copies of such records to EPA or MDNR upon request.

e. **Vapor Intrusion** - Prior to the commencement of construction, the need for vapor barriers and vapor intrusion mitigation systems will be evaluated by EPA on any future buildings constructed on the Property in order to address potential exposures through vapor intrusion until such time as groundwater concentrations have decreased to levels that no longer pose a vapor intrusion threat. EPA evaluation will not be required on future construction with planned vapor intrusion mitigation systems and vapor barriers. Should EPA determine that vapor intrusion may pose a potential threat to occupants of a planned building, a vapor barrier and/or vapor intrusion mitigation system will be installed on such building. In addition, an indoor air and vapor intrusion mitigation system monitoring plan subject to EPA approval will be developed and implemented for the building.

If any person desires in the future to use the Property for any purpose or in any manner that is prohibited by this Covenant, EPA and the Holder must be notified in advance so that an Amendment, Temporary Deviation, or Termination request can be considered as described below. Further analyses and/or response actions may be required prior to any such use.

3. **Running with the Land.**
This Covenant shall be binding upon Owner and Owner's successors, assigns, and other transferees in interest (collectively referred to as "Transferees") during their

period of ownership (except that the obligation described below in paragraph 17 to re-direct any misdirected communication shall continue beyond an Owner/Transferee's period of ownership), and shall run with the land, as provided in Section 260.1012, RSMo, subject to amendment or termination as set forth herein. The term "Transferee(s)," as used in this Covenant, shall mean any future owner of any interest in the Property or any portion thereof, including, but not limited to, owners of an interest in fee simple, mortgagees (subject to applicable lender liability protections prescribed by law), easement holders, and/or lessees.

4. **Location of Files and Records.**
Records of this environmental response project for the Property are currently located at EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri. Information regarding the environmental response project may be obtained by making a request to EPA pursuant to the federal Freedom of Information Act, 5 U.S.C. § 552, or to MDNR pursuant to the Missouri "Sunshine Law", Chapter 610, RSMo. Requests should reference the site identification name of "Monsanto – John F. Queeny Plant, MOD004954111."

5. **Enforcement.**
Compliance with this Covenant may be enforced as provided in Section 260.1030, RSMo. MDNR (and any successor agencies) is expressly granted the power to enforce this Covenant. Failure to timely enforce compliance with this Covenant or the activity and use limitations contained herein by any party shall not bar subsequent enforcement by such party and shall not be deemed a waiver of the party's right to take action to enforce any non-compliance. Nothing in this Covenant shall restrict any person from exercising any authority or rights under any other applicable law.

In addition to or in lieu of any other remedy authorized by law, prior to taking legal action to enforce this Covenant, EPA may require Owner/Transferee to submit a plan to investigate and/or correct any alleged violation of this Covenant, in which case EPA will provide written notification to the Holder. If such Owner/Transferee fails to act within the required timeframe or if EPA finds a proposed remedy unacceptable, EPA may pursue any remedy authorized by law. In such event, EPA will provide written notification to the Holder, prior to or contemporaneously with any legal action taken to enforce this Covenant. Should MDNR decide to exercise its right to enforce this Covenant, MDNR shall so notify EPA and Holder at least 30 calendar days in advance of taking formal action to do so.

6. **Right of Access.**
Owner, on behalf of itself and any Transferees, hereby grants to the Holder, EPA, and MDNR and their respectively authorized agents, contractors, and employees, the right to access the Property at all reasonable times for implementation, monitoring, inspection, or enforcement of this Covenant and the related environmental response project. Nothing herein shall be deemed to limit or

otherwise impede EPA's or MDNR's rights of access and entry under state or federal law or agreement.

7. **Compliance Reporting.**
Owner/Transferee shall submit to the Holder, EPA, and MDNR by no later than January 31st of each year, documentation verifying that the activity and use limitations imposed hereby were in place and complied with during the preceding calendar year. The Compliance Report shall include the following statement, signed by Owner/Transferee:

> I certify that to the best of my knowledge, after thorough evaluation of appropriate facts and information, the information contained in or accompanying this submission is 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.

In the event that an Owner, Transferee, or Holder becomes aware of any noncompliance with the activity and use limitations described in paragraph 2 above, such person or entity shall notify all other Parties to this Covenant in writing as soon as possible, but no later than 10 business days thereafter.

8. **Additional Rights.**
Reserved.

9. **Notice upon Conveyance.**
Each instrument hereafter conveying any interest in the Property, or any portion of the Property, shall contain a notice of the activity and use limitations set forth in this Covenant, and provide the recording reference for this Covenant. The notice shall be substantially in the following form:

> THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED _____, 2018, RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF THE CITY OF ST. LOUIS, MISSOURI, ON _____, 2018, AS DOCUMENT ____, BOOK___, PAGE ____.

Owner/Transferee shall notify the Holder, EPA, and MDNR within 10 days following each conveyance of an interest in any portion of the Property. The notice shall include the name, address, and telephone number of the Transferee, and a copy of the deed or other documentation evidencing the conveyance.

10. Representations and Warranties.
Owner hereby represents and warrants to the Holder and EPA that:

a. Owner has the power and authority to enter into this Covenant, to grant the rights and interests herein provided and to carry out all of Owner's obligations hereunder; and
b. this Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Owner is a party or by which Owner may be bound or affected.

11. Amendments, Termination, and Temporary Deviations.
This Covenant may be amended or terminated by approval of EPA, Holder, and the current Owner/Transferee of record at the time of such amendment or termination, pursuant to section 260.1027, RSMo. Any other Parties to this Covenant hereby waive the right to consent to any amendment to, or termination of, this Covenant. Following signature by all requisite persons or entities on any amendment or termination of this Covenant, Owner/Transferee shall record and distribute such documents as described below.

Temporary deviations from the obligations or restrictions specified in this Covenant may be approved by EPA in lieu of a permanent amendment to this Covenant. Owner/Transferee may submit a written request to EPA to temporarily deviate from specified requirements described herein for a specific purpose and timeframe. Any such request shall be transmitted to the Holder and EPA as described below. The request must specifically invoke this paragraph of this Covenant, fully explain the basis for such temporary deviation, and demonstrate that protection of human health and the environment will be maintained. EPA will evaluate the request and convey approval or denial in writing. Owner/Transferee may not deviate from the requirements of this Covenant unless and until such approval has been obtained.

12. Severability.
If any provision of this Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

13. Governing Law.
This Covenant shall be governed by and interpreted in accordance with the laws of the State of Missouri.

14. Recordation.
Within 30 days after the date of the final required signature upon this Covenant or any amendment or termination thereof, Owner shall record this Covenant with the appropriate recorder of deeds for each city or county in which any portion of the

Property is situated. Owner shall be responsible for any costs associated with recording this Covenant.

15. **Effective Date.**
The effective date of this Covenant shall be the date upon which the fully executed Covenant has been recorded with the office of the recorder of each city or county in which the Property is situated.

16. **Distribution of Covenant.**
Within 30 days following the recording of this Covenant, or any amendment or termination of this Covenant, Owner/Transferee shall, in accordance with Section 260.1018, RSMo, distribute a file- and date-stamped copy of the Covenant as recorded with the appropriate recorder of deeds (including book and page numbers) to: (a) each of the Parties hereto; (b) each person holding a recorded interest in the Property, including any mortgagees or easement holders; (c) each person in possession of the Property; (d) each municipality or other unit of local government in which the Property is located; (e) MDNR; and (f) any other person designated herein.

17. **Contact Information.**
Any document or other item required by this Covenant to be given to another party hereto shall be sent to:

If to Owner/Transferee:

SWH Investments II, LLC
c/o Environmental Operations, Inc.
1530 South Second Street, Suite 200
St. Louis, MO 63104

If to EPA:

Director, Air and Waste Management Division
U.S. Environmental Protection Agency, Region 7
11201 Renner Blvd.
Lenexa, KS 66219

If to MDNR:

Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102-0176

The Owner/Transferee, Holder, EPA, or MDNR may change their designated recipient of such notices by providing written notice of the same to each other. If any notice or other submittal under this Covenant is received by a former

Owner/Transferee who no longer has an interest in the Property, then such former Owner/Transferee shall notify EPA, Holder, MDNR, and the current Owner/Transferee of the Property regarding the misdirected communication.

18. Reservation of Rights.

This Covenant is a necessary component of the environmental response project described above. Nothing in this Covenant shall be construed so as to relieve any Owner/Transferee from the obligation to comply with this Covenant during their period of ownership, or the obligation to comply with any other source of law. This Covenant is not a permit, nor does it modify any permit, order, agreement, decree, or judgment issued under any federal, State, or local laws or regulations, and EPA does not warrant or aver in any manner that an Owner/Transferee's compliance with this Covenant will constitute compliance with any such requirements. EPA and MDNR reserve all legal and equitable remedies available to enforce this Covenant or any other legal requirement. Nothing herein shall be construed so as to prevent EPA, Holder, or MDNR from taking any independent actions as allowed by law.

The undersigned represent and certify that they are authorized to sign this Covenant on behalf of their respective Parties.

IT IS SO AGREED:

FOR SWH INVESTMENTS II, LLC, a Missouri Limited Liability Company

By: _____ Date: 4/3/18
Name (print): STACY W. HASTIE
Title: Manager
Address: 1530 S. Second Street
ST. Louis MO 63104

STATE OF MISSOURI)
)
CITY OF SAINT LOUIS)

On this 3RD day of April, 2018, before me a Notary Public in and for said state, personally appeared Stacy W. Hastie, the Manager of SWH Investments II, LLC, a Missouri limited liability company, known to me to be the person who executed the within Environmental Covenant on behalf of said limited liability company and acknowledged to me that he/she executed the same for the purposes therein stated.

Bridget A. Dunn
NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI
BRIDGET A. DUNN
My Commission Expires
August 14, 2021
St. Louis County
Commission #05439901

Commission #05439901

Bridget A. Dunn
Notary Public

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

By: _____ Date: 4-12-18

Becky Weber, Director
Air and Waste Management Division
U.S. Environmental Protection Agency, Region 7
11202 Renner Boulevard
Lenexa, KS 66219

STATE OF Kansas)
)
COUNTY OF Johnson)

On this 12th day of April, 2018, before me a Notary Public in and for said state, personally appeared Becky Weber (or her designee), Director of the Air and Waste Management Division of the U.S. Environmental Protection Agency, Region 7, known to me to be the person who executed the within Covenant on behalf of said agency and acknowledged to me that she/he executed the same for the purposes therein stated.

NOTARY PUBLIC - State of Kansas
MILADY R. PETERS
My Appt. Expires 10/11/18

_____
Notary Public

Attachment A – Legal Description

TWO TRACTS OF LAND BEING ALL OF LOTS 2 AND 3 OF SOULARD BUSINESS PARK, AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 02212018, PAGE 0124 OF THE ST. LOUIS CITY, MISSOURI RECORDS, SAID TRACTS BEING SITUATED IN ALL OR PARTS OF ST. LOUIS CITY BLOCKS 714, 720, 723, 724, 733, 735, 738, 872 AND 6501 INCLUSIVE OF THOSE STREETS AND ALLEYS VACATED THEREIN AND BEING INCLUSIVE OF ALL OF TRACT I-IIB OF KOSCIUSKO SUBDIVISION AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 34 PAGE 13 OF THE ST. LOUIS CITY RECORDS, AND A PART OF LOT 1 OF A SUBDIVISION OF CITY BLOCK 714 AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 60 PAGE 41 OF THE ST. LOUIS CITY RECORDS, ALL IN THE CITY OF ST. LOUIS, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF LESPERANCE STREET, 50' WIDE, VACATED BY ST. LOUIS CITY ORDINANCE NUMBER 51744 WITH THE EASTERN LINE OF THIRD STREET, 60 FEET WIDE; SAID POINT BEING THE NORTHWEST CORNER OF TRACT I-IIB OF KOSCIUSKO SUBDIVISION AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 34 PAGE 13 OF THE ST. LOUIS CITY RECORDS; THENCE WITH THE NORTH LINE OF SAID KOSCIUSKO SUBDIVISION AND BEING THE NORTH LINE OF LESPERANCE STREET, SOUTH 67°00'08" EAST A DISTANCE OF 342.06 FEET TO THE CENTERLINE OF SECOND STREET, 60' WIDE, VACATED BY ST. LOUIS CITY ORDINANCE NUMBER 55641; THENCE ALONG SAID CENTERLINE SOUTH 38° 50' 39" WEST 10.63 FEET TO A POINT ON THE WESTERN PROLONGATION OF THE SOUTH LINE OF LOT B OF THE SUBDIVISION OF BLOCK 714 AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 03292005 PAGE 480 OF THE ST. LOUIS CITY RECORDS; THENCE DEPARTING THE VACATED CENTERLINE OF SECOND STREET WITH THE SOUTH LINE OF SAID LOT B OF SAID SUBDIVISION OF BLOCK 714, SOUTH 66°54'54" EAST 394.21 FEET TO A POINT, THENCE ALONG THE NORTHWEST LINE OF SAID LOT B, SOUTH 23°28'24" WEST 197.61 FEET TO THE SOUTHWEST CORNER OF SAID LOT B; THENCE ALONG THE SOUTH LINE OF SAID LOT B, SOUTH 67°30'32" EAST 19.09 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF DEKALB STREET, VACATED BY ORDINANCE NO.S 43004, 50258 AND 68500; THENCE ALONG LAST SAID EAST VACATED RIGHT-OF-WAY LINE OF DEKALB STREET, SOUTH 23° 23' 25" WEST, 742.80 FEET; THENCE DEPARTING LAST SAID EAST VACATED RIGHT-OF-WAY LINE, SOUTH 67° 05' 23" EAST, 371.08 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF KOSCIUSKO STREET, 60 FEET WIDE, VACATED BY ORDINANCE NO. 57176 AND 50258; THENCE ALONG LAST SAID EAST

VACATED RIGHT-OF-WAY LINE, NORTH 22° 54' 19" EAST, 261.39 FEET TO A POINT; THENCE DEPARTING LAST SAID EAST VACATED RIGHT-OF-WAY LINE, NORTH 73° 51' 48" EAST, 390.38 FEET TO A POINT ON THE SOUTH LINE OF RUSSELL AVENUE, 50 FEET WIDE, VACATED BY ORDINANCE NO. 50258; THENCE ALONG LAST SAID SOUTH VACATED RIGHT-OF-WAY LINE, SOUTH 66° 56' 57" EAST, 56.15 FEET TO A POINT ON THE WEST LINE OF MISSOURI PACIFIC RAILROAD RIGHT-OF-WAY; THENCE WITH THE SAID WEST RIGHT-OF-WAY LINE THE FOLLOWING COURSES AND DISTANCES: SOUTH 18°52'52" WEST 305.91 FEET TO A POINT OF CURVATURE; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 680.00 FEET, AN ARC DISTANCE OF 173.54 FEET TO A POINT OF TANGENCY; THENCE SOUTH 33°30'12" WEST 857.68 FEET TO THE CENTERLINE OF BARTON (66' WIDE) STREET; THENCE WITH THE SAID CENTERLINE OF BARTON STREET AND THE SOUTH LINE OF THAT PART OF BARTON STREET VACATED BY ST. LOUIS CITY ORDINANCE NUMBER 57176, NORTH 67°00'08" WEST 218.34 FEET TO A POINT; THENCE NORTH 22° 59' 52" EAST 33.00 FEET ALONG THE WEST LINE OF SAID BARTON STREET VACATION TO THE NORTH LINE OF SAID BARTON STREET; THENCE ALONG SAID NORTH LINE OF BARTON STREET, NORTH 67° 00' 08" WEST 400.17 FEET TO A CROSS FOUND FOR THE INTERSECTION OF THE NORTH LINE OF BARTON STREET AND THE CENTERLINE OF DEKALB STREET, 60 FEET WIDE, BEING THE SOUTHWEST CORNER OF THAT PART OF DEKALB STREET VACATED BY ST. LOUIS CITY ORDINANCE NUMBER 45381; THENCE ALONG SAID CENTERLINE OF SAID DEKALB STREET VACATION, NORTH 23° 08'. 39" EAST 162.50 FEET TO THE INTERSECTION OF THE CENTERLINE OF SAID DEKALB STREET WITH THE WESTERLY PROLONGATION OF THE SOUTH LINE OF A TRACT OF LAND DESCRIBED IN A DEED TO THE MANUFACTURERS RAILWAY COMPANY RECORDED AS DAILY NUMBER 104 ON JANUARY 7, 1946 IN THE ST. LOUIS CITY RECORDS; THENCE, DEPARTING THE CENTERLINE OF SAID DEKALB STREET AND ALONG THE SOUTH, EAST AND NORTH LINES OF SAID MANUFACTURERS RAILWAY TRACT, THE FOLLOWING COURSES AND DISTANCES: THENCE SOUTH 67°00'05" EAST 185.50 FEET, THENCE NORTH 23°17'27" EAST 78.00 FEET, THENCE SOUTH 67°00'04" EAST 185.70 FEET TO THE CENTERLINE OF KOSCIUSKO STREET, 60 FEET WIDE, VACATED BY ST. LOUIS CITY ORDINANCE NUMBER 57176; THENCE ALONG SAID CENTERLINE; BEING THE EAST LINE OF SAID MANUFACTURERS RAILWAY TRACT, NORTH 23°26'15" EAST 259.77 FEET; THENCE NORTH 66°33'45" WEST 30.00 FEET TO THE WEST LINE OF VACATED KOSCIUSKO STREET; THENCE, CONTINUING WITH THE NORTH LINE OF SAID MANUFACTURERS RAILWAY TRACT, SOUTH 53°18'35" WEST 30.12 FEET TO A POINT OF CURVATURE; THENCE SOUTHWARDLY WITH THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 320.00 FEET, AN ARC DISTANCE OF 240.07 FEET TO A POINT OF NON-TANGENCY; THENCE NORTH 67°00'02" WEST 113.69 FEET TO THE NORTHWEST CORNER OF SAID MANUFACTURERS RAILWAY COMPANY TRACT AND BEING ON THE EAST LINE OF DEKALB STREET, 60 FEET WIDE; THENCE WITH THE SAID EAST LINE OF DEKALB STREET, NORTH 23°08'39" EAST 224.00 FEET TO AN ANGLE POINT AND NORTH 23°23'25" EAST 166.44 FEET TO THE SOUTHERN POINT OF DEKALB STREET AND SOUTH TRUDEAU STREET VACATION BY ST. LOUIS CITY ORDINANCE NUMBER 68500 AND AS RECORDED IN DEED BOOK 09302010 PAGE 81 OF THE ST. LOUIS CITY RECORDS; THENCE WITH THE SOUTH LINE OF SAID VACATION AND THE CENTERLINE OF A 20 FOOT WIDE ALLEY IN ST. LOUIS CITY BLOCK 733, NORTH 67°05'23" WEST 373.80 FEET TO A POINT ON THE EAST LINE OF SECOND STREET (60 FEET WIDE); THENCE WITH THE EAST LINE OF SAID SECOND STREET, NORTH 22°48'53" EAST A DISTANCE OF 599.98 FEET TO AN ANGLE POINT AND NORTH

22°51'00" EAST A DISTANCE OF 19.91 FEET TO THE SOUTH EAST CORNER OF THAT PART OF SECOND STREET AS VACATED BY ST. LOUIS CITY ORDINANCE 55641 AND THE EASTERLY PROLONGATION OF RUSSELL STREET; THENCE WITH THE SOUTH LINE OF SAID VACATED SECOND STREET AND THE NORTH LINE OF RUSSELL STREET, NORTH 66°59'53" WEST A DISTANCE OF 216.18 FEET TO THE SOUTHEAST CORNER OF TRACT I-IIA OF KOSCIUSKO SUBDIVISION AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 34 PAGE 13 OF THE ST. LOUIS CITY RECORDS; THENCE WITH THE EAST AND NORTH LINES OF TRACT I-IIA, NORTH 23°01'48" EAST 192.42 FEET AND NORTH 67°03'03" WEST 156.50 FEET TO THE AFORESAID EAST LINE OF THIRD STREET; THENCE ALONG SAID EAST LINE, NORTH 23°01'48" EAST 155.67 FEET TO A POINT OF CURVATURE; THENCE NORTHWARDLY ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 330.00 FEET, AN ARC DISTANCE OF 43.90 FEET TO THE POINT OF BEGINNING AND CONTAINING 1,114,760 SQUARE FEET OR 25.59 ACRES, MORE OR LESS, ACCORDING TO A SURVEY BY THE STERLING COMPANY DURING THE MONTH OF MAY 2008 UNDER ORDER NUMBER 08-03-050.

ALSO

A TRACT OF LAND BEING A PART OF CITY BLOCK 872, IN THE CITY OF ST. LOUIS, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE EAST LINE OF FIRST (106' WIDE) STREET AND THE NORTH LINE OF VICTOR (60' WIDE) STREET THENCE WITH THE EAST LINE OF SAID FIRST STREET, NORTH 33°06'49" EAST 281.25 FEET TO THE SOUTHWEST CORNER OF A TRACT OF LAND DESCRIBED IN A DEED TO RHINO ENTERPRISES RECORDED ON 07/28/98 WITH A DAILY NUMBER 215; THENCE DEPARTING THE EAST LINE OF FIRST STREET WITH THE SOUTH LINE OF RHINO ENTERPRISES TRACT, SOUTH 52°08'36" EAST 301.44 FEET TO A POINT ON THE WEST LINE OF WHARF AS DESCRIBED IN ORDINANCE NO. 5403; THENCE WITH THE WEST LINE OF SAID WHARF, SOUTH 33°13'02" WEST 268.82 FEET AND SOUTH 37°29'40" WEST 12.35 FEET TO THE NORTH LINE OF AFORESAID VICTOR STREET; THENCE WITH THE SAID NORTH LINE, NORTH 52°08'36" WEST 300.03 FEET TO THE POINT OF BEGINNING AND CONTAINING 84,412 SQUARE FEET (1.9378 ACRES), MORE OR LESS, ACCORDING TO A SURVEY BY THE STERLING COMPANY DURING THE MONTH OF MAY 2008.

APPENDIX C

Prepared for:

Soulard Second Street, LLC

RESPONSE ACTION WORK PLAN

Soulard Industrial Development
201 Russell Boulevard
St. Louis, MO

Submitted by

Geosyntec consultants

engineers | scientists | innovators

10600 N. Port Washington Road, Suite 100
Mequon, WI 53092
Telephone: (262) 377-9828
www.geosyntec.com

Project No. CHE8381

February 11, 2019

RESPONSE ACTION WORK PLAN

Soulard Industrial Development
St. Louis, Missouri

Prepared for:
Soulard Second Street, LLC

Prepared by:
Geosyntec Consultants, Inc.

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

EXECUTIVE SUMMARY

This Response Action Work Plan was prepared for Soulard Second Street, LLC and approved by the United States Environmental Protection Agency Region 7 in accordance with Paragraph 34 of the Administrative Settlement Agreement and Covenant Not to Sue entered into by the United States Environmental Protection Agency Region 7 and Soulard Second Street, LLC.

This Response Action Work Plan presents the Conceptual Vapor Intrusion Mitigation System (VIMS) design (Section 1), a description of the Engineered Barrier for PCB-Impacted soils (Section 2), a Soil Management Plan and Construction Contingency Plan (Section 3), a description of the Location of Survey Markers and Warning Layers Identifying Contaminants of Concern (Section 4), the Indoor Air and Vapor Mitigation System and Engineered Barrier Operations and Maintenance Plan (Section 5), the implementation of Response Actions (Section 6), and references (Section 7).

SECTION 1

VAPOR BARRIER AND VAPOR INTRUSION MITIGATION SYSTEM CONCEPTUAL DESIGN

Results of a recent soil gas evaluation by Geosyntec Consultants (Geosyntec; Geosyntec, 2018) for Soulard Second Street, LLC (SSS) indicate that the potential for a completed vapor intrusion (VI) pathway exists in a future building at the Soulard Industrial Development Property, located at 201 Russell Boulevard, St. Louis, Missouri (the "Site" **Figure 1 and Figure 2**). This potential is based on the presence of volatile organic compounds (VOCs) in shallow groundwater (as reported by others), characteristics of the vadose zone materials, and the presence of VOCs above United States Environmental Protection Agency (USEPA) vapor intrusion screening levels (VISLs; USEPA 2018A) in soil gas within and adjacent to the estimated footprint of the proposed distribution warehouse. Based on future commercial development plans, the potential for human health exposure will be eliminated by designing, installing, operating, and monitoring engineered exposure controls as part of the new building construction rather than allowing VI to occur and addressing it after the fact.

To address the potential VI pathway for the planned slab on grade warehouse building located at the Site, the Vapor Intrusion Mitigation System (VIMS) conceptual design is an active sub-slab depressurization (SSD) system with a vapor intrusion barrier membrane, telemetry and local continuous monitoring systems for riser vacuum. Elements of the VIMS conceptual design are discussed in greater detail in Section 1.1. Elements of VIMS final design are presented in Section 1.1.1. Elements of VIMS construction are presented in Section 1.1.2 and elements of VIMS warranty, performance, and testing are presented in Section 1.1.3.

1.1 Conceptual VIMS Design

A VIMS will be constructed for the proposed 155,400 square foot footprint industrial warehouse to prevent vapor intrusion (VI) to building indoor air. The conceptual design for this VIMS is an active SSD system consisting of a suitable VI barrier membrane overlying an installed layer of air permeable material and trenchless vapor collection system connected to sixteen (16) vertical riser pipes, each which will be provided with an electric fan to provide the required sub-slab vacuum. A valve (slide-gate) (normally fully open) will be provided beneath each fan. In the event of a fan failure, its valve can be closed to minimize the vacuum loss until the fan is replaced. The 16 risers provide one riser for approximately every 9,700 square feet of building footprint. Industry practice for this type of building with a traditional SSD VIMS is one riser per 10,000 square feet for. The proposed 16 risers provide flexibility to assure VI will be mitigated. The layer of air permeable material and trenchless vapor collection system will distribute the vacuum supplied by the active risers beneath the concrete floor slab. Sub-slab vapors collected from beneath the entire building footprint will be discharged to the atmosphere above the building.

The conceptual design includes a telemetry system to monitor the vacuum level at the inlet to each riser to alert should a fan lose power or vacuum. Additionally, the conceptual design includes a local continuous vacuum or airflow monitoring system at each riser to alert the onsite user/operator should a fan lose vacuum or airflow, respectively. Furthermore, eight (8) permanent soil vapor probes will be installed with ports in the floor slab or running up the columns as part of VIMS construction to simplify verification of vacuum field extension beneath the floor slab and to use as potential future sampling ports.

The VIMS will consist conceptually of two sections beneath the building footprint (i.e., north and south, divided by a central grade beam), each with eight 4-inch diameter riser pipes (i.e., a total of sixteen active VIMS riser pipes at the building). This results in each active riser (i.e., risers with active fans) servicing a building footprint area of approximately 9,700 square feet. As presently planned at the conceptual level, the riser pipes would consist of 4-inch diameter Schedule 40 polyvinylchloride (PVC) pipe that would be located on the exterior of the building. Each riser pipe will be fitted with an electric powered fan, mounted on the exterior of the building.

To summarize, the conceptual VIMS consists of sixteen active risers to provide vacuum that is distributed beneath the concrete floor slab and vapor barrier membrane by the trenchless VI collection system and air permeable material to depressurize the sub-slab zone beneath the floor slab. The vacuum provided by each riser and the power provided to each fan will be monitored by a telemetry system. A local continuous monitoring system will monitor either riser vacuum or riser airflow, respectively, and alarm locally should a fan fail in service. Sub-slab vacuum field extension can be confirmed using the installed soil vapor probes.

The air permeable material underlying the VI barrier membrane conceptually consists of a minimum of a 4-inch-thick layer of clean (no fines) gravel or aggregate (e.g., AASHTO #57) or a suitable geocomposite mat (e.g., EnkaVent 6128[1] or Vapormat™[2]).

The vapor barrier membrane beneath the concrete slab will be a reputable spray-applied liner such as GeoSeal®[3] or LiquidBoot®[4] or a reputable flexible membrane (e.g., 15 mil Stego®[5] vapor barrier). Each vapor barrier membrane supplier has their own installation procedures and recommendations that shall be followed as well as ancillary materials and appurtenances.

The trenchless vapor collection system used will depend on the VI barrier membrane selected (i.e., VaporVent® material if a GeoSeal® barrier is selected, GeoVent™ if a Liquid Boot® barrier is selected, or Enkavent 6128 or RadonAway Vapormat™ if a flexible membrane such as Stego® 15 mil vapor barrier is selected).

---

[1] https://www.globalplasticsheeting.com/enkavent-6128radon-control-colbond-bonar
[2] https://www.radonaway.com/products/crawlspace-moisture-and-radon-control/vapormat-trade-systems.php
[3] https://landsciencetech.com/technologies/geo-seal/
[4]https://www.mineralstech.com/business-segments/performance-materials/cetco/products/environmental-products/vapor-intrusion-barrier-systems
[5] https://www.stegoindustries.com/products/vapor-barrier-15-mil

The conceptual telemetry monitoring system consists of a VaporTrac® system providing sensor-equipped telemetry devices that remotely monitor performance of radon and vapor intrusion mitigation systems and trigger alerts when the systems lose power or vacuum. VaporTrac continuously collects system data which is transmitted via cellular or Wi-Fi connections to cloud-based servers where the data is stored in a secure database which can be easily accessed by the client through the client portal dashboard. The conceptual local continuous vacuum monitor system consists of a RadonAway® Checkpoint IIAR mitigation system monitor with remote alarm or, alternatively, a conceptual local continuous airflow monitor consisting of a battery powered RadonAway Air Flow Alarm on each riser. Additionally, a magnehelic gauge will be fitted to each riser pipe associated with the VIMS. The magnehelic gauges will provide a visual reading of VIMS vacuum.

The VIMS conceptual design includes a total of eight (8) permanent sub-slab sample probes to be installed at the time of building construction. The eight (8) sub-slab soil gas probes to be installed as part of the VIMS installation will be run-up along columns or installed in the floor. Permanent sub-slab probes installed in the floor, if any, will be recessed below the top of slab and completed within a suitable protective flush mounted enclosure. Sub-slab soil gas probes shall be ¼ inch male compression fittings and shall be capped.

Anticipated VIMS construction activities are described as follows.

1.1.1 VIMS Design

The final VIMS design is expected to consist conceptually of the following eight (8) drawings which include the specifications on the drawings themselves (i.e., no separate specification document or book will be provided):

- Cover sheet and Index;
- General Notes and Specifications (sheet 1 of 2);
- General Notes and Specifications (sheet 2 of 2);
- VIMS Layout (plan view);
- Details (Sheet 1 of 4);
- Details (Sheet 2 of 4);
- Details (Sheet 3 of 4); and
- Details (Sheet 4 of 4).

The exact riser locations will be coordinated with the building architect and their structural engineer.

Permitting review will be conducted to confirm that the final VIMS design complies with applicable air emissions rules, if any, and determine what requirements, if any, exist regarding the sub-slab monitoring systems.

A progress set of the VIMS design drawings will be submitted to the architect's structural and electrical engineers to confirm it will work with the buildings foundation system and electrical panels.

The architect will submit the final design plans to the local permitting authority for review. It has been Geosyntec's experience that the local permitting authority may review the electrical and piping portions of the VIMS final design, but they typically do not explicitly permit VIMS systems. As a result, the VIMS final design will require, in the VIMS specifications, explicit inspections and tests by the VIMS designer to assure that the VIMS is constructed and operates as intended.

1.1.2 VIMS Construction

VIMS construction is expected to occur in the following order:

- Install utility trench dams to block potential preferential vapor/airflow pathways;
- Install conduit seals to block preferential vapor/airflow pathways through the building floor slab;
- If clean (no fines or VOCs) gravel is to be used as air permeable material, the Contractor will identify the material source and submit the source, particle size graduations and, if requested, representative samples for review by the VIMS designer or qualified third party. The VIMS designer will review the materials submitted;
- The VIMS designer, or qualified third party, will inspect the subgrade on which the air permeable materials are to be placed for suitability;
- Following placement of the air permeable materials and trenchless vapor collection system, the VIMS designer, or qualified third party, will inspect the installed materials. Once the air permeable materials have been placed, they must be protected against fines contamination from tracked dirt or mud. Air permeable material contaminated by fines after placement must be replaced with clean material;
- Following installation of the VI barrier membrane, its attachment/sealing to the foundation and booting/sealing of utility penetrations through or between the VI barrier membrane and the installation, labeling, and temporary capping of riser pipe stubs, the VIMS designer, or qualified third party will inspect the installed materials. It is particularly important that all riser stubs be installed in a manner that it is not subject to clogging or blockage by water or intrusion by floor concrete;

- Once the VI barrier membrane has been placed, it must be protected against damage during subsequent floor construction. A smoke test may be conducted if a spray-applied liner has been installed as the VI barrier membrane.

- Inspection of the installed VI barrier membrane and the sealing of any utility penetrations of/or in the VI barrier membrane prior to concrete placement by the Contractor by a qualified -inspector (i.e., pre-pour inspection). If a spray applied liner has been installed, a smoke test will be performed at this point because potential damage to the VI barrier membrane incurred prior to concrete placement can be repaired before concrete is placed;

- Contractor pours the concrete floor slab;

- Contractor seals the concrete slab penetrations and construction joints with urethane caulk;

- After the floor slab has been constructed and sealed by the Contractor, a vacuum performance test will be conducted by the VIMS designer to evaluate the tightness of the sealed constructed floor slab, identify any large air leaks, if any, and to size the fans to be installed. Any air leaks identified as part of this testing will be sealed by the Contractor with caulk;

- Contractor constructs the remainder of the VIMS (i.e., riser pipes taking care to label each riser pipe as construction progresses vertically, installs fans, and vacuum monitoring equipment;

- Contractor makes the electrical installations, including connections from existing power panels to the mounted fans and the near floor mounted vacuum monitoring equipment and alarms; and

- After the building has been completed and the fans and VIMS monitoring systems installed and operational, the VIMS should be commissioned by the VIMS designer to confirm that the completed VIMS was constructed and is functioning as intended.

1.1.3 Warranty, Performance, and Testing

The building structural engineer provides P.E. certification for the foundation and floor, and the VIMS system designer provides P.E. certification for VIMS.

Near-ground level post-slab construction vacuum tests and commissioning performance tests, together with the simple concept that sub-slab vapors having the concentration levels observed at the site cannot enter the indoor air space due to the induced sub-slab vacuum, provides assurance that the VIMS will function properly to prevent vapor intrusion.

Geosyntec has designed and conducted construction quality assurance on several VIMS similar to the one conceptually described in this document without issues. Furthermore, performance of these systems meets or exceeds design objectives.

SECTION 2

ENGINEERED BARRIER FOR PCB-IMPACTED SOILS

This polychlorinated biphenyls (PCBs) Engineering Barrier Design Plan (Plan), prepared by Geosyntec for SSS, presents an overview of the PCB engineering barrier for the Site as described in United States Environmental Protection Agency's (USEPA) Environmental Covenant for the John F. Queeny Plant (Site) (USEPA, 2018B; **Figure 1**). The 8.3-acre area of the Site is roughly bounded by the former location of Lesperance Street to the north, South 2nd Street to the west, South Trudeau Street to the south, and DeKalb Street to the east, and is delineated on **Figure 2**. The Site is currently being considered for redevelopment by constructing an approximate 155,000 square foot slab-on-grade distribution warehouse with accompanying loading docks and vehicle parking spaces.

This section of the work plan specifically addresses PCB contaminated soils which remain, or may remain, at the Site from previous interim remedial work. These engineered barrier requirements apply to those locations of the Site with known PCB contaminated soils that will remain in-place at concentrations between 10 milligrams per kilogram and 100 milligrams per kilogram, as delineated on **Figure 3**. This work plan provides details related to the engineered barrier design, while information concerning the operations and maintenance requirements for the engineered barrier are provided in Section 5.2. The engineered barrier will satisfy the requirements of the Environmental Covenant entered into between SWH Investments II, LLC, as Owner and the U.S. Environmental Protection Agency as Grantee, dated April 12, 2018, recorded in the office of the Recorder of Deeds on April 26, 2019 in Book 04262018, Page 0043.

The engineered barrier prevents exposure to soils and thus eliminates potential risks to public health and the environment. The engineered barrier proposed at this Site is a surface "cap" consisting of a non-residential storage building with a minimum 6-inch slab on grade concrete floor and a minimum of 6-inch thick concrete parking lot above the PCB-impacted soils. In addition, the engineered barrier includes a stormwater drainage system that includes drop inlets, storm manholes, and a storm water conveyance system that will be designed.

Together, the components of the engineered barrier will serve as a protective barrier over the remaining soils at the Site containing PCBs as defined by USEPA as a low occupancy area with a non-porous surface.

2.1 Background

Certain elements of this section of the work plan are based on the current understanding of the proposed building at the Site, as well as the type of occupancy (warehouse work) of the proposed building. This section of the work plan will be updated if changes to the Building construction or occupancy occur subsequent to the date of this work plan.

2.2 Contaminants of Concern

From the time that manufacturing operations began at the site, the J. F. Queeny Plant ("Facility") manufactured over 200 products using over 800 raw materials. The major products have included, but are not limited to, the following: process chemicals such as maleic anhydride, fumaric acid, toluene, sulfonic acid, and plasticizers such as phthalate esters and toluene sulfonamides; synthetic functional fluids such as Pydrauls, Skydrols, and coolanols; food and fine chemicals such as salicylic acid, aspirin, methyl salicylate, benzoic acid, and ethavan; and agricultural chemicals such as Lasso (i.e., acetanilides or alachlor). As a result of numerous facility investigations over the last four decades, four primary areas of concern associated with chemical releases to the environment were identified (USEPA, 2018C). Two of the four primary areas are within the footprint of the Site.

A Human Health Risk Assessment (HHRA) was prepared for this facility in 2015. That HHRA considered prior property use, potential future property use, and the data generated from prior groundwater sampling events as the rationale for conducting an updated, focused HHRA. No ecological risk assessment was prepared for this facility due to a lack of suitable habitat for potential ecological receptors. Estimates of cancer risk were expressed as the probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogenic contaminant. Remediation was considered to be required if the estimated cancer risk from cumulative exposure to facility-related contaminants was greater than 1 excess cancer case out of 10,000 people (referred to as a $1x10^{-4}$ risk). Remediation was not considered to be necessary if the cumulative cancer risk was less than 1 excess cancer case in 1,000,000 people (referred to as the de minimis risk level or a $1x10^{-6}$ risk). Estimated cumulative cancer risks that fall between $1x10^{-4}$ and $1x10^{-6}$ were said to be within the "target risk range," and the need for remediation was to be determined on a case-by-case basis.

In general, estimates of health risks from contaminant toxicity are developed for those contaminants that are not carcinogens and for the non-carcinogenic health effects of carcinogens. This estimate is called a "hazard index" and is the ratio of estimated daily intake of a contaminant to a reference dose that has no observed health effects. A hazard index of l (or less than 1) for individual chemicals and a cumulative "hazard quotient" of l (or less than 1) for combinations of chemicals is generally considered to be safe.

Based on previous studies of this Site, two areas of concern have been identified, which are further described below and are referenced on **Figure 2**.

- **FF Building Area**: The area associated with the FF Building includes the footprint of the former building (an area of approximately 150 feet by 75 feet) and the surrounding area, including a former underground storage tank. The ground covering in this area is asphalt and crushed and compacted stone. This area is currently not in use, and no buildings are located in the area. Soil and groundwater are contaminated with multiple VOCs; benzene, chlorobenzene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, vinyl chloride,

and xylene (total). Based on the HHRA as earlier described, the FF Building Area has an Industrial/Commercial hazard quotient of 29 and 1.5 for construction worker.

- **VV Building Area:** The VV Building Area structure served as the production area known as "Central Drumming." Activities at this location involved the unloading and bulk storage of a wide variety of liquid materials and the repackaging of these materials or a blend of these materials into smaller quantities (i.e., quarts, gallons, and 5-gallon containers). The VV Building Area included a railcar unloading area where PCB formulations were unloaded and pumped into storage prior to repackaging for shipment. This area is primarily paved, with some of the area being covered with gravel and a rail spur. Extensive removal of soil contaminated with PCBs has previously been performed at the VV Building Area. PCBs remain in soil at concentrations below 100 milligrams per kilogram at the VV Building Area, and future site use restrictions included in the Environmental Covenant are proposed as a component of the final remedy for this area. The former VV Building location is included in the area to be covered by the PCB engineered barrier.

2.3 Engineered Barrier

The engineered barrier at the Site will be a surface "cap" over the PCB-impacted area, consisting of the floor of a non-residential storage building (minimum 6-inch slab on grade floor) and a parking lot with a minimum of 6-inch thick asphalt or concrete over the PCB-impacted soils (**Figure 3**). The contaminants of concern will be considered to be present based upon the delineation provided in the Interim Measures Work Plan Completion Report (EOI, 2015), where PCB concentrations were identified between greater than 10 mg/kg and less than 100 mg/kg. In the delineated areas, a warning layer consisting of a high visibility orange woven polypropylene geotextile printed with the words "Do Not Dig" will be placed at the top of the contaminated soil layer before the soil layer is capped with the engineered barrier system. It will serve as a warning of contaminated soil below the barrier and limit particle transition from the contaminated soil to the clean soil above.

This warning layer will be placed at the top of the contaminated soil layer before the soil layer is capped with the engineered PCB barrier system (i.e.; building or parking surface). In addition, the engineered barrier will include a stormwater drainage system with drop inlets and storm sewer system to prevent the interaction of storm water with the residual PCB contaminated soil. The cap will be used to prevent or minimize human exposure, infiltration of water, and erosion to PCB contaminated soil. The cap is designed to have a minimum thickness of 6 inches to meet the requirements 40 CFR Section 761.61(a)(7) (USEPA, 2018D).

SECTION 3

SOIL MANAGEMENT PLAN AND CONSTRUCTION CONTINGENCY PLAN

This Soil Management Plan will be implemented for the initial development of the proposed industrial warehouse and shall be utilized for any subsequent excavation work. The plan is intended to protect all workers and contractors conducting excavations and related activities and to serve as an institutional control requiring such protection as part of Site as described in USEPA's Environmental Covenant for the Site (USEPA, 2018B; **Figure 1**). The plan also provides guidance for management of excavated soil, including soil characterization, transportation, and disposal. The plan must be followed at all times when earthwork activities are conducted or when the engineered barrier is disturbed.

3.1 Objectives

Soil underlying portions of the Soulard Industrial Development contains chemicals of interest (COIs) at concentrations that may require (i) implementation of supplemental safety procedures to protect workers performing excavation and related activities and (ii) specific soil management activities. The soil impacts are legacy impacts of the John F. Queeny Plant, as described in Section 2.2.

The objectives of this Plan are to establish:

- A Site facility contact for notification and planning of excavation activities;
- Areas of the Site facility that require additional safety and soil management procedures;
- Potential COIs that may be present in the soil, foundation materials, or debris;
- Excavation safety procedures associated with soil, foundation materials, or debris potentially impacted by COIs; and
- Soil, foundation materials, and debris management procedures.

3.2 Site Contacts and Notification

Prior to excavating soil, foundation materials, or debris on the Site, the responsible staff directing the excavation project, and/or the excavation contractor, should notify the Soulard Second Street, LLC Director of Environmental Risk. The addresses and phone numbers for the appropriate facility contacts are provided below.

Soulard Second Street, LLC Contact:
Ms. Margaret Knowlton
Director, Environmental Risk
Soulard Second Street, LLC
10350 Bren Road West
Minnetonka, MN 55343
Office Phone: 952.656.4683
Mobile Phone: 952.564.1441

Environmental Consultant:
Mr. Kenneth Mika, P.E. (MI and WI)
Project Engineer
Geosyntec Consultants
10600 N Port Washington Rd #100
Mequon, WI 53092
Office Phone: 262.834.0233
Mobile Phone: 414.731.3111

Project Manager:
Mr. Mark Winschel
Director, Project Management
Opus Design Build, LLC
112 S Hanley Rd., Floor 1 Suite 100
St. Louis, MO 63105
Office Phone: 314.930.2002
Mobile Phone: 314.707.9653

MDNR:
Christine Kump-Mitchell
Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176
Office Phone: 314.416.2464
E-mail: christine.kump@dnr.mo.gov

3.3 Excavation Safety Procedures

General safety practices should be used by all workers when working within the Site boundaries. This Plan does not supersede the safety requirements set forth in the Occupational Safety and Health Administration's (OSHA's) Safety and Health Regulations for Construction (29 Code of Federal Regulations [CFR] Part 1926) (USEPA, 2018E), specifically Subpart P – Excavations, hazardous waste operation regulations (29 CFR 1910.120) (USEPA 2018F), safety and health regulations for construction (29 CFR 1926), state and local regulations, applicable Missouri Department of Natural Resources (MDNR) and USEPA guidance, and site-specific health and safety plans. Site personnel or contractors completing excavation work should adhere to OSHA requirements and their own health and safety plan developed specifically for the project scope and in accordance with their health and safety program.

3.3.1 General Safety Protocols

As general guidance, when conducting excavation activities workers should focus attention on actions that reduce the likelihood of soil ingestion, inhalation, and dermal exposure. Additionally, activities should minimize uncontrolled transport of soil away from the excavation area. Workers should adhere to the following general protocols:

1. Smoking, eating, drinking, chewing gum, etc., in the work area should be avoided. Hand-to-mouth activity increases the potential for ingestion of constituents present in the soil.

2. Hands and faces should be washed before eating, drinking, or smoking to minimize the potential to ingest constituents present in the soil.

3. Avoid skin contact with the soil by wearing appropriate personal protective equipment (PPE). Wash any soiled exposed areas with soap and water.

4. Avoid generating and breathing visible airborne dust during construction activities. Wetting the soil surface is an acceptable method of minimizing dust generation and dust masks may be worn by workers.

5. Be observant of discolored or odorous soil. If soil is emitting odor, additional health and safety procedures may be required to address air quality monitoring and worker safety.

6. Avoid inadvertently carrying soil away from the excavation area to other on-site or off-site areas. Ensure that boots, tools, excavation equipment, and trucks are clean prior to leaving the excavation area.

7. Secure excavations at the end of the day or any time the excavation is left unattended with fencing and signage to disallow access by unauthorized persons. Excavations should be backfilled as soon as possible.

3.3.2 Personal Protective Equipment

Workers should wear personal protective equipment (PPE) required by their own health and safety plan and best practices. The following additional PPE should be worn to protect workers from COIs that may be present in soil:

1. Chemical resistant gloves – Gloves are meant to prevent dermal contact with soil and may be worn beneath work gloves. Acceptable glove materials include latex, nitrile, polyvinyl chloride (PVC), and rubber. These gloves may be worn beneath work gloves that may be required by other health and safety protocols.

2. Safety glasses/goggles – Glasses or goggles should be used to minimize soil particles contacting the eyes.

3. Disposable chemical resistant coveralls – If worker physical contact with soil is expected, disposable coveralls (i.e. Tyvek suits) should be worn to prevent dermal contact and keep personnel from transporting soil off-site on clothing.

4. Dust masks – Control measures should be used to eliminate dust; however, if there is the potential for dust generation, workers should wear dust masks to prevent inhalation of potentially impacted soil.

3.4 Soil Management

3.4.1 Soil, Foundation Materials, and Buried Material Management and Excavation Planning

This Soil Management Plan will be implemented for the initial development of the proposed industrial warehouse and shall be utilized for any subsequent excavation work. Soil management planning will include arrangements for staging, characterization, and disposal, as described below. Soil management is required for any soil, foundation materials, and buried materials that are excavated on Site. Soil management is required whether soil is planned to be returned to the excavation or removed off site. Excavated soil, foundation materials, and debris will either be: 1) properly managed onsite, 2) managed on a different property of the John F. Queeny Plant properties covered under the same Environmental Covenant, and/or 3) disposed of offsite dependent on the contaminant levels and regulatory requirements. Soil and foundation materials are expected to be returned to the excavation that they are removed from. If soil and/or foundation materials are to be used offsite on a different property of the John F. Queeny Plant properties covered under the same Environmental Covenant, alternative sampling and acceptance criteria are applicable if the soils and foundation materials come from the PCB engineered barrier areas. This assessment will be managed by the Environmental Consultant.

3.4.2 Soil Staging

Soil from the same excavation may be staged as a single pile or direct loaded to be hauled off site. Soil from the PCB engineered barrier areas will be staged together and soils from other areas will be staged separately. Excavated soil should be handled in accordance with the following general protocols:

1. The soil pile should be away from areas where routine facility operation would put workers in contact with soil. Furthermore, soil should not be staged near surface water features such as storm drains or other water conveyance features.

2. When possible, soil should be containerized. For smaller volumes soil may be staged in steel drums or roll-off containers. Larger volumes should be staged on plastic sheeting.

3. If feasible, soil should be covered with tarps or plastic sheeting to prevent exposure to precipitation and wind.

4. Soil should not be transported off-site for the purposes of staging except by a certified contractor.

3.4.3 Foundation Materials

Foundation materials may be found on site that were not previously anticipated. Foundation materials may either be hauled offsite for disposal or may be crushed and reused at one of the other

properties apart of the J.F. Queeny Plant. Foundation materials may be staged as a single pile or direct loaded to be hauled off site. Foundation materials from separate areas excavated in the same construction activity may be staged together if the Environmental Consultant has determined they are likely impacted by the same COIs. In all other instances, foundation materials from separate excavations should be staged separately. Excavated foundation materials should be handled in accordance with the following general protocols:

1. Foundation materials should be away from areas where routine facility operation would put workers in contact with the foundation materials. Furthermore, foundation materials should not be staged near surface water features such as storm drains or other water conveyance features.

2. If feasible, foundation materials should be covered with tarps or plastic sheeting to prevent exposure to precipitation and wind.

3. Foundation materials should not be transported off-site for the purposes of staging except by a certified contractor.

3.4.4 Management of Unexpected Subsurface Conditions

Unexpected conditions may occur during excavation activities. When an unexpected condition occurs, soil-disturbing activities in the immediate area of the discovery shall immediately cease upon the discovery of unexpected subsurface conditions including the following:

1. Drums, underground storage tanks, piping, sumps, etc.

2. Suspect regulated materials (e.g. suspect asbestos containing debris)

3. Significant uncharted utilities or subsurface obstructions/features

Notify the Environmental Consultant and MDNR immediately of the encounter of unexpected subsurface conditions.

3.4.5 Surface Water Management

During construction activities where impacted soil is exposed, the Contractor should take care of preventing surface water accumulation on or around the impacted soil. Construction activities shall be sequenced to limit the amount of impacted soil exposed at one time and berms shall be constructed around excavation areas to prevent surface water from flowing over impacted soil.

3.5 Inspection, Sampling and Characterization

Inspection and sampling should be conducted for characterization for offsite reuse and disposal by the Environmental Consultant. Soils, foundation materials, and debris that are to be reused offsite shall meet all regulatory requirements. If soils, foundation materials, and debris are slated for

offsite disposal, the Environmental Consultant shall confirm with the disposal facility on its own requirements for characterization for acceptance, and the facility will be consulted prior to sampling.

3.5.1 Analytical Data Requirements

For offsite reuse sampling, if disposal sampling is time-sensitive and the disposal facility cannot be contacted, at a minimum the following parameters will be analyzed:

- Target Analyte List (TAL) Metals
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Paint Filter test
- Closed Cup Flashpoint
- Toxicity Characteristic Leaching Procedure (TCLP) Metals
- TCLP Volatile Organic Compounds (VOCs)
- TCLP Semivolatile Organic Compounds (SVOCs)
- Aroclor Polychlorinated Biphenyls (PCBs)
- Extractable Organic Halides (EOX)
- pH
- Total Cyanide
- Reactive Sulfide
- Total Phenols

3.5.2 Representative Soil Sample Collection

General guidance for development of a sampling strategy will be in general conformance with ASTM Standard D6009-12. Samples will be representative of all staged soil and therefore should be composite samples. Composite samples will include both surface grabs and soil collected across the entire depth profile using a hand auger or shovel that are mixed until visually homogeneous. The number of samples collected from staged soil is at the discretion of the disposal site and Environmental Consultant.

As a general guideline, multiple representative samples will only be collected if staged soil may be reasonably segregated for disposal should sampling indicate different disposal classifications and handling are required. The number of samples will depend on the volume of soil generated or the overall area of the excavation, heterogeneity of soil, evidence of COIs, and soil source.

- Volume/Area – This Plan does not provide a sample per unit volume of soil criteria for characterization. If staged soil is homogenous and cannot be segregated by other methods, as few samples as possible will be collected. Multiple samples will be collected if, to spatially characterize the soil pile, numerous aliquots (greater than five) are required and effective homogenization of aliquots is unreasonable.

- Heterogeneity – If staged soil displays distinctly different characteristics (e.g. a portion of the excavated area consisted of urban fill material and a portion consisted of native soil), distinctly different material may be characterized by individual samples.

- Evidence of COIs – Material that was segregated due to evidence of COIs (e.g. staining and/or odor) will be sampled independent of other staged waste soil.

- Soil Source – Soil that was generated from two separate areas will be characterized independently.

- All samples will be placed immediately on ice and shipped to the selected certified laboratory for the required analysis under proper chain-of-custody procedures.

3.5.3 Representative Foundation Materials Inspection and Sample Collection

Foundation materials that are removed to allow for future site development will be inspected and documented upon discovery. Foundation materials will be handled based upon their location relative to PCB-impacted soils. There are two different methods for managing foundation materials on site, which are further defined below.

3.5.3.1 Foundation Materials in PCB-Impacted Soil Areas

For foundation materials found in the areas of PCB-impacted soils (**Figure 3**), the development of a sampling strategy will be in general conformance with 40 CFR 761. The following is the procedure for sampling foundation materials in PCB-impacted soil areas:

- Foundation materials that are able to be sampled in situ will be sampled in a grid pattern at sampling points approximately 4.5 feet apart in general accordance with 40 CFR 761.283.

    - For foundation materials that are not able to be sampled in situ, stock piles will be created by the contractor. Prior to removing the foundation material from in situ, the contractor will document approximate depth, length, and width of the foundation material. The Environmental Consultant will use that information to determine the appropriate number of samples as if the foundation was sampled in a grid pattern at sampling points approximately 4.5 feet apart in general accordance with 40 CFR 761.283.

- Bulk samples will be collected in general accordance with 40 CFR 761.286 using a hammer drill equipped with a 1-inch diameter masonry bit (approximately 3-inch deep "cores" drilled at each concrete bulk sample location). Bulk samples from four adjacent grid locations will be composited into 1 composite sample.

- If foundation materials are sampled ex situ, bulk samples will be collected in general accordance with 40 CFR 761.286 using a hammer drill equipped with a 1-inch diameter masonry bit (approximately 3-inch deep "cores" drilled at each concrete bulk sample location). If the foundation material is not able to be sampled using a hammer drill equipped with a 1-inch diameter masonry bit to depth of approximately 3 inches, a chisel may be used to generate the bulk sample.

- Duplicate composite samples will be collected on a frequency of 1 per 10 samples.

- One hexane blank sample will be submitted for each sampling event.

- Concrete composite samples will be placed in laboratory-supplied containers and in a cooler with ice for submittal to the laboratory.

Based on the sampling results, below are the possible scenarios for foundation materials in PCB-impacted soil areas:

- All samples of the specific foundation materials that come back as non-detect and up to 10 ppm are approved per the Environmental Covenant (USEPA, 2018B) to be used offsite on a different property of the John F. Queeny Plant properties covered under the same Environmental Covenant. These foundation materials will be crushed and used as fill.

- Any samples of the specific foundation materials that come back between 10 ppm to 100 ppm will be crushed and used as fill in the area of the engineered cap or may be hauled to an approved solid waste disposal facility based upon the facility's approval requirements.

- Any samples per the specific foundation materials that come back above 100 ppm are to be hauled to an approved solid waste disposal facility based upon the facility's approval requirements.

3.5.3.2 Foundation Materials in Non-PCB-Impacted Soil Areas

For foundation materials found in the areas of non-PCB-impacted soils (**Figure 3**), the foundation materials will be inspected for staining and odors. In the event there are staining or odors, the foundation materials will be sampled per the previous section for the potential of PCBs. If there are no stains or odors, the foundation materials will be cleaned to remove any loose soil or soil clods and the foundation materials will be allowed to be crushed and used as fill at another parcel of the J.F. Queeny Plant.

3.6 Soil, Foundation Materials, and Surface Water Disposal

Disposal of soil, foundation materials, and surface water will be coordinated with the Environmental Consultant. Disposal, including manifesting, loading, and transportation will be conducted by a Hazardous Waste Operations and Emergency Management (HAZWOPER)-trained

and certified contractor. The transporter selected to deliver the material to the disposal site and the disposal site will have the required permits and authorization to transport and dispose of soil or surface water with the analytes identified in the analytical sampling results. The Environmental Consultant designee or a designee of the property owner will oversee soil and surface water loading and verify and sign waste manifests.

Soil, foundation materials, and buried materials that meet regulatory requirements for reuse may be used on site or sent off site for reuse in accordance with applicable regulatory requirements as determined by the Environmental Consultant.

3.7 Importing of Soil

This Plan must be followed when importing soil for construction work. Soil management planning will include arrangements for pre-approval, importing, and staging, as described below. Soil management is required for any soil that is imported to the Site. Imported soil will be properly vetted prior to being imported. This assessment will be coordinated through the Environmental Consultant.

3.7.1 Pre-Approval

Sampling will be conducted for characterization to ensure the soil meets the Missouri Risk-Based Corrective Action Technical Guidance standards for a non-residential site. Soil that does not meet the prescribed non-residential standards shall not be imported to the site. If soil is being imported from an undisturbed property (i.e., virgin source) that has not had any previously known commercial and/or industrial operations on the property, and this can be adequately documented, the Environmental Consultant may approve the soil without sampling the soil.

3.7.2 Analytical Data Requirements

At a minimum the following parameters will be analyzed for any imported soil:

- Polycyclic Aromatic Hydrocarbons (PAHs)
- Metals
- Volatile Organic Compounds (VOCs)
- Semivolatile Organic Compounds (SVOCs)
- Aroclor Polychlorinated Biphenyls (PCBs)

3.7.3 Representative Sample Collection

General guidance for development of a sampling strategy will be in general conformance with ASTM Standard D6009-12. Samples will be representative of all staged soil that is to be imported

and therefore should be composite samples. Composite samples will include both surface grabs and soil collected across the entire depth profile using a hand auger or shovel that are mixed until visually homogeneous. The number of samples collected from staged soil is at the discretion of the Environmental Consultant.

As a general guideline, multiple representative samples will only be collected if staged soil may be reasonably segregated. The number of samples will depend on the volume of soil generated or the overall area of the excavation, heterogeneity of soil, evidence of COIs, and soil source.

- Volume/Area – This Plan does not provide a sample per unit volume of soil criteria for characterization. If staged soil is homogenous and cannot be segregated by other methods, as few samples as possible will be collected. Multiple samples will be collected if, to spatially characterize the soil pile, numerous aliquots (greater than five) are required and effective homogenization of aliquots is unreasonable.

- Heterogeneity – If staged soil displays distinctly different characteristics (e.g. a portion of the excavated area consisted of urban fill material and a portion consisted of native soil), distinctly different material may be characterized by individual samples.

- Evidence of COIs – Material that was segregated due to evidence of COIs (e.g. staining and/or odor) will be sampled independent of other staged waste soil.

- Soil Source – Soil that was generated from two separate areas will be characterized independently.

- All samples will be placed immediately on ice and shipped to the selected certified laboratory for the required analysis under proper chain-of-custody procedures.

SECTION 4

LOCATION OF SURVEY MARKERS AND WARNING LAYERS IDENTIFYING CONTAMINANTS OF CONCERN

This plan is intended to provide permanent survey markers and warning layers as part of the engineering barrier controls at the Site as described in the USEPA Environmental Covenant for the Site (USEPA, 2018B; **Figure 1**). The Environmental Covenant requires delineation of all soil areas associated with the former VV building area which have PCBs remaining at concentrations greater than 10 milligrams per kilogram.

This Survey Marker and Warning Layer Design Plan specifically addresses the areas affected by PCB-contaminated soils which remain or may remain at the Site from previous interim remedial work. These requirements apply to those locations of the Site with known PCB contaminated soils that will remain in-place at concentrations between 10 milligrams per kilogram and 100 milligrams per kilogram. The Plan proposed at the Site consists of installation of a warning layer beneath an PCB engineered barrier to provide notification of the presence of hazardous constituents, along with placement of permanent survey markers at the corners of the warning layer. This Plan provides an additional level of control to prevent exposure to contaminated soils and thus eliminates potential risk to public health and the environment.

The engineered barrier at the Site is a surface "cap" consisting of a non-residential storage building with a minimum 6-inch slab on grade floor and a minimum of 6-inch thick concrete parking lot over the PCB-impacted area (**Figure 3**). The contaminants of concern will be considered to be present based upon the delineation provided in the Interim Measures Work Plan Completion Report (EOI, 2015), where PCB concentrations were identified between greater than 10 mg/kg and less than 100 mg/kg. In the delineated areas, a warning layer consisting of a high visibility orange woven polypropylene geotextile printed with the words "Do Not Dig" will be placed at the top of the contaminated soil layer before the soil layer is capped with the engineered barrier system. It will serve as a warning of contaminated soil below the barrier and limit particle transition from the contaminated soil to the clean soil above.

The permanent survey markers will delineate the perimeter of the warning layer. The survey markers will be established by a land surveyor and will be composed of a material which will last throughout the life of the Site, in accordance with Missouri Department of Natural Resources' rule for marker the boundaries of a sanitary landfill (10 CSR Division 80, Ch. 3) (Missouri, 1998).

SECTION 5

INDOOR AIR AND VAPOR MITIGATION SYSTEM AND ENGINEERED BARRIER OPERATIONS AND MAINTENANCE PLAN

A previously completed vapor intrusion evaluation was conducted for the Site (Geosyntec, June 27, 2018), which summarized the vapor intrusion potential based on available subsurface data. A Conceptual Vapor Intrusion Mitigation System Design Specification will be prepared to detail the design and installation parameters of the system.

Certain elements of this Plan are based on the current understanding of the proposed building at the Site, as well as the type of occupancy (warehouse work) of the proposed building. This Plan will be updated if changes to the Building construction or occupancy occur subsequent to the date of this Plan.

5.1 Contaminants of Concern

A discussion of the contaminants of concern at the Site is presented in Section 2.2.

5.2 Responsible Person and Qualified Environmental Professional

The owners and/or operators of the Site building shall assign a competent and properly trained Responsible Person[6] to implement this Operations and Maintenance (O&M) Plan and Qualified Environmental Professional[7] (QEP) to oversee O&M activities, to ensure that: (i) the VIMS continues operating as designed; (ii) the engineered barrier is still in a condition as it was designed; (iii) that this Plan is followed; and (iv) that personnel are available and/or on call to respond promptly to any problems with the system.

The QEP will have responsibility for the VIMS operation and any changes to the VIMS or this Plan. The QEP will at least annually review the VIMS operation and provide a written opinion (based on review of the O&M documentation) addressing whether the VIMS is meeting the performance objectives, as well as applicable regulatory guidance and regulations (current at the time of review).

The remaining sections of this Plan discuss the VI risk to indoor air at the Site; the salient features of the proposed VIMS; post-construction system verification monitoring requirements and VIMS O&M requirements and frequency.

---

[6] Responsible Person shall have site specific training regarding the specific components and operation of the VIMS for the Building.

[7] Qualified Environmental Professional shall have current knowledge of Federal, State and Local environmental contamination regulations (including applicable vapor intrusion guidance); and have experience managing contaminated site remediation systems including those involving vapor intrusion mitigation.

5.3 Operations and Maintenance Requirements for Engineered Barrier

The performance of routine engineered barrier (i.e., PCB cap locations) inspections is necessary to help ensure ongoing barrier integrity. It will be the responsibility of the owner (or owner designee) to ensure such inspections are performed every six (6) months. Inspections will include a walkthrough and visual inspection of the engineered barrier across the Site. The engineered barrier areas to be inspected include the parking lot and floor slab of the building. The cap will be inspected for visible wear, potholes, and/or cracks (greater than 0.25-inch wide). In addition, the stormwater features, including the drop inlets, will be inspected to verify that they are functioning. The results of the engineered barrier inspection will be documented in writing and include the date, the name of the inspector (and associated qualifications), key observations, and recommended corrective actions. Such documentation will be maintained by the owner, and will be made available, upon request, for review.

The owner or owner designee will address compromised areas of the engineered barrier as soon as possible. If substantial damage is observed (such as large cracks – greater than 0.25-inch wide), then the inspector will notify the owner or owner designee immediately. Corrective action shall begin within 72 hours of discovery for any substantial damage (as defined above) which would impair the integrity of the cap.

5.4 Vapor Intrusion Risk to Indoor Air

Based on the presence of VOCs in shallow groundwater (as reported by others), characteristics of the vadose zone materials, and the presence of VOCs above USEPA VISLs (USEPA, 2018A) in soil gas at the Site and within and adjacent to the estimated footprint of the proposed distribution warehouse, the potential for a completed VI pathway exists in a future building.

USEPA (USEPA, 2015) recommends that if current data (e.g., "near-source" soil gas) indicate that there is the potential for unacceptable human health risk arising from VI in an area where a building(s) is expected to be constructed in the future, that the remediation decision document record the known facts and data analyses and clearly state that VI mitigation or site re-evaluation may be needed when the property is developed or occupied. USEPA generally recommends appropriate institutional controls to ensure enforcement of such remediation decisions. If remedial actions to remove or treat the subsurface vapor source(s) are being conducted or will be conducted before the building is constructed and occupied, then building mitigation for the VI pathway may not be warranted.

Available information was reviewed and a limited lines of evidence evaluation completed to characterize the overall VI pathway (Geosyntec, 2018). Since no remedial actions are required to remove or treat the subsurface vapor sources before the building is occupied (USEPA, 2018B), building mitigation for the VI pathway is warranted. Based on future commercial development plans, designing, installing, operating, and monitoring engineered exposure controls as part of the new building construction will eliminate the potential for human health exposure.

Based on the understanding that a VIMS will be designed and installed for the Site building, the design goal of the VIMS shall be to minimize soil gas entry into the building such that indoor air concentrations (due to the VI pathway) remain below applicable USEPA VISLs (USEPA, 2018A).

5.5 Conceptual Active VIMS

As described in greater detail in Section 1, the conceptual design for this VIMS is an active SSD system consisting of a suitable VI barrier membrane, overlying an installed layer of air-permeable material and trenchless vapor collection system connected to sixteen vertical riser pipes, each to be provided with an electric fan to provide the required vacuum. A valve (slide-gate) (normally fully open) will be provided beneath each fan. In the event of a fan failure, its valve can be closed to minimize the vacuum loss until the fan is replaced. The layer of air permeable material and trenchless vapor collection system will distribute the vacuum supplied by the active risers beneath the concrete floor slab. Sub-slab vapors collected from beneath the entire building footprint will be discharged to the atmosphere above the building.

The conceptual design includes a telemetry system to monitor the vacuum level at each active riser to alert the user should a fan lose power or vacuum. Eight (8) permanent soil vapor probes will be installed in the floor slab as part of VIMS construction to simplify verifying vacuum field extension beneath the floor slab and to use as potential future sampling ports.

The current understanding of the site development is that the VIMS proposed for the Site building will be an active SSD system and that the active SSD system conceptual design being considered consists of a Geo-Seal® sub-slab VI barrier overlying a Vapor Vent® trenchless vapor collection system connected to several vertical riser pipes affixed to electric fans. The performance of this system will depend on the ability of the vapor collection system to remove built up vapors, and the ability of the VI barrier to keep vapors from migrating through the slab.

5.6 Post Construction System Verification Monitoring Requirements

Following construction of the proposed building at the Site, VIMS verification testing should be conducted to ensure the system is operating as designed (e.g. vapor intrusion is not occurring). The following sub-sections present verification monitoring requirements.

5.6.1 Active SSD VIMS

The performance of the active SSD VIMS relies on the propagation of a vacuum field beneath the building slab using electric fans. At the time of system commissioning, the vacuum below the slab should be checked, and indoor air samples collected to confirm the VIMS is working as designed (i.e. the vapor intrusion pathway is incomplete). Once satisfactory startup sub-slab vacuum readings and indoor air samples results have been demonstrated, ongoing vacuum and air monitoring is not necessary as long as the fan vacuum remains consistent over time.

5.6.2 Verification Testing and Ongoing Monitoring Requirements

Verification testing and ongoing VIMS monitoring requirements presented in the table below **(Table 1)** have been adopted from the New Jersey Department of Environmental Protection (NJDEP) Vapor Intrusion Technical Guidance (VITG) (NJDEP, 2018) Table 6-1[8]. For the purpose of this Plan, samples shall be collected from a total of eight sub-slab soil gas probes[9] (four evenly distributed locations on either side of the proposed grade beam) and six indoor air sample locations (five dispersed throughout the warehouse area and one from an office/enclosed area on the first floor). Additionally, one duplicate sample will be collected during each sampling event.

Table 1: Verification Testing and Ongoing VIMS Monitoring Requirements

	Active SSD VIMS
Verification Test Timeframe	A minimum of 30 days after startup, but not to exceed 60 days.
Verification Test Parameters	Indoor air samples (6 locations) Outdoor air samples (1 location) Sub-slab vacuum measurements Riser pipe vacuum and airflow measurements System alarm testing Inspection of VIMS components

Sub-slab vacuum measurements will be collected using a digital micromanometer capable of reading accurately to 0.1 Pascal. Long term (at least 48-hour, data logging at one-minute intervals) sub-slab to indoor air differential pressure monitoring will be performed in at least one of the sub-slab probe locations during verification testing to account for pressure changes in the building over time.

5.7 Sample Methodology and Analysis

Indoor air, sub-slab vapor, and outdoor air samples will be collected into certified clean Summa®, or equivalent canisters and submitted to a Missouri-certified laboratory for laboratory analysis of the following compounds via USEPA Method TO-15 with reporting limits that meet current USEPA VISLs (USEPA, 2018A):

- Tetrachloroethylene
- Trichloroethene
- Vinyl Chloride
- 1,4-dichlorobenzene
- Benzene
- Toluene

[8] USEPA, 2015 (Section 8.4) refers to this approach as an example of a VIMS monitoring scenario.
[9] Sub-slab soil gas samples will be collected from the active SSD, according to Table 1. Sample ports should be installed during construction of the VIMS.

- Chloroform
- Chlorobenzene
- Ethylbenzene
- Xylene
- Cis-1,2-dichloroethene[10]

5.7.1 Sample Media

Canisters used for indoor and outdoor air samples will be individually certified clean and fitted with eight-hour flow controllers. Indoor and outdoor air samples will be collected contemporaneously. Sub-slab soil gas sample canisters may be batch certified clean with 200 milliliter per minute flow controllers.

5.7.2 Sub-Slab Sample Probes

As noted above, the VIMS design will include a total of eight (8) permanent sub-slab sample probes to be installed at the time of building construction. Sub-slab soil gas probes will be installed recessed below the top of slab and completed within a protective flush mounted metal enclosure. Soil gas probes shall be ¼ inch male compression fittings and shall be capped.

Sub-slab soil gas probes may be used for both the collection of sub-slab soil gas samples and sub-slab/void space vacuum monitoring.

5.8 Sub-Slab Soil Gas Sample Collection and Quality Assurance/Control

This section presents the procedures to be implemented prior to and during collection of sub-slab (or void space) soil gas samples.

5.8.1 Shut-In Test

A shut-in test will be completed prior to collecting the sample to confirm that the flow controller and Summa® canister fittings in the sampling train are air-tight. The sampling equipment shall be connected to the probe using a clean piece of ¼ inch nylon tubing and a valve/tee assembly. With the valve to the probe closed, a vacuum of at least 10 inches of mercury (in Hg) will be applied on the sampling train using a lung box or pump and the vacuum within the sampling train monitored for a minimum of 1 minute to confirm that all connections are air-tight (i.e., no reduction in vacuum during the monitoring period). If vacuum loss is observed, the fittings will be tightened and the test repeated. Sampling will not proceed until leaks are eliminated.

[10] Compound cis-1,2-dischloroethene has been added to the list for Method TO-15 sampling at the request of USEPA. At the time of this document being issued, the USEPA vapor intrusion screening level (VISL) value for this compound has not been developed, but may be developed in the future.

5.8.2 Helium Tracer Test and Purging

A helium leak test (i.e., tracer gas test) will be performed following the shut-in test to confirm that the sampling train and the surface seal are air-tight and indoor air is not infiltrating the sampling train. Helium leak testing will be performed by placing a small plastic shroud filled with helium over each probe and tubing. The area beneath the shroud will then be enriched to a minimum of 10% helium. With the shroud enriched with helium, the probe will then be purged through the sampling train using a lung box and 1-liter (L) Tedlar™ bag.

The purge gas will be screened for the presence of organic vapors utilizing a PID and oxygen, carbon dioxide, and methane concentrations using a multi-gas meter to assess subsurface soil gas conditions. In addition, purged vapors will be screened for the presence of helium using a helium meter capable of reading to 10 parts per million (PPM) to determine if there are leaks in the surface seal or sampling train. If helium concentrations greater than 5% of the shroud concentration are observed in the purged vapors, then the probe seal or sampling train will be checked for leaks and modified to eliminate the infiltration of indoor air. If helium concentrations are less than 5% of the shroud concentration, then the sampling train and surface seal are considered to be air-tight and ready to sample.

5.8.3 Monitoring and Maintenance of Vapor Mitigation System and Telemetry-Based Monitoring System

The VIMS will be equipped with local alarms and telemetric monitors connected to each VIMS riser fan. In the event that a vacuum or airflow loss occurs (depending on which alarm is selected), the local alarms will sound and the telemetric monitors (vacuum loss only) will notify the Responsible Person via email or text message.

In the event one or all of the audible alarms sound or the telemetric monitor sends out an alarm notification, the following are potential steps to be taken to assess the cause (fan failure and alarm condition, as well as solution, should be recorded in the project file). Contact the Responsible Person and the Engineer of Record within 24 hours of an alarm or system failure. Notify EPA within 72 hours of any system failure that cannot be corrected within the first 24 hours.

1. If an alarm condition occurs for only one fan, evaluate which fan is associated with the alarm.

2. Verify that the associated fan(s) is no longer operating (check fan vacuum level and vacuum levels on the respective Magnehelic gauges).

3. If only one fan is inoperable, close the isolation valve below the failed fan until the fan can be replaced to allow entire VIMS to operate with one less fan.

4. Evaluate if the cause of the interruption to the fan's operation can be remedied immediately (i.e., accidentally tripped breaker or dedicated power switch). If so, reset switch and turn fan(s) back on.

5. If the cause of the fan's failure cannot be determined, the power supply to the audible alarm may be deactivated until the alarm condition has been resolved.

6. Contact the Engineer of Record and Responsible Person to address any operational issue that cannot be immediately resolved.

Following VIMS repair and restart, return valves to their original positions and restore power to any alarms that were de-energized.

5.8.4 Documentation

Sampling details, equipment calibration, and notes shall be recorded on a field sampling form.

5.9 Operation and Maintenance Requirements for VIMS

This section presents the routine O&M requirements including record keeping, reporting, annual inspections, and O&M checklist to ensure the VIMS is operating as designed over the long term.

As noted above, the active SSD conceptual design relies on electric fans to propagate a vacuum field below the slab with respect to indoor air. Once the system has been commissioned and verified to be working as designed, then monitoring of the vacuum field is sufficient over the long term to demonstrate system effectiveness.

Table 2 (below) presents the O&M requirements and schedule for the VIMS. As with **Table 1** (above) this table has been adopted from NJDEP, 2018 table 6-1.

Table 2: O&M Requirements and Schedule

Active SSD VIMS
First Year O&M
1) Semi-annual system inspections. 2) Verify commissioning values
Second Year and Beyond O&M
1) Annual system inspections. 2) Annual fan vacuum and air flow measurements

5.10 Active SSD VIMS Inspection

Inspections of the VIMS shall occur according to the schedule outlined in **Table 2** and should be performed using the form provided in **Appendix A.**

Inspections of the active SSD VIMS include the following:

- Inspection of the visible pipes and fans,
- Collection of riser pipe vacuum and air flow readings,
- Inspection of other system components (e.g. gate valves) for proper functioning and positioning,
- Inspection of the building slab for cracks or openings,
- Testing alarms to ensure proper operation (further discussion below), and
- An interview with the Responsible Person to inquire as to whether any changes to the building have occurred since the last inspection that could impact VIMS operation.

5.11 Other O&M Items of Note

Contact the Responsible Person and the QEP prior to modifying the VIMS or if any events or conditions occur that could impair the operation of the VIMS, including but not limited to the items listed below.

- Changes to the heating, ventilation, and air conditioning (HVAC) system that could alter air exchange rates and/or air pressures in the building.
- Repair, replacement, cutting, or drilling of the Building floor slab (e.g., for utility penetrations), or other changes to the floor slab (including cracks) that could increase the potential for soil gas to enter the building.
- Damage to the building due to settlement or ground shifting, flooding, fire, extreme weather events, or any other damage that could impact the integrity of the floor slab, the VIMS suction points, the VIMS conveyance piping, the VIMS monitoring system, or any other components of the VIMS.

5.12 EPA Notice Address

Notifications to EPA must be addressed to:

Bruce Morrison
EPA Region 7, AWMD/WRAP
11201 Renner Boulevard
Lenexa, KS 66219

Telephone: 913.551.7755
E-mail: morrison.bruce@epa.gov

SECTION 6

IMPLEMENTATION OF RESPONSE ACTIONS

The response actions described in this Response Action Work Plan will be implemented as set forth in the Schedule attached as **Appendix B.**

SECTION 7

REFERENCES

ASTM. 2012. Designation D6009-12. Standard Guide for Sampling Waste Piles. ASTM International. West Conshohocken, PA. 2012.

EOI. 2015. Environmental Operations, Incorporated (EOI). 2015. Former Solutia – John F. Queeny Plan, St. Louis, Missouri, Interim Measures Work Plan Completion Report.

Geosyntec. 2018. Geosyntec Consultants, Inc. 27 June 2018. "Technical Memorandum to Margaret Knowlton: Risk-Based Evaluation of April 2018 Soil Gas Analytical Results."

Missouri. 1998. 10 C.S.R. Division 80, Chapter 3. Rules of Department of Natural Resources, Solid Waste Management, Sanitary Landfill. Missouri Department of Natural Resources.

NJDEP. 2018. New Jersey Department of Environmental Protection (NJDEP). January 2018. "Vapor Intrusion Technical Guidance." Version 4.1.

USEPA. 2015. "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air". June.

USEPA. 2018A. "Vapor Intrusion Screening Levels (VISLs)." Retrieved from www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls. Version 3.5.

USEPA. 2018B. SHW Investments II, LLC c/o Environmental Operations, St. Louis, Missouri, Environmental Covenant.

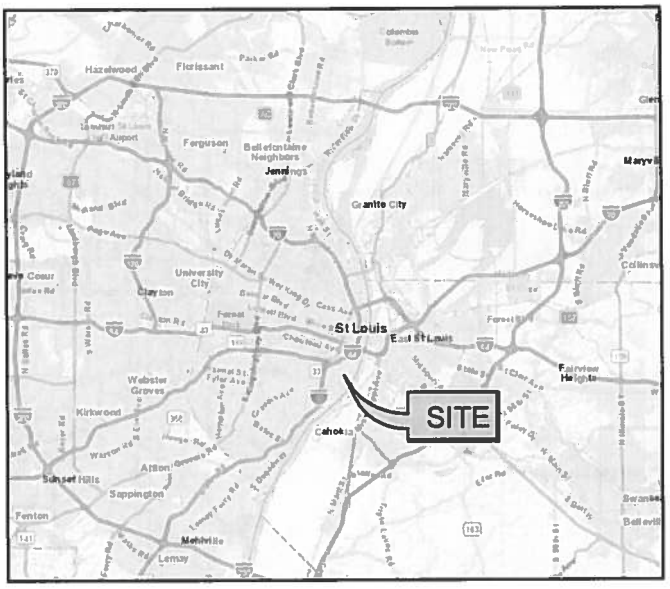
USEPA. 2018C. Former Solutia, J.F. Queeny Facility, St. Louis, Missouri, Statement of Basis

USEPA. 2018D. 40 Code of Federal Regulations Section 761.61(a)(7) – PBC Remediation Waste

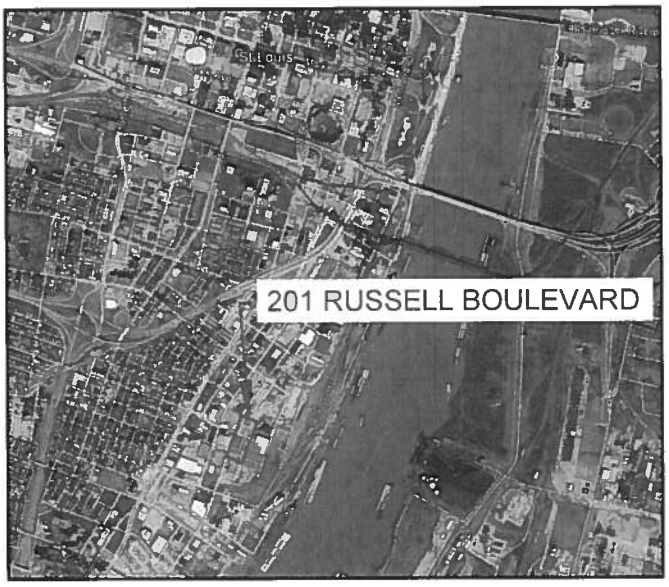
USEPA. 2018E. 29 Code of Federal Regulations 1926 Subpart P – Excavations

USEPA. 2018F. 29 Code of Federal Regulations 1910.120 Hazardous Waste Operations and Emergency Response

FIGURE 1



VICINITY MAP



PROPERTY LOCATION MAP

REGIONAL MAP

SOULARD INDUSTRIAL DEVELOPMENT WAREHOUSE
201 RUSSELL BOULVEVARD
ST. LOUIS, MISSOURI

GENERAL LOCATION MAP

Geosyntec consultants

FIGURE 1

PROJECT NO: CHE8381/3 | JANUARY 2019

R:\CEM1001_SOULARD_OPUS_ST_LOUIS_MS_WAREHOUSE\CAD\SHEET FILES\PHASE 3\FIGURE 1 - Last Saved By: SGallegos on 10/9/18

FIGURE 2

SOULARD INDUSTRIAL DEVELOPMENT WAREHOUSE
201 RUSSELL SOULVEVARD
ST. LOUIS, MISSOURI

PROJECT SITE MAP

Geosyntec consultants

FIGURE 2

PROJECT NO: CHE8381/3 | JANUARY 2019

0 500
SCALE IN FEET

REFERENCE:
- AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO, 2018.

R:\CEM1001_SOULARD_OPUS_ST_LOUIS_MS_WAREHOUSE\CAD\SHEET FILES\PHASE 3\FIGURE 2 - Last Saved by SGallegos on 10/10/18

FIGURE 3

LEGEND:

- PROPOSED SOULARD INDUSTRIAL DEVELOPMENT WAREHOUSE
- PROPOSED PARKING LOT AREA
- FORMER BUILDING LOCATIONS
- ENGINEERED BARRIER FOR PCB-IMPACTED SOILS

0 200

SCALE IN FEET

REFERENCE:

- AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO, 2018.

SOULARD INDUSTRIAL DEVELOPMENT WAREHOUSE

201 RUSSELL BOULVEVARD
ST. LOUIS, MISSOURI

PCB CAP LOCATIONS

Geosyntec consultants

FIGURE 3

PROJECT NO: CHE8381/6 | JANUARY 2019

R:\CE\1001_SOULARD_OPUS_ST_LOUIS_MS_WAREHOUSE\CAD\SHEET FILES\PHASE 8\FIGURE 3 - Last Saved by: SGallegos on 12/20/18

APPENDIX A

ACTIVE VIMS INSPECTION FORM

APPENDIX A
VIMS INSPECTION FORM
SOULARD SECOND STREET, LLC
ST. LOUIS, MO

Active SSD VIMS Inspection Form		
Inspector: _____		Date: _____
Signature: _____		Time: _____
Initial VIMS Checklist		
Parameter	**Response**	**Comments**
Fan 1 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 2 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 3 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 4 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 5 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 6 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 7 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 8 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 9 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 10 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 11 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 12 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 13 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 14 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 15 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	
Fan 16 Operating? (Green Indicator Light on RadonAway Alarm. Confirm fan operation by audible affirmation on roof)	Y/N	

APPENDIX A
VIMS INSPECTION FORM
SOULARD SECOND STREET, LLC
ST. LOUIS, MO

Alarm 1 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 2 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 3 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 4 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 5 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 6 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 7 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 8 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 9 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 10 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 11 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 12 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 13 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 14 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 15 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	
Alarm 16 Functionality? (Switch fan off. Remote alarm in office should sound)	Y/N	

APPENDIX A
VIMS INSPECTION FORM
SOULARD SECOND STREET, LLC
ST. LOUIS, MO

VIMS Observations and Maintenance	
Parameter	**Response**
Record any visible damage or changes to accessible interior piping valves, exterior piping, or fans	
Inspect building slab for cracks or openings	
Record any unusual noises or other observations	

VIMS Vacuum and Airflow Readings

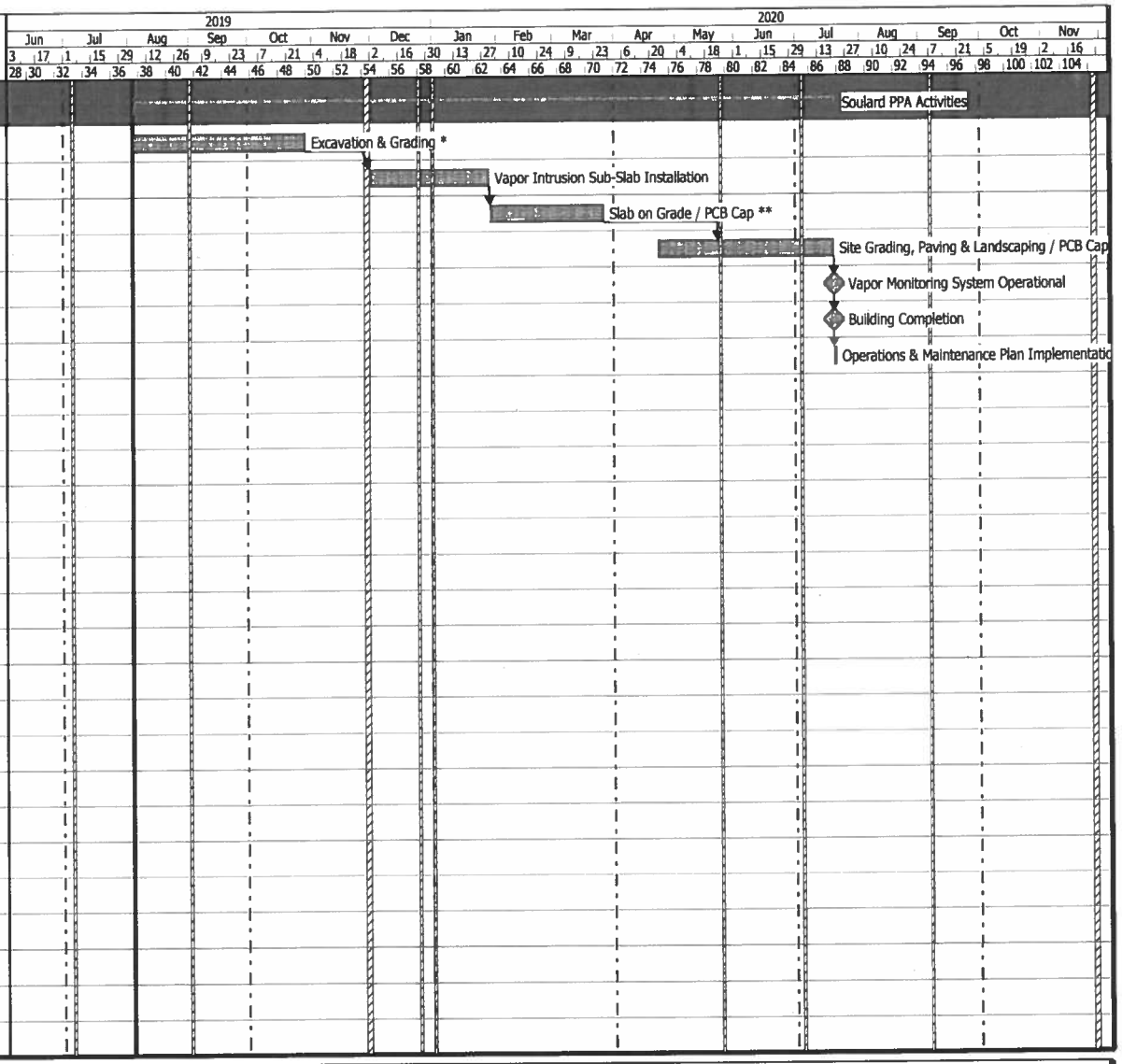
Location	Vacuum Reading (In WC)	System Commissioning Value	In Range?[2]	Airflow (CFM)	Desired Valve Position[1]	Actual Valve Position
Fan 1			Y/N	Y/N	Open	
Fan 2			Y/N	Y/N	Open	
Fan 3			Y/N	Y/N	Open	
Fan 4			Y/N	Y/N	Open	
Fan 5			Y/N	Y/N	Open	
Fan 6			Y/N	Y/N	Open	
Fan 7			Y/N	Y/N	Open	
Fan 8			Y/N	Y/N	Open	
Fan 9			Y/N	Y/N	Open	
Fan 10			Y/N	Y/N	Open	
Fan 11			Y/N	Y/N	Open	
Fan 12			Y/N	Y/N	Open	
Fan 13			Y/N	Y/N	Open	
Fan 14			Y/N	Y/N	Open	
Fan 15			Y/N	Y/N	Open	
Fan 16			Y/N	Y/N	Open	

Notes:
1. Desired valve position on gate valve is approximate.
2. Qualified environmental professional should resolve any condition with a "No" response
3. In WC indicates inches water column
4. CFM indicates cubic feet per minute

APPENDIX B

SCHEDULE

Line	Name	Duration	Start	Finish
	Soulard PPA Activities	**10m 1d**	**8/5/2019**	**7/21/2020**
2	Excavation & Grading *	3m	8/5/2019	10/29/2019
3	Vapor Intrusion Sub-Slab Installation	2m	12/2/2019	1/29/2020
4	Slab on Grade / PCB Cap **	2m	1/30/2020	3/26/2020
5	Site Grading, Paving & Landscaping / PCB Cap	3m	4/23/2020	7/20/2020
6	Vapor Monitoring System Operational		7/21/2020	7/21/2020
7	Building Completion		7/21/2020	7/21/2020
8	Operations & Maintenance Plan Implementation	1d	7/21/2020	7/21/2020
	(O&M Plan Operated For Life Cycle of Building)			



*Includes Soil Management Plan Implementation

**Includes Installation of Survey Markers & Warning Labels

Asta Powerproject	Soulard EPA Schedule: Bar Chart View	Prog no: 2	Revision no: 2	Soulard EPA Schedule
		Date: 2/4/2019	Rev. date: 12/3/2018	
		Drawn: 11/21/2018	Author: Mark Winschel	