

# CHAPTER 17

## ENVIRONMENTAL SITE ASSESSMENTS

### 17.0 GENERAL

The purpose of this chapter is to define the City's Environmental Site Assessment (ESA) requirements for proposed development in the City of Chesapeake. Environmental Site Assessments are required for certain rezonings, use-permits, preliminary subdivision and site plans, and final construction plan, as deemed necessary by the City to insure the proposal is conducive to the public health, safety, and welfare.

### 17.1 SUBMITTAL REQUIREMENTS

#### A. Required Land-Use:

Environmental Site Assessments are required for proposed plans and/or applications for land-uses where exposure to recognized environmental conditions create a concern for public health, safety, and welfare.

A Phase I ESA will be required for the following types of projects where land disturbance will occur: residential, assembly, day care, group home, recreation, school, library, and others as directed by city staff. The environmental site assessment must be performed in accordance with the criteria specified here in for Phase I Environmental Site Assessments.

#### B. Further Evaluation:

Phase II Environmental Site Assessments may be required based on the results of the Phase I ESA, as determined by the City.

#### C. Minimum Qualifications:

All Phase I and Phase II ESAs submitted to the City of Chesapeake in conjunction with a development application must be conducted by a qualified environmental professional. *Environmental Professional* means:

1. A person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases (per ASTM Standards E1527 and E1903.)

2. Such a person must:
  - a. Hold a current Professional Engineer's or Professional Geologist's license or registration from a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) and have the equivalent of three (3) years of full-time relevant experience; or
  - b. Be licensed or certified by the federal government, a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) to perform environmental site assessments and have the equivalent of three (3) years of full-time relevant experience; or
  - c. Have a Baccalaureate or higher degree from an accredited institution of higher education in a relevant discipline of engineering, environmental science, or earth science and the equivalent of five (5) years of full-time relevant experience; or
  - d. Have a Baccalaureate or higher degree from an accredited institution of higher education and the equivalent of ten (10) years of full-time relevant experience.
3. An environmental professional should remain current in his or her field through participation in continuing education or other activities and should be able to demonstrate such efforts.
4. The definition of environmental professional provided above does not preempt state professional licensing or registration requirements such as those for a professional geologist, engineer, or site remediation professional. Before commencing work, a person should determine the applicability of state professional licensing or registration laws to the activities to be undertaken as part of the Phase I or II ESA.
5. A person who does not qualify as an environmental professional under the foregoing definition may assist in the conduct of Phase I and Phase II ESAs if such person is under the supervision or responsible charge of a person meeting the definition of an environmental professional provided above when conducting such activities.

## **17.2 PHASE I ENVIRONMENTAL SITE ASSESSMENTS**

In addition to the requirements outlined in Section 17.4 below, Phase I ESAs must be conducted in accordance with the current version of American Society for Testing and Materials International (ASTM) Standard E1527 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", ASTM International, in conjunction with ASTM Standard E1528 "Standard Practice for Environmental Site Assessments: Transaction Screen Process", ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to

the standard's Document Summary page on the ASTM website. Phase I ESAs will not be greater than 6 months old per ASTM Standard E1527-4.6 & 4.7, which states that for the continued viability of environmental site assessment and prior assessment usage, when utilizing data from a Phase I ESA that is greater than 6 months old, at a minimum a new site reconnaissance, interviews, and an update of the records review should be performed.

### **17.3 PHASE II ENVIRONMENTAL SITE ASSESSMENTS**

#### **A. Minimum Requirements:**

At a minimum, Phase II ESAs must be conducted in general accordance with the current version of ASTM Standard E1903 (2002) "Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process", ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website. All soil, surface water, ground water, and sediment sampling and analyses conducted in association with Phase II ESAs must follow approved state and federal methodology.

#### **B. Planning and Evaluation Guidance:**

To assist in the initial planning and evaluation of sites being considered for remediation, redevelopment, or reuse, EPA Industry Profile Fact Sheets are available at: <http://www.epa.gov/reg3hscd/bf-lr/industryprofilefs.htm>. The Fact Sheets are intended to provide a general description of site conditions and contaminants that may be encountered at specific industrial facilities, and provide guidance on waste streams and potentially affected environmental media, sampling strategies, and suggested analytical parameters.

When reviewing Phase II ESAs and associated soil, surface water, ground water, and sediment data, the City of Chesapeake will reference the Virginia Department of Environmental Quality (VADEQ) Voluntary Remediation Program (VRP) unrestricted (residential) Tier II screening concentrations. Persons conducting Phase II ESAs may wish to utilize these screening concentrations when analyzing data and drawing conclusions. The VRP Risk Assessment Guidance Tables may be accessed at: <http://www.deq.virginia.gov/vrprisk/tables.html>

### **17.4 SUPPLEMENTAL MINIMUM REQUIREMENTS**

Below is a reference checklist of items required to be included in Environmental Site Assessments submitted to the City of Chesapeake as part of a development application. All ESAs submitted in conjunction with a development application will be considered incomplete without addressing the following components:

	<b>Requirement</b>	<b>Phase I</b>	<b>Phase II</b>
A.	A certification statement signed by the <i>Environmental Professional</i> stating that environmental due diligence was performed in accordance with the applicable ASTM Standard, that all known information on environmental conditions has been disclosed, that the information presented to the City of Chesapeake is complete and truthful to the best of his/her knowledge, the report is intended to be used and relied upon by the City of Chesapeake, the subject property either is or is not suitable for residential or public land use, and the subject property either does or does not represent a significant risk to human health and the environment.	<b>X</b>	<b>X</b>
B.	An executive summary that provides an overview of the property and includes specific and comprehensive findings and recommendations - <u>For a Phase I ESA there must be a recommendations and justifications on whether or not a Phase II ESA is warranted.</u> The proposed scope of the Phase II must be described in detail if applicable. For a Phase II ESA there must be specific and comprehensive recommendations for any further action necessary on the subject property.	<b>X</b>	<b>X</b>
C.	A report introduction, which explains the purpose, detailed scope of services, significant assumptions, limitations and exceptions, special terms and conditions, and user reliance.	<b>X</b>	<b>X</b>
D.	A detailed and comprehensive site description which includes, but is not limited to: location and legal description; hydrogeology, topography, and geography of the site including ground and surface water flow and soil characteristics; site and vicinity general characteristics; current land use and planned land use on the property; current and/or proposed zoning; descriptions of existing and proposed structures, roads, utilities, groundwater wells, and other improvements on the site; and current uses of adjoining properties	<b>X</b>	<b>X</b>
E.	Color exhibits of the subject property which demonstrates the physical setting. Color or black & white copies of all historical and current aerial photography investigated for the subject property.	<b>X</b>	<b>X</b>
F.	An environmental records review of Federal, State, and Local databases and lists for the subject property and adjacent properties as well as a search of any environmental liens filed against the subject property. If the subject property is currently enrolled in or has filed application to the Virginia DEQ Voluntary Remediation Program or any other state or federal remediation or cleanup program, a description of the contamination and proposed remedial activities must be included. <u>Data used in this research will meet the 90-day updating requirement outlined in ASTM Standard E1527.</u> At a minimum, subject property must be researched using the following databases, lists, and resources and results clearly referenced:  <b><u>Federal</u></b>  NPL National Priority List Proposed NPL Proposed National Priority List Sites CERCLIS Comprehensive Environmental Response, Compensation, and Liability Information System CERC-NFRAP CERCLIS No Further Remedial Action Planned CORRACTS Corrective Action Report RCRA-LQG Resource Conservation and Recovery Act Information ERNS Emergency Response Notification System CONSENT Superfund (CERCLA) Consent Decrees	<b>X</b>	

	<p><b>ROD</b> Records Of Decision  <b>Delisted NPL</b> National Priority List Deletions  <b>FINDS</b> Facility Index System/Facility Identification Initiative Program Summary Report  <b>HMIRS</b> Hazardous Materials Information Reporting System  <b>MLTS</b> Material Licensing Tracking System  <b>MINES</b> Mines Master Index File  <b>NPL Liens</b> Federal Superfund Liens  <b>PADS</b> PCB Activity Database System  <b>FUDS</b> Formerly Used Defense Sites  <b>ODI</b> Open Dump Inventory  <b>DOD</b> Department of Defense Sites  <b>RAATS</b> RCRA Administrative Action Tracking System  <b>TRIS</b> Toxic Chemical Release Inventory System  <b>TSCA</b> Toxic Substances Control Act  <b>SSTS</b> Section 7 Tracking Systems</p> <p><b>FTTS INSP</b> FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, &amp; Rodenticide Act)/TSCA (Toxic Substances Control Act)  <b>ENF</b> Enforcement Actions Data  <b>DRYCLEANERS</b> Drycleaner List  <b>US BROWNFIELDS</b> A Listing of Brownfields Sites  <b>INST CONTROL</b> Voluntary Remediation Program Database  <b>BROWNFIELDS</b> Brownfields Site Specific Assessments  <b>USEPA</b> National Radon Database</p> <p><u><b>State</b></u></p> <p><b>SWF/LF</b> Solid Waste Management Facilities  <b>VA VRP</b> Voluntary Remediation Program  <b>AST</b> Registered Petroleum Storage Tanks  <b>UST</b> Registered Underground Petroleum Storage Tanks  <b>LUST</b> Leaking Underground Petroleum Storage Tanks  <b>VA Spills</b> Pollution Complaint Database  <b>CEDS</b> VA Comprehensive Environmental Data System</p> <p>If the subject property is present in any of these lists or databases, a complete description and explanation of the listing must be included</p>		
G.	<p>Potential Jurisdiction Discussion, a reference format can be found at the end of this document. For Phase I ESAs this information may be combined with the environmental records review. When a positive response is noted in this discussion, a description of the actions taken or proposed to address the regulatory issue(s) must be included.</p>	<b>X</b>	<b>X</b>
H.	<p>A complete and specific description of the historical use of and improvements to the subject property and adjoining properties utilizing, but not limited to, historical and current aerial photographs, fire insurance maps, building department records, chain of title documents, land use records, property tax files, USGS topographic maps, building department records, zoning and land use records, Real Estate Assessor records, Court House deeds/records, and other sources as outlined in ASTM Standards E1527 and E1528.</p>	<b>X</b>	

I.	A visual on-site inspection of the property and any improvements to the property as well as a visual inspection of adjoining properties from the subject property line, public rights of way or other vantage points. Any physical limitations to the inspection must be documented.	<b>X</b>	
J.	Interviews with past and present owners, operators, occupants, and others who may have specialized knowledge of the subject property. Copies of all User Questionnaires per ASTM E1527 shall be included within the ESA. When interviews with past property owners is not reasonably ascertainable, this shall be documented within the "Limitations" section of the report.	<b>X</b>	
K.	Background information that may reference federal, state, and/or local government information, prior ESAs, Environmental Impact Analyses, or other environmental studies on or adjacent to the subject property. FOIA inquiries shall be submitted to the City of Chesapeake Public Works and City of Chesapeake Fire Department. The FOIA results shall be included within the ESA.	<b>X</b>	<b>X</b>
L.	Activities at the site including the scope of the assignment, human risk analysis, site sampling and analysis plan to include media and sample locations, field explorations and methods, sampling and analyses methods  * If a Phase I ESA indicates the need for a Phase II ESA, this information must be included in the proposed scope of Phase II activities	<b>X*</b>	<b>X</b>
M.	A thorough evaluation and detailed presentation of results including, but not limited to, surface and subsurface soils and conditions, surface and ground water conditions, and analytical data		<b>X</b>
N.	The results of an engineered soil characterization report must be included for all sites containing fill materials. A soil characterization report includes load bearing capacity, shrink/swell potential, water table depth and depth of fill for each site.	<b>X</b>	<b>X</b>
O.	For sites with fill material containing an organic content sufficient to generate explosive gas through the process of decomposition, the results of a methane gas report (% concentration) must be included. Acceptable methane levels are below the Lower Explosive Limit (LEL) on the site and below 25% of the LEL within or at structures. Sites exceeding the LEL shall require structures to be engineered to sufficiently vent explosive gases.		<b>X</b>
P.	Comprehensive findings, opinions, and conclusions, including detailed recommendations – these may be included in the executive summary or as separate sections in the report.	<b>X</b>	<b>X</b>
Q.	Deviations from the applicable ASTM Standard(s) or the City's Chapter 17 requirements, and data gaps or data failures shall be documented and explained in detail within the "Limitations" section of the report.	<b>X</b>	<b>X</b>
R.	Signature(s) and statement(s) of qualifications and experience of the Environmental Professional(s) who conducted the site assessment. For the purposes of this submittal, an Environmental Professional must meet the minimum qualifications outlined in this document.	<b>X</b>	<b>X</b>
S.	A site map shall be required. The map shall show current property conditions, property boundaries, and all RECs addressed within the ESA.	<b>X</b>	<b>X</b>

T.	Appendices containing maps, sketches, photos, sampling plans, interview questionnaires, analytical reports, field data, or other necessary documentation	<b>X</b>	<b>X</b>
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## 17.5 Potential Jurisdiction Discussion

- A. Nature of Release If a release or suspected release of hazardous substances or hazardous wastes (as defined in ASTM Standard E1527), petroleum products, heavy metals, Volatile Organic Compounds (VOCs), or “other wastes” as defined herein, has occurred on the property and/or adjacent property(s), describe the environmental condition of the site(s). The description must include at a minimum all information of which the applicant is aware concerning the nature and extent of any known contamination at the site and/or immediately contiguous to the site. The description must include, but is not limited to, pertinent information such as type quantity of material released/disposed, dates of release(s), location of release(s), extent of onsite and offsite impacts, and existing or potential routes of exposure.
- B. CERCLA Investigation Describe any investigations that have been conducted relative to the subject property and/or adjacent property(s) under the auspices of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), also referred to as Superfund.
- C. CERCLA / NPL Listing Has the site, any portion of the subject property, and/or any portion of adjacent property(s) ever been listed or proposed for listing on the National Priorities List (NPL) established under CERCLA? If so, please describe.
- D. Petroleum or oil releases Is any portion of the subject property and/or adjacent property(s) currently being regulated or has it ever been regulated under Article 9 (Va. Code §§ 62.1 -44.34.8 *et seq.*) or Article 11 (Va.Code §§ 62.1-44.34:14 *et seq.*) of the Virginia State Water Control Law? If so, please describe.
- E. RCRA Discuss if the site or adjacent sites have, should have had, or has ever had a Resource Conservation and Recovery Act (RCRA) Permit or RCRA Interim Status in accordance with the Virginia Hazardous Waste Management Regulations (9 VAC 20-60-10 *et seq.*). If the answer is yes, please provide: 1) type of permit, such as a permit for treatment, storage, and/or disposal (active or post closure); 2) EPA Identification Number; 3) the date the permit was issued; and 4) RCRA Status, and 5) the expiration date of the permit.
- F. Present or Past Permits Please identify any known environmental permits issued by the VADEQ, USEPA (air, water, waste), and/or City of Chesapeake pertaining to the site and/or adjacent sites.
- G. Enforcement Action Discuss if the subject property and/or adjacent property(s) is currently subject to an enforcement action pursuant to city, county, state, or federal environmental laws. Enforcement



actions are generally interpreted as orders or civil lawsuits issued by governmental entities to conduct regulated activities at a property or facility. They include environmental orders or agreements (e.g., Consent Order / Agreement, Interim Agreement, Letter Agreement, etc.) with a city, county, state, or federal agency.

- H. Open Dump Discuss if the subject property or any portion of the subject property and/or adjacent property(s) has ever been or should be classified as an Open Dump pursuant to Part IV (9 VAC 20-80-170 *et seq.*) of the Virginia Solid Waste Management Regulations (9 VAC 20-80-10 *et seq.*) (i.e., any site on which solid waste is placed, discharged, deposited, injected, dumped, or spilled as to create a nuisance or present a potential hazard to human health or the environment.)
- I. Waste Generator Discuss if there are any past or current activities conducted at the subject property and/or adjacent property(s) that require classification as a USEPA or Virginia Solid Waste or Hazardous Waste Generator or treatment, storage, or disposal facility. If a facility or operation on the property was or is classified as waste generator or treatment, storage, or disposal facility, specify the applicable identification number where indicated and include a description of these activities.
- J. Other Waste Activity Discuss in detail if there are any observations during the site visit or past or current activities conducted at the subject property and/or within the adjacent property(s) storing or disposing of the following materials:
- i. Asbestos and/or lead containing materials including, but not limited to, asbestos shingles, siding, caulking, floor tiles, lead acid batteries, etc.
  - ii. Inert waste which is physically, chemically and biologically stable from further degradation and considered to be non-reactive including, but not limited to, rubble, concrete, broken bricks, bricks, and blocks.
  - iii. Institutional waste emanating from institutions such as, but not limited to, hospitals, nursing homes, orphanages, and public or private schools and can include regulated medical waste from health care facilities and research facilities that must be managed as a regulated medical waste.
  - iv. Regulated medical waste which includes cultures and stock of microorganisms and biologicals, human blood and human body fluids, tissues and other anatomical wastes, sharps, animal carcasses,

body parts, bedding and related wastes, any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of any regulated medical waste, or any solid waste contaminated by or mixed with regulated medical waste.

- v. Industrial waste generated by manufacturing or industrial process that is not a regulated hazardous waste including, but not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. Although this term does not include mining waste or oil and gas waste, if evidence is discovered pertaining to these wastes, the constituents should be discussed herein.
- vi. Free liquids which readily separate from the solid portion of a waste under ambient temperature and pressure as determined by the Paint Filter Liquids Test, Method 9095, U.S. Environmental Protection Agency, Publication SW-846.
- vii. Garbage that is readily putrescible discarded materials composed of animal, vegetable or other organic matter.
- viii. Agricultural waste including, but not limited to, all solid waste and chemical waste produced from farming operations.
- ix. Ash constituents including, but not limited to, fly ash or bottom ash residual waste material produced from incineration or burning of solid waste or from any fuel combustion. Additionally, any coal combustion by-products including, but not limited to, residuals, including boiler slag and flue gas emission control waste produced by coal-fired electrical or steam generating units.
- x. Contaminated soil that, as a result of a release or human usage, has absorbed or adsorbed physical, chemical, or radiological substances including, but

not limited to, heavy metals, Volatile Organic Compounds (VOCs), petroleum hydrocarbons, etc.

- xi. Construction and/or demolition debris including, but not limited to, construction waste, demolition waste, debris waste, or combinations of the above solid wastes. Debris descriptions shall include wood waste that has been treated, adulterated, or chemically changed in some way; treated with glues, binders, or resins; or painted, stained or coated.
- xii. Containment structure(s) including, but not limited to, closed vessels such as a tank or cylinder. All liquid or semi-liquid components contained within the Underground Storage Tanks (USTs), Aboveground Storage Tanks (ASTs), and/or cylinders shall be described to the maximum extent practical.
- xiii. Household waste materials including, but not limited to, garbage, trash, sanitary waste (septage), and refuse derived from households. Households include single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas.
- xiv. Lagoons designed to manage or treat wastewater and all solid, semi-solid or liquid wastes generated from lagoons, municipal, commercial or industrial wastewater treatment plants, water supply treatment plants, or air pollution control facility exclusive of treated effluent from a wastewater treatment plant. Documentation shall include any land application units where solid or liquid wastes have been or are currently being applied onto or incorporated into the soil surface, including manure spreading operations, for agricultural purposes or for treatment or disposal.
- xv. White goods including, but not limited to, stoves, washers, hot water heaters, and other large appliances. All white goods containing PCBs and/or other chemical substances that are limited to the biphenyl molecules that have been chlorinated to varying degrees or any combination of substances which contain such substance (see 40 CFR 761.3) shall be documented to the maximum extent practical.

- xvi. Scrap metals, that may or may not be associated with auto storage yards, including, but not limited to, bits and pieces of metal parts such as bars, rods, wire, empty containers, or metal pieces that may be combined together with bolts or soldering which are discarded material and can be used, reused, or reclaimed.
  - xvii. Tire products including, but not limited to, whole tires, tire chips processed from waste tires, and tire shred processed from waste tires.
- K. Beneficial Use of Waste Provide a detailed description of any beneficial uses of waste on the subject property as allowed by the Virginia Solid Waste Management Regulations. The description should include the type of waste, how and where it was utilized, and the date of implementation of the beneficial use.
- I. Immediate Risk Indicate, to the best of your knowledge, if known contamination and/or suspected contamination at the property and/or within the adjacent property(s) poses an immediate risk of harm to human health and the environment.
- J. Impact to Water Resources Indicate if known contamination and/or suspected contamination at the property and/or within the adjacent property(s) have the potential to impact, or have already impacted, public or private drinking water wells, irrigation wells, or public or private surface water supplies, such as supply intakes or streams

## 17.6 PHASE II ESA REC LIST

The term Recognized Environmental Conditions (RECs) means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws (ASTM E-1527-05, §1.1.1). The primary objective of conducting a Phase II ESA, under the City of Chesapeake's ESA program, is to evaluate the RECs identified in the Phase I ESA to provide sufficient information regarding the nature and extent of contamination to determine whether the property represents a significant risk to human health and the environment and the environmental condition of the property is suitable for residential or public use (ASTM E-1903-97, §1.2).

The following list represents common RECs associated with a property and/or adjacent property(s), with their associated constituents of concern, encountered during Phase I

ESAs, in which the City anticipates the completion of a suitable level of Phase II groundwater, surface water, and/or soil sampling/analysis prior to entering the rezoning, conditional use, and/or preliminary plan review process. **NOTE:** This is a list of COMMON RECs and Constituents of Concern prompting Phase II ESAs, and this list is not all-inclusive; therefore, each site will be evaluated on a case-by-case basis. The following guidance suggests that RCRA-8 total metals be analyzed for many historical commercial, industrial and landfill uses; however, when evaluating soils for onsite handling or offsite disposal, the Toxicity Characteristic Leaching Procedure (TCLP) for RCRA-8 metals may also be appropriate on a case-by-case basis. Guidance on common constituents of concern and appropriate media to be sampled for industrial and/or commercial historic land uses can be found at the following EPA website: <http://www.epa.gov/reg3hwmd/bfs/regional/industry/index.htm>

	<b>RECs</b>	<b>Media of Concern</b>	<b>Constituents of Concern</b>
A.	Residential leaking heating oil ASTs that produce a release that consists of greater than or equal to 50 gallons of petroleum product	Soil, groundwater, and surface water	Total Petroleum Hydrocarbons (TPH) with an extraction for Diesel Range Organics (DRO)
B.	Regulated and/or unregulated petroleum ASTs that have a history of multiple releases and/or chronic leaking	Soil, groundwater, and surface water	Total Petroleum Hydrocarbons (TPH) with an extraction for Diesel Range Organics (DRO) and Gasoline Range Organics (GRO)
C.	Petroleum USTs on the subject property and/or within 50 feet of the property boundary(s)	Soil, groundwater, and surface water	Total Petroleum Hydrocarbons (TPH) with an extraction for Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) and Lead
D.	Leaking pole-mounted and/or ground electrical transformers on the subject property and/or within 50 feet of the property boundary(s)	Soil, groundwater, and surface water	Polychlorinated Biphenyls (PCBs)
E.	Current and/or historical property use and/or adjacent land use within 50 feet of the subject property boundary(s) consisting of commercial dry cleaners	Soil and groundwater	Halogens via EPA Method 8260, Perchloroethylene (PERC), Tetrachloroethylene or Trichloroethylene (TCE), and Vinyl Chloride (VC)

F.	Current and/or historical property use consisting of commercial landscaping businesses, commercial nurseries, and/or orchard farms	Soil, groundwater, and surface water	Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) via EPA Methods 8260 & 8270, Pesticides, PCBs, Antimony, Beryllium, Copper, Nickel, Thallium, Zinc, herbicides, and the RCRA-8 total metals
G.	Current and/or historical property use and/or adjacent land use within 50 feet of the subject property boundary(s) consisting of auto salvage yards or junkyards	Soil, groundwater, and surface water	Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) via EPA Methods 8260 & 8270, Pesticides, Cyanide, PCBs, Antimony, Beryllium, Copper, Nickel, Thallium, Zinc, and the RCRA-8 total metals
H.	Current and/or historical property use and/or adjacent land uses to the subject property consisting of landfills (municipal, Construction Demolition Debris, industrial landfills) and/or debris and waste disposal sites	Soil, groundwater, and surface water	Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) via EPA Methods 8260 & 8270, Pesticides, PCBs, Antimony, Beryllium, Copper, Nickel, Thallium, Zinc, asbestos via Polarized Light Microscopy (PLM), and the RCRA-8 total metals
I.	Current and/or historical property use and/or adjacent land uses to the subject property consisting of electroplating operations which includes, but are not limited to, the generation of spent degreasers, metals, spent halogenated solvents, and spent non-halogenated solvents	Soil, groundwater, and surface water	Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) via EPA Methods 8260 & 8270, RCRA-8 total metals, PCBs, and Cyanide

## 17.7 PROCESS FLOW CHART

