



PHASE I ENVIRONMENTAL ASSESSMENT REPORT (ASTM E 1527-21)

Performed on:
388-A & 402
Estate Anna's Retreat
New QTR
St. Thomas, VI 00802

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1. EXECUTIVE SUMMARY

Tysam Tech, LLC (“Tysam Tech”) has performed this Phase I Environmental Site Assessment (“ESA”) of 388-A & 402 Anna’s Retreat Estate Tutu, St. Thomas, U.S. Virgin Islands 00802 (hereinafter, “the Subject Property”). The Overview Map and Subject Property Detail Map (**Appendix A**) present a location and Subject Property map, respectively. This Phase I ESA was prepared for Pennrose, LLC (hereinafter, “the Client” or “the User”).

Tysam Tech conducted this ESA in accordance with Standard E1527-21 issued by the American Society of Testing and Materials (“ASTM”). It generally conforms to the U.S. Environmental Protection Agency’s (“EPA’s”) Standards and Practices for All Appropriate Inquiries – Final Rule published November 1, 2021, and uses EPA’s February 13, 2023 Federal Register (“FR”) ruling in Vol. 87, No. 240, which amends the All-Appropriate Inquiries (“AAI”) rule to reference the approved use of ASTM E1527-21.

There are no exceptions or deletions from the ASTM E1527-21 for this Phase I ESA.

Tysam Tech completed this ESA in accordance with generally accepted practices of the profession undertaken in similar studies at the same time and in the same geographical area. Tysam Tech observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions.

This assessment has revealed evidence of five (5) Recognized Environmental Conditions (“REC”), three (3) Business Environmental Risks (“BER”), and four (4) De Minimis Conditions in connection with the Subject Property.

There is no evidence of any Historically Recognized Environmental Conditions (“HREC”) or Controlled Recognized Environmental Conditions (“CREC”) in connection with the Subject Property.

The opinions outlined in this report are solely those of Tysam Tech and do not necessarily reflect the viewpoint of the Client. This report is written for the benefit and use of the Client and his/her financial institution(s). All information is valid to the date of the report and limited by the information that was shared by the 3rd parties involved. While every effort is made to confirm that the data collected is factual, complete, and accurate, Tysam Tech make no guarantees or warranties whatsoever with respect to such data.

2. INTRODUCTION

2.1. Purpose

This assessment was designed to provide an objective, independent, professional opinion of the potential environmental risks, if any, associated with the Subject Property.

The primary purpose of this environmental assessment was to identify the following associated with the Subject Property and/or surrounding properties:

- **Recognized Environmental Conditions (“REC”).** ASTM E 1527-21 defines REC as “(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.”

The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions.

- **Controlled recognized environmental conditions (“CREC”).** ASTM E1527-21 defines CREC as, “recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations).”
- **Historical Recognized Environmental Conditions (“HREC”).** ASTM E1527-21 defines HREC as, “a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition.” This practice is generally intended for the User to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability; that is, this practice constitutes All Appropriate Inquiries (AAI) into the previous ownership and uses of the subject property consistent with good commercial or customary practice as defined at 42 U.S.C. §9601(35)(B) and the regulations at 40 CFR Part 312.
- **De Minimis Conditions.** The term De Minimis Condition is defined as “a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs or CRECs.”

- **Business Environmental Risks (“BER”)**: The term Business Environmental Risk (BER) is defined as a risk which can have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel of commercial real estate, and not necessarily be limited to those environmental issues required to be investigated as defined by ASTM E 1527-21.

The identification of **RECs**, **CRECs**, **HRECs** and/or **BERs** in connection with the subject property may impose an environmental liability on owners or operators of the Subject Property, reduce the value of the Subject Property, or restrict the use or marketability of the Subject Property, and therefore, further investigation may be warranted to evaluate the scope and extent of potential environmental liabilities.

2.2. Scope of Services

This assessment was performed in general accordance with the scope of services outlined in the ASTM E 1527-21, Standard Practice for Environmental Site Assessments. There are no exceptions to or deletions from the ASTM E 1527-21. The scope of this assessment includes the following:

- **Records Review** - Review of applicable and reasonably ascertainable information about the subject property, including aerial photography, USGS topographic map, local and federal databases, Sanborn maps, property assessment information and other governmental sources that are publicly available, practically reviewable, and obtainable within reasonable time and cost constraints.
- **Historical Information Review** – Review of available historical information to identify RECs at the subject property. To the extent feasible under the conditions of the assessment, the historical information obtained included verbal information from subject property and/or local agency representatives.
- **Site Reconnaissance** - A visit and inspection of the subject property and surrounding properties to identify and evaluate potential sources of RECs such as underground storage tanks (“UST”), aboveground storage tanks (“AST”), equipment containing polychlorinated biphenyls (“PCB”), waste and chemical storage areas, and wastewater and stormwater discharges. The inspection included observations for evidence of chemical spills, releases, or on-site waste disposal.
- **Interviews** - Interviews conducted with present and past owners (if feasible), operators and occupants of the Subject Property; and with local and/or state government officials.
- **Report Preparation** - The full evaluation of information and the preparation of the report including the findings, conclusions and recommendations, if any, for additional investigation(s).

In addition to the above primary tasks, Tysam Tech also evaluated several ASTM *Non-Scope Considerations*, noted above as Business Environmental Risks (“BER”) and described in ASTM E1527-21 as environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside the scope of this practice.

Those *Non-Scope Considerations, or BERs*, assessed for the Subject Property were the following:

- **Flood Plain**, consisting of a review of a reasonably ascertainable Flood Insurance Rate Map (“FIRM”) of the surrounding area to note if the property is identified as being located within a flood plain.
- **Wetlands document review**, consisting of a site assessment during the site inspection and review of a current National Wetlands Inventory map of the surrounding area to note if the property is identified as having a wetland or areas that have wetland properties.
- **Asbestos Containing Material (“ACM”)**: Review of available Asbestos reports for the Subject Property. A cursory visual inspection of the accessed portions of the site buildings for evidence of suspect ACM will be conducted. The information provided in the report will be limited to identification of potential suspect materials and their general conditions.
- **Lead-Based Paint (“LBP”)**: Review of available LBP surveys for the Site. Discussion, conclusions and recommendations will be included in the Phase 1 ESA Report. This is not intended to be a comprehensive survey for the presence of LBP, and no testing will be conducted.
- **Mold**: A cursory visual inspection of the accessed areas of property buildings for visual evidence of systematic or significant mold, microbial or moisture intrusion problems within buildings will be conducted. Discussion, conclusions and recommendations will be included in the Phase 1 ESA Report.
- **Lead in Drinking Water**: A cursory visual inspection of the accessed areas and review of the potential for elevated levels of lead in the drinking water by determining the source of the drinking water supply and a review of available testing or compliance data reports.
- **EPA Designated Radon Potential**: Review of general non-site-specific data published by the EPA regarding the Radon Zone classification for the area of the Property.

This Phase I ESA did not include the collection or analysis of soil or groundwater samples.

2.3. Tier 1 Vapor Encroachment Screening

Tysam Tech reviewed adjoining and vicinity database sites to identify potential off-site sources of subsurface vapor encroachment in the form of a Vapor Encroachment Screening (“VES”). A VES would seek to establish whether a Vapor Encroachment Condition (“VEC”) exists or does not exist.

This review was based upon the current ASTM “Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions” (ASTM E 2600-22)¹ and also utilizing the “Methodology for Identifying the Area of Concern Around a Property Potentially

¹ <https://www.astm.org/e2600-22.html>

Impacted by Vapor Migration from Nearby Contaminated Sources” (Buonicore, 2011-S-103-AWMA)².

Vicinity database sites meeting the following conditions were reviewed to develop an Area of Concern (“AOC”) and identify active contamination sites with the potential to affect subsurface vapor conditions at the Subject Property:

- non-petroleum product releases within 1,760 feet of the Subject Property in the up-gradient direction
- non-petroleum product releases within 365 feet of the Subject Property in the cross-gradient direction
- non-petroleum product releases within 100 feet of the Subject Property in the down-gradient direction
- petroleum product releases within 528 feet of the Subject Property in the up-gradient direction
- petroleum product releases within 165 feet of the Subject Property in the cross-gradient direction, and
- petroleum product releases within 100 feet of the Subject Property in the down gradient direction.

The potential for vapor encroachment was considered in assessing whether or not a REC exists in connection with the Subject Property when reviewing applicable sites within those distances.

2.4. Significant Assumptions

There is a possibility that even with the proper application of these methodologies that there may be conditions that exist on the subject property that could not be identified within the scope of the assessment, or which were not *reasonably identifiable* from the available information.

Tysam Tech believes that the information obtained from the records review and the interviews concerning the subject property is reliable. However, Tysam Tech assumes no responsibility for hidden or latent conditions or misrepresentation by the property owner, its representatives, public information officials or any authority consulted in connection with the compilation of this report. The methodologies of this assessment are not intended to produce all-inclusive or comprehensive results, but rather to provide the Client with as much reliable information as reasonably possible relating to the Subject Property.

2.5. General Assessment Limitations and Exceptions

This report has been prepared for the exclusive use of Client and should not be reproduced or disseminated without the written approval of Tysam Tech and the Client. Tysam Tech has retained a copy of this report. No additions or deletions are permitted without the express written consent of Tysam Tech. Use of this report in whole or in part by parties other than the Client is prohibited.

² <https://edrnet.com/wp-content/uploads/2017/11/Paper-2011-A-301-AWMA.pdf>

The Subject Property Detail Plan is a sketch of the Subject Property, which identifies observations of characteristics of the subject property, of significance, at the time of the inspection of the subject property. These plans are not accurately drawn to scale and should not be relied upon as an engineering plan or substitute for a survey map prepared by a certified land surveyor.

Tysam Tech's interviews are limited by the quality and completeness of answers provided to the proposed questions during the interview(s). The extent of historical research performed by Tysam Tech is limited to availability, cost, and timeliness of utilizing various resources such as aerial photographs, historical Sanborn Maps, Land Evidence Records (deeds pertaining to historical site ownership), local historians, and local directories, all of which may indicate the historical utilization of the subject property. It should be noted that while the chain-of-ownership research and information provided should be accurate, it should in no way be construed as an actual Title search and should not be utilized or relied upon for any legal purposes.

Tysam Tech is not required to give testimony or appear in court because of having made the inspections with reference to the property in question unless arrangements have been made between Tysam Tech and the Client. This report is not intended to have any direct effect on the value of the property inspected but simply to provide an environmental assessment solely for the benefit of the Client, including the lender(s) in connection with a secured financing of the property, and their respective successors and assigns.

Events occurring on the subject property after February 21, 2024, the date of the last Site inspection, are beyond the scope of this report. Tysam Tech makes no expressed or implied representations or warranties regarding any changes in condition of the premises after this date.

Information obtained from public records review, the site inspection, and interviews were used to characterize the subject property. Although the services provided are extensive, findings and conclusions are limited to and by the information obtained. If information becomes available concerning the subject property that was not included in this report, it should be made available to Tysam Tech so that the conclusions and/or recommendations can be re-examined and modified, if applicable.

2.6. Subject Property-Related Limitations and Activity Exclusions

Limitations. No man-made limitations were encountered at the Subject Property, relating to physical restrictions or limitations in the complete assessment of the Subject Property and surrounding properties (such as gates, fencing or barriers). However, due to the extensive brush growth outside the paved areas, inspection was limited to the areas where the environmental professional was comfortable traversing, and the existing AST could not be fully inspected. Additionally, an existing sump and maintenance pit were partially or fully filled with water, hindering inspection of the structures.

Activity Exclusions. The interiors of structures were inspected at the Subject Property, however, due to the likely presence of mold and asbestos and the lack of ambient light, thorough visual inspection of each room in the structures was not possible.

2.7. Continued Viability of Environmental Site Assessment

Pursuant to Section 4.6 of ASTM E1527-21, Phase I ESAs are considered viable for 180 days.

The Phase 1 ESA Report Viability Date is the 180 days from the *earliest* completion date of any of the following 5 components of the inquiries: (i) interviews with owners, operators, and occupants; (ii) searches for recorded environmental cleanup liens; (iii) reviews of federal, tribal, state, and local government records; (iv) visual inspections of the property and of adjoining properties; and (v) the declaration by the environmental professional responsible for the assessment or update.

The earliest completion date of those 5 components is February 21, 2024; therefore, this Phase I ESA report is considered viable until August 21, 2024.

2.8. Data Gaps & Data Failure

A data gap is defined by the ASTM as a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. A data gap is only significant if other information and/or professional experience raises reasonable concerns involving the data gap and the ability to determine the presence or absence of recognized environmental conditions.

The following are data gaps that were identified for this assessment for the Subject Property:

- The VI Fire Service does not keep fire records on file for more than 7 years.
- There were no building records on file at the Virgin Islands Department of Planning & Natural Resources ("DPNR") for the Subject Property or its structures.
- There were no Environmental Protection records on file for Hazardous Waste, Solid Waste handling, Groundwater, UST/AST or oil spill records on file at DPNR for the Subject Property's known historical residential operations.
- The US Virgin Islands does not maintain records for all of the state and federally regulated facilities that are normally evaluated in order to fully comply with ASTM E1527-21.
- Certified Sanborn Maps are not maintained for the United States Virgin Islands ("USVI") and therefore not available as a data resource.

None of these data gaps are considered significant.

2.9. User Reliance

This report is for the use and benefit of and may be relied upon by the Client and any of its affiliates, and third parties authorized by the Client and Tysam Tech, including the lender(s) in connection with a secured financing of the property, and their respective successors and assigns.

3. SUBJECT PROPERTY DESCRIPTION

3.1. Location and Legal Description

The location details are provided in Table 1 below, according to the US Virgin Islands Geospatial Information System.

General Subject Property Legal Description		
Parcel ID	105602017200	105602019100
Legal Description	388-A Estate Anna's Retreat	402 Estate Anna's Retreat
Latitude	18.342644 N	18.341378 N
Longitude	-64.886095 W	-64.885154 W
Elevation (range)	230-300 feet	214-290 feet
Total Land Area	3.9 acres	2.5 acres

Table 1. Subject Property Location and Legal Description

The Subject Property consists of two plots across approximately 6.4 acres of developed land zoned for Residential Use (R-3).

The Subject Property is described as Parcels 388A & 402 Anna's Retreat Estate Tutu, St. Thomas, U.S. Virgin Islands. The property ID is 105602019100 and 105602017200 as noted on MapGEO USVI³.

The Subject Property is situated north of Tutu Park Mall, borders Emile Francis Memorial Drive and Douglas Drive, and is part of New Quarter. The Subject Property is bordered by residential development to the northeast and east, two schools to the west and south, and government commercial property to the southwest. The Subject Property sits approximately 0.25 miles northeast of Tutu Park Mall Shopping Center.

The location is illustrated in Figures 1-2 below. An Overview Map as well as a Subject Property Detail Map is provided in **Appendix A**.

³ <https://usvi.mapgeo.io/datasets/properties?abuttersDistance=120&latlng=18.342301%2C-64.88632&panel=themes&previewId=105602019100&zoom=19>

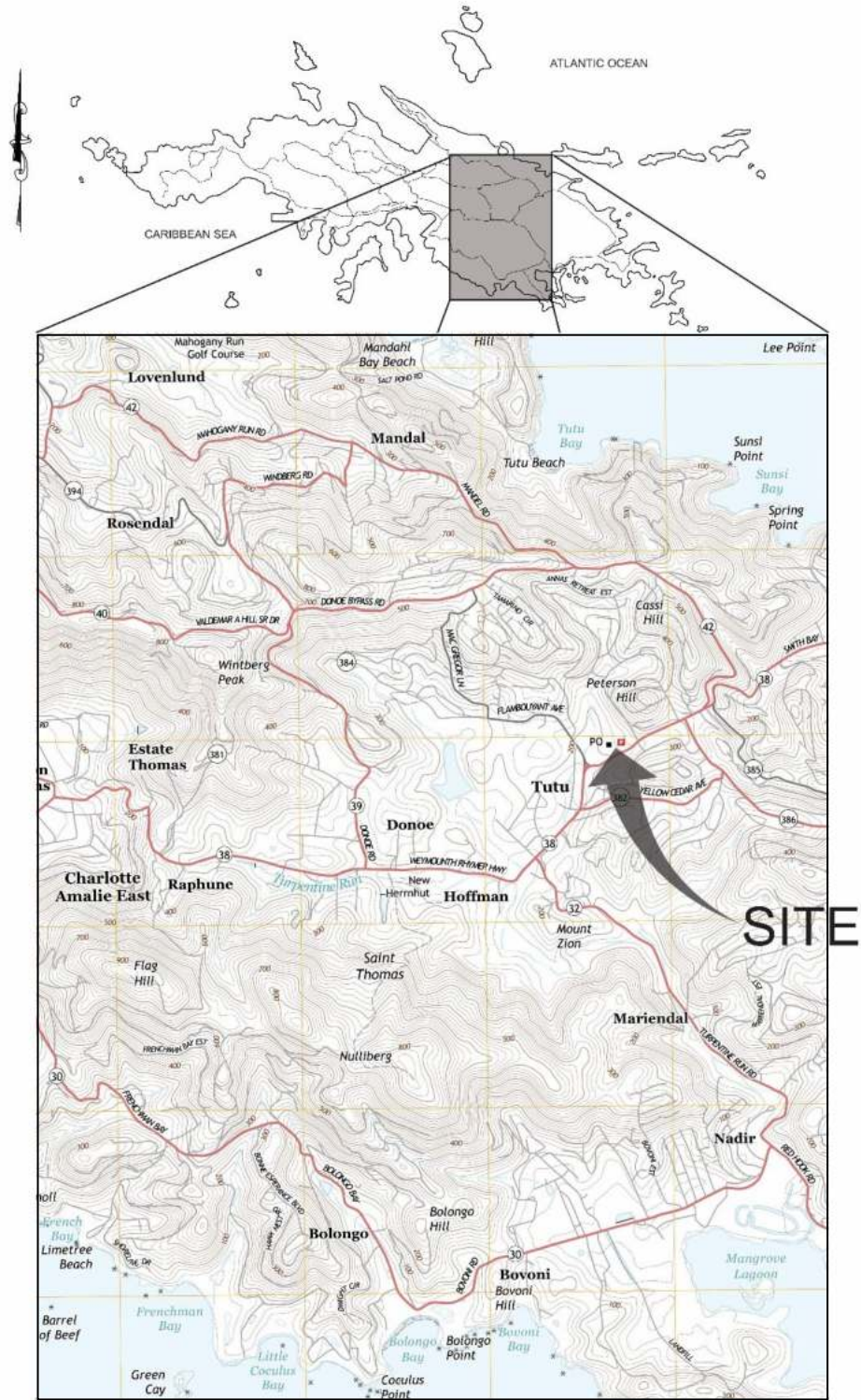


Figure 1. Subject Property Location Map – 388-A & 402 Estate Anna's Retreat (2013 USGS 7.5-minute base map)

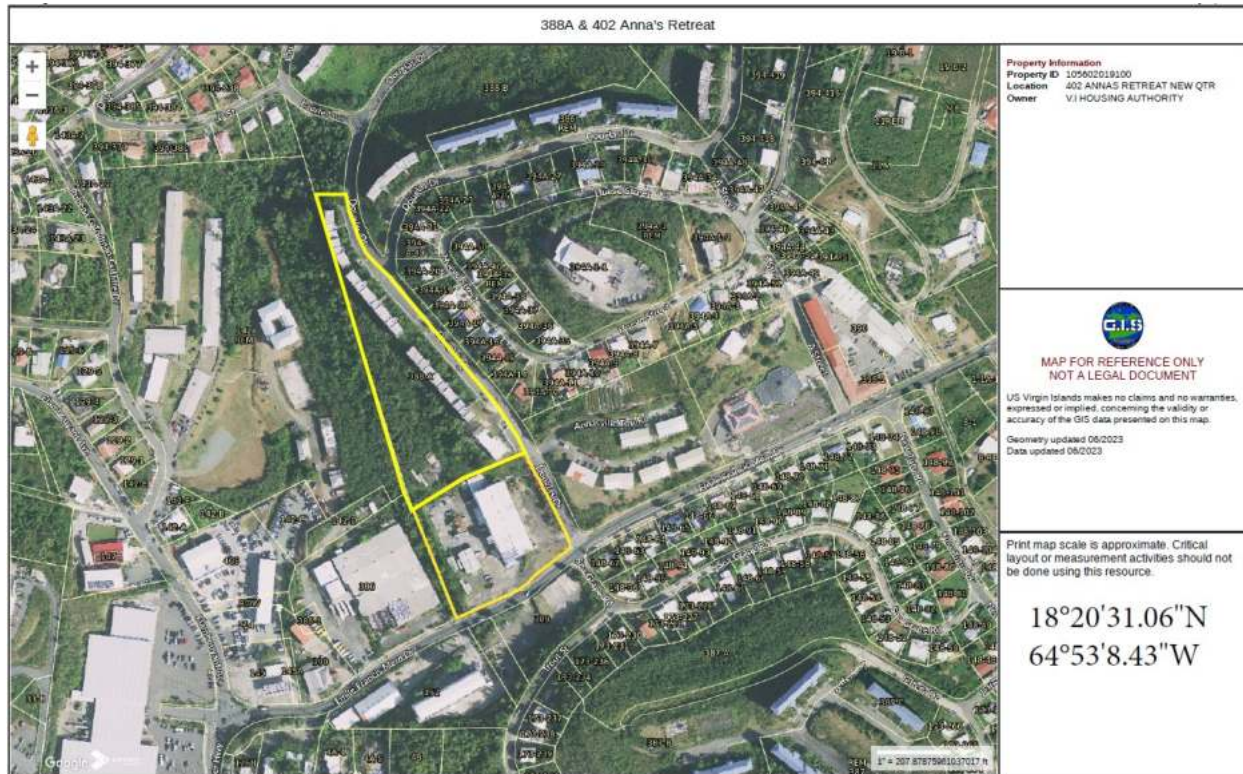


Figure 2. Subject Property Layout Map – 388-A & 402 Estate Anna's Retreat (Google Earth Imagery, 2020)

Plot 402, as shown in Figure 2 above, is mostly paved with concrete and existing structures, so has very little pervious surface. The main structures include a Central Office Building (3-stories), Maintenance Building and Vehicle Maintenance Shed.

Plot 388-A, as shown in Figure 2 above, contained multi-story residential building structures that housed a number of residents. However, these units were demolished in 2021 as part of a redevelopment project, and the plot currently contains no structures aside from a Community Building and Maintenance Pump Storage Room along the southern border of the plot (see Subject Property Detail Map in **Appendix A**).

Access to the Subject Property is provided by an on-grade parking area even with the street along the south side of the Subject Property.

3.2. Current Uses of Adjoining Properties

Current uses of the adjoining properties were observed to be as follows:

- **North** – Properties to the North of the Subject Property are residential neighborhoods
- **East** – Douglas Drive; with multi-family residential structures beyond
- **South** – Emile Milo Franics Memorial Drive; St. Thomas/St. John Seventh-Day Adventist School & Church
- **West** – Curriculum Center (Former LAGA Facility) with Groundwater Treatment Facility (“GWTF”) for Tutu Wellfield contamination plume, Joseph A. Gomez Elementary School and Motor Maintenance Facility Properties to the West

Properties that extend beyond the adjoining and adjacent properties are discussed further in **Section 5 - Records Review**.

3.3. Subject Property Ownership

No title records were available at the Recorder of Deeds online portal, but through the Lt. Governor's Office MapGEO online property map⁴ as well as the Tax Assessor Office Property Search portal⁵ Tysam Tech confirmed that the plots that make up the Subject Property are currently owned by U.S. Virgin Islands Housing Authority ("VIHA").

3.4. Subject Property Zoning

Appendix B shows the zoning certification provided by DPNR's Zoning Department. The certification shows the approved zones for the Subject Property. According to Ms. Leia LaPlace of the Comprehensive & Coastal Zone Planning ("CCZP") Division of DPNR, the plot is zoned R-3 (Residential-Medium Density) as per Official Zoning Map No. STZ-7.

The R-3 zoned district permits Dwellings- Attached, Detached, Group, Multiple, Semidetached, Single-Family, Two-Family. The list of permitted uses and development provisions for the R-3 zoned district can be found in Virgin Islands Code, Title 29, Chapter 3, Subchapter 1, §228 and 229 (<https://legvi.org/index.php/service/social-care/>).

No other historical use information was available for the property.

⁴ <https://usvi.mapgeo.io/datasets/properties?abuttersDistance=120&latlng=18.342301%2C-64.88632&panel=themes&previewId=105602019100&zoom=19>

⁵ https://usvi.capturecama.com/CAMA/CAPortal/Custom/CZ_MainPage54.aspx

4. USER PROVIDED INFORMATION

During this investigation, the User (Client), Pennrose, LLC, completed an ASTM E 1527-21 User Questionnaire on February 20, 2024.

4.1. Title Records

According to the User, the current owner of the Subject Property is the Virgin Islands Housing Authority ("VIHA").

4.2. Environmental Liens or Activity and Use Limitations ("AULs")

The User did not provide Tysam Tech with any information pertaining to Activity and/or Use Limitations associated with the Subject Property.

4.3. Specialized Knowledge

The User did not provide Tysam Tech with any information pertaining to specialized knowledge of the Subject Property.

4.4. Commonly Known or Reasonably Ascertainable Information

The User did not provide Tysam Tech with any information pertaining to commonly known or reasonably ascertainable information of the Subject Property.

4.5. Valuation Reduction for Environmental Issues

The User did not provide Tysam Tech with any known value reduction as a result of environmental issues present at or near the Subject Property.

4.6. Owner, Property Manager, and Occupant Information

The User did not provide Tysam Tech with any known Owner, Property Manager, and Occupant Information regarding the Subject Property.

4.7. Reason For Performing Phase I ESA

The User requested the Phase I ESA to be performed at the Subject Property due to an interest in leasing a portion of the Subject Property from the current owners as part of a redevelopment project.

4.8. Previous Environmental Reports

The User provided Tysam Tech with a previously conducted ESA Phase 1 for Plot 388 Douglas Street, conducted by Hillmann Consulting LLC between the months of August and October 2021. While the name of the Subject Property is different from this report's Subject Property, the GPS and property boundaries are the same, indicating identical areas reviewed. Findings from this report are provided in **Section 5.4** below.

5. RECORDS REVIEW

5.1. Standard Environmental Records Sources

A regulatory records review is conducted to help identify potential environmental conditions at the Subject Property or in the Subject Property area. The US Environmental Protection Agency ("EPA") and DPNR maintain regulatory records for facilities with known releases or that use, store or generate hazardous substances and petroleum products.

The regulatory agency database report discussed in this section, provided by Environmental Data Resources, Inc. ("EDR") of Milford, Connecticut, was generated February 23, 2024, and reviewed for information regarding reported releases of hazardous substances and petroleum products on or near the property. EDR provided a zip code report for facilities located within St. Thomas's zip code of 00802.

Table 2 below, lists the minimum regulatory search requirements set by ASTM E1527-21.

Appendix C includes a Radius Map report with facility details of those sites within the specified search radii. The information presented in this section is a summary of the information presented in EDR's report and is only as accurate as the information contained within the databases searched and presented by EDR.

Standard Environmental Record Sources (where available)	Specified Search Radii	No. Of Sites Identified
Federal Records		
National Priorities List (NPL)/ Federally Delisted NPL	1.0 mile/ 0.5 mile	1
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List	0.5 mile	0
CERCLIS No Further Remedial Action Planned (NFRAP) List	0.5 mile	0
Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS)	1.0 mile	0
RCRA non CORRACTS treatment, storage, and disposal facilities (TSD) list	0.5 mile	0
RCRA Generators lists	Subject property and adjoining properties	2
RCRA Non-Generators list	0.25 mile	2
Federal institutional control/ engineering control (IC/ EC) registries	Subject property only	0
Federal ERNS list	Subject property only	0

Standard Environmental Record Sources (where available)	Specified Search Radii	No. Of Sites Identified
State Records		
State/tribal NPL equivalent	1.0 mile	0
State/tribal CERCLIS equivalent	0.5 mile	0
State/tribal landfill and/or solid waste disposal site lists	0.5 mile	0
State Registered Underground Storage Tanks/ Aboveground Storage Tanks (UST's/AST's) list	Subject property and adjoining properties	0
State Registered Leaking Underground Storage Tanks (LUST) list	0.5 mile	0
State/ tribal IC/ EC Registries	0.5 mile	0
Voluntary Cleanup Sites	0.5 mile	0
Brownfields	0.5 mile	0

Table 2. Minimum Federal and State Record Search Requirements

A records review of state and federally regulated facilities provided by EDR was compiled; however, the US Virgin Islands does not maintain records for *all* of the state and federally regulated facilities that Tysam Tech normally evaluates in order to fully comply with ASTM E1527-21. Therefore, the lack of complete information needed to complete an accurate records review of state and federally regulated facilities is considered a data gap.

5.1.1. Subject Property

Databases Subject Property was Identified On

The Subject Property was identified twice on the FINDS and ECHO database:

- FRS ID: 110039585035 and RCRA ID: VIR000001438 for 388-A Estate Anna's Retreat⁶
- FRS ID: 110043557790 and RCRA ID: VIR000001685 for 402 Estate Anna's Retreat⁷

Determination

ECHO database information for ID 110039585035 and ID 110043557790 notes the facilities to have No Violation Identified.

None of the Subject Property records note violations, spills or non-compliance that would indicate RECs or potential RECs.

⁶ <https://echo.epa.gov/detailed-facility-report?fid=110039585035>; https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110039585035

⁷ <https://echo.epa.gov/detailed-facility-report?fid=110043557790>; https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110043557790

5.1.2. Properties within Radii

5.1.2.1. NPL, Delisted NPL, SEMs and SEMS Archive

The National Priority List (“NPL”) is the EPA database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. The Delisted NPL is the database of delisted Superfund sites. The Superfund Enterprise Management System (“SEMS”) List tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA’s Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the EPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). This dataset also contains sites which are either proposed to or on the NPL and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

One (1) NPL site was identified within the study radii: Superfund Site Name “Tutu Wellfield”, Site EPA ID No. VID982272569, listed 09/29/1995.^{8,9}

A Remedial Investigation in 1995 identified a plume of groundwater contaminated with chlorinated volatile organic compounds (“CVOC”) and two plumes of groundwater contaminated with gasoline components (the Texaco and Esso plumes) that co-mingled with the CVOC plume. The CVOC plume originated at or near the VIDE Curriculum Center and extended beyond the former O’Henry Dry Cleaners building (potential secondary source), following an eastward path towards the discharge area of Turpentine Run (Geraghty & Miller, 1995).

The VIDE Curriculum Center is located on the immediate adjacent property to the Subject Property. It contains a number of monitoring and treatment wells, along with a large Groundwater Treatment Facility (“GWTF1”). The plume extends from this area on the Curriculum Center to the edge of the Subject Property. Additional monitoring wells exist on the Subject Property itself.

EPA and DPNR have managed these groundwater treatment systems and have been treating and testing the groundwater and contamination plume in the area since 1995.

Based on the available data and evidence, as well as a Tier 1 Vapor Encroachment Screening (“VES”) performed in accordance with ASTM E2600-22, Tysam Tech developed an Area of Concern (“AOC”) and has determined that a Vapor Encroachment Condition (“VEC”) exists for the Subject Property.

See Appendix N for supporting information related to the NPL site and AOC developed as part of the VES.

⁸ <https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#VI>

⁹ https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110009316481

5.1.2.2. RCRA Facilities

Regulated hazardous waste activity is tracked under the Resource Conservation and Recovery Information System as defined by the Resource Conservation and Recovery Act (“RCRA”). Facilities that treat, store or dispose of hazardous waste are listed in the RCRA TSD database. Facilities that generate hazardous wastes are listed in the RCRA Generators (“RCRA GEN”) database. This database includes facilities that generate at least 1,000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste, referred to as large-quantity generators, and those that generate less than 1,000 kg/month of non-acutely hazardous waste, referred to as small-quantity generators.

RCRA facilities which have had a release of hazardous waste or constituents to the environment, for which the government is requiring corrective action, are tracked in the Corrective Action Tracking System (“RCRA COR”) database, while generators that are known to have violated RCRA regulations are tracked in the RCRA violations and enforcement (“RCRA Viol”). These violations can be the result of paperwork problems and are not necessarily related to releases of hazardous material.

The Resource Conservation and Recovery Act (“RCRA”) Non-Generators (“NonGen”)/No Longer Regulated (“NLR”) database is EPA’s comprehensive information system, providing access to data supporting the RCRA of 1976 and the Hazardous and Solid Waste Amendments (“HSWA”) of 1984.

The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (“RCRA”). Non-Generators do not presently generate hazardous waste.

Findings

4 RCRA facilities were identified within the study radii:

RCRA Facility	Site Address	Location	Facility Type	EPA ID
VIRGIN ISLANDS HOUSING AUTH - ESTATE TUT	388A ESTATE ANNAS RETREAT	SUBJECT PROPERTY	RCRA-LQG	VIR000001438
TUTU TEXACO SERVICE STATION	1 ANNAS RETREAT ESTATE TUTU	ADJACENT PROPERTY	RCRA NonGen	VIO007000367
METRO MOTORS VI INC	405 ANNAS RETREAT	ADJACENT PROPERTY	RCRA NonGen	VI0000569004
PLANT OPERATION AND MAINTENANCE	386 ANNAS RETREAT LAGA BUILDING	ADJACENT PROPERTY	RCRA-LQG	VIR000001446

Table 3. RCRA Facilities within Search Radii

None of these facilities' records note violations, spills or non-compliance that would indicate RECs or potential RECs at or near the Subject Property.

5.1.2.3. ERNS Incidents and Spills 1990 Sites

The Emergency Response and Notification System ("ERNS") is a national database containing records of releases of oil and hazardous substances reported to the EPA, U.S. Coast Guard, the National Response Center and the Department of Transportation, since 1986.

No ERNS or Spills sites were identified within the study radius.

5.1.2.4. State/Tribal SWL Facilities

The State/Tribal Solid Waste Landfill Database ("SWL") is a collection of known regulated and unregulated solid waste landfills, incinerators, or transfer stations.

No SWL sites were identified within the study radius.

5.1.2.5. State/Tribal AST/UST & LUST Sites

The Leaking Underground Storage Tank ("LUST") database is a listing of confirmed or suspected releases from underground storage tanks that have been reported to the state. The state Aboveground Storage Tank ("AST") & Underground Storage Tank ("UST") database is an inventory of all regulated ASTs and USTs.

No AST/UST sites were identified within the study radius from review of local records. No LUST sites were identified within the study radius from review of local records.

An existing AST was found on the Subject Property as part of the Site Investigation. More information is provided in Section 6.2.2.3. and Appendix K.

5.1.2.6. Federal IC, EC and Brownfield Sites

Federal Institutional Controls ("IC") and Engineering Controls ("EC") are Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated. The EPA Brownfield Management System ("BMS") is a database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield Grant Programs. The database defines a brownfield site as "real property where expansion or redevelopment is complicated by actual or perceived environmental contamination.

No Federal Brownfield, IC or EC regulatory sites were identified within the study radius.

5.1.2.7. State/Tribal IC/EC, VCP or Brownfields Sites

State/Tribal Brownfields is a listing of all former industrial properties that lie dormant or underutilized due to liability associated with real or perceived contamination. Some sites are noted as having institutional controls placed on them. The Brownfields Management System (BMS) is an analytical database designed to assist EPA in collecting, tracking,

and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield Grant Programs. The database defines a brownfield site as "real property where expansion or redevelopment is complicated by actual or perceived environmental contamination."

However, at the time of this report, there are no promulgated USVI Brownfield regulations or active Brownfield Program for the Territory.

State/Tribal VCP is a listing of all sites in the Voluntary Cleanup Program ("VCP") and the Innocent Owner/Operator Program ("IOP"). Some VCP and IOP sites are noted as having institutional ("IC") or engineering ("EC") controls placed on them.

No State Brownfield, VCP, IC or EC regulatory sites were identified within the study radius.

5.1.2.8. Other Regulatory Sites

Tysam Tech contacted the St. Thomas VI Fire Service ("VIFS"), on March 25, 2024 for a review of their environmental records (i.e. fire code, USTs, hazardous materials storage, and spills) for the subject property.

According to verbal response from Fire Marshal Leon Battiste of St. Thomas, no records were available for fire code violations, former or current underground storage tanks or spills at the Subject Property.

5.1.3. Summary of Database Findings

Tysam Tech did not identify violations, activities or concerns at the Subject Property, adjacent or nearby properties that would indicate a REC, or potential for REC, based on the information contained in the databases reviewed. Based on a review of listed regulatory database sites and historical research, no operations were identified on the subject property or on properties located within the study radii which have operations, releases or hazardous materials that would result in contamination of soils, a groundwater contamination, or a vapor migration/intrusion concern.

Database Recommendations

No further investigations or actions are recommended at this time for additional database review.

5.2. Physical Setting Records Review

Tysam Tech evaluated the physical setting for the Subject Property through review of published reports and maps depicting topography, soil and geologic information. The information is useful in evaluating potential contaminant movement in the environment.

5.2.1. Topography

Tysam Tech reviewed the 2013 U.S. Geological Survey ("USGS") 7.5-minute topographic map of St. Thomas. Subject Property elevation is approximately 214-300 feet above mean sea level (amsl) between the two plots. The map indicates the Subject Property is situated just off of Douglas Drive, which connects to Emile Francis Memorial Drive, and is part of New Quarter. The Subject Property is bordered solely by residential development, though sits approximately 0.25 miles southwest from Tutu Park Mall Shopping Center. Topography of the area appears to slope toward the West, with moderately steep slopes (12-20%).

5.2.2. Soil Conditions

Tysam Tech reviewed information on the USDA Natural Resources Conservation Service ("NRCS") WebSoil Survey online application on March 24, 2024¹⁰ to evaluate soil conditions for the Subject Property. The WebSoil Survey classified the soil on the Subject Property as Fredriksdal-Susannaberg complex (FsD, FsE, and FsF). These are delineated as extremely stony and moderate (FsD), 12 to 20 percent slopes to very steep slopes (FsE, FsF), 20 to 60 percent slopes. This report did not include data about the components that comprise the soil type, such as or the potential for the soil to corrode elements such as steel or concrete, which would be important for building and structure (e.g., storage tanks) construction. Further detail about the soil types is included in **Appendix D**.

5.2.3. Geology

Subject Property specific geological information was not within the scope of this assessment. No digging, boring or soil analysis was performed.

St. Thomas, along with St. John, make up the northern most islands of the U.S. Virgin Islands, lying 40 miles north of St. Croix and separated from it by an ocean trench 3,600 meters deep. It lies about 80 miles East of San Juan, Puerto Rico. St. Thomas is the second largest island in the USVI, with a total area of 20,480 acres (32 square miles). The island is approximately 13 miles long, east to west and is about 4 miles at the widest. St. Thomas, along with St. John and Water Island are part of the Puerto Rican geographical bank (the Greater Antilles), while St. Croix is geographically located in the Lesser Antilles and lies completely within the Caribbean Sea.

¹⁰ <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

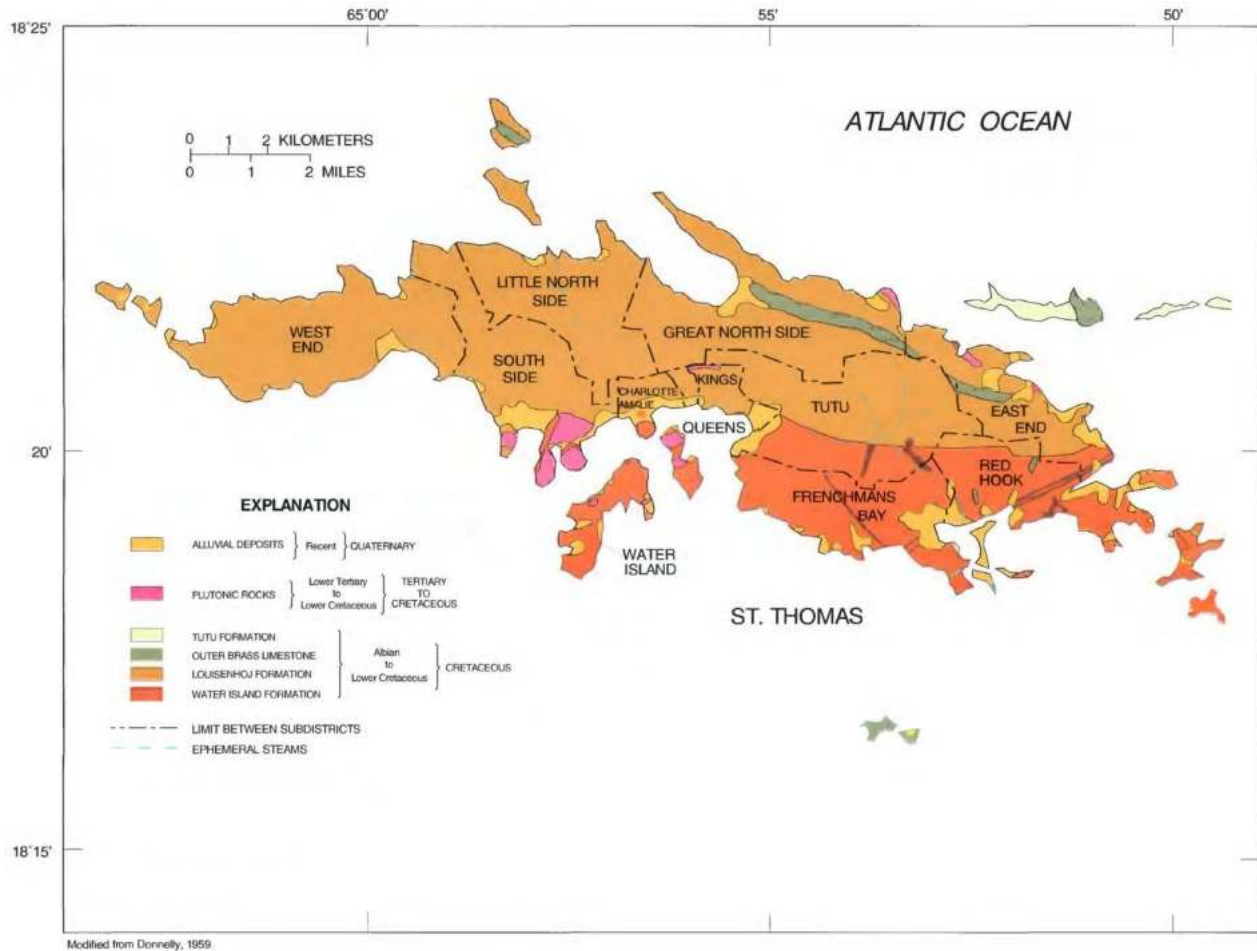


Figure 3. Generalized geologic map of St. Thomas. Modified from Donnelly, 1959.

The land surface of St. Thomas is almost entirely sloping and extends seaward from a central ridge, that is 800 to 1,200 feet above mean sea level and runs the length of the island. The slopes, which commonly exceed 35 degrees, are dissected by numerous stream channels of steep gradient. The general appearance of St. Thomas is a panorama of steep interstream spurs and rounded peaks (Jordan and Cosner, 1973).

Flat land in St. Thomas is confined to the Charlotte Amalie area and a few small alluvial filled embayments. The only variation in the general topography is in the upper valley of Turpentine Run in eastern St. Thomas. This valley has rolling hills in a basin surrounded by steep slopes and sharp ridges. Streamflow on St. Thomas is generally intermittent, however, Bonnes Resolution Gut, on the north side of the island and Turpentine Run Gut, on the southeast, have perennial reaches. (Jordan, 1973; Water Use Map)

Geologic Maps of St. Thomas are provided with Subject Property location detail in **Appendix F**.

5.2.4. Hydrogeology

Subject Property specific hydrogeological information was not within the scope of this assessment. No existing well or groundwater analysis was performed as part of this assessment.

However, based on review of the topographic gradient in the area of the Subject Property, the groundwater flow beneath the Subject Property and in the surrounding area is anticipated to flow in a South to Southwest direction.

Additionally, based on review of records relating to the Tutu Wellfield NPL site, some monitoring and groundwater flow maps have been developed as part of the remediation work that was conducted in the immediate area of the Subject Property. The potentiometric maps indicate a South to Southwest direction.

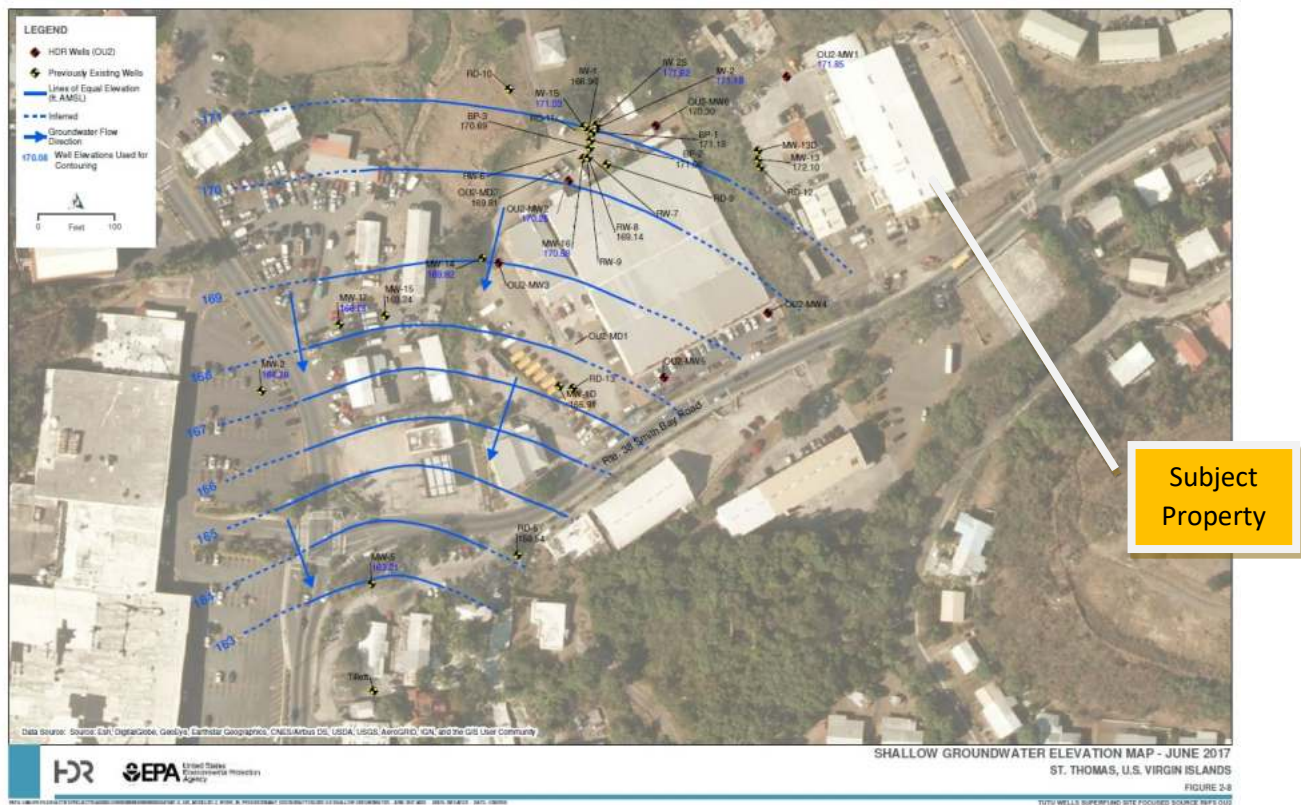


Figure 4. Potentiometric Map of Shallow Groundwater flow near Subject Property, St. Thomas, USVI (Final Focused Source Feasibility Study, TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2, 2018)

However, the actual groundwater flow direction and groundwater depth beneath the Subject Property cannot be accurately determined without site-specific groundwater monitoring well data and modeling.

More information on the Tutu Wellfield is provided in **Section 5.1.2.1** and **Appendix N**.

According to Robert Graves in his investigation of Hydrogeology in the Vicinity of Test Holes and Wells on USVI (USGS, 1996), the principal sources of ground water are the volcanic rock and overlying alluvial deposits (Gomez-Gomez and others, 1985).

Groundwater occurs under water-table conditions on St. Thomas and St. John and is present primarily in the regolith and zones of highly fractured to shattered volcanic rock. The alluvial deposits on St. Thomas and St. John are hydraulically connected to the underlying volcanic rock and the bottom of the water-table aquifer is the dense indurated volcanic rock underlying the regolith and zones of highly fractured rock. The low permeability of this indurated rock limits vertical ground-water movement and subsequently acts as the boundary of the overlying rock and alluvial deposits.

On St. Thomas, aquifer recharge is infrequent and probably occurs only after periods of heavy rainfall or a series of lesser rains (Jordan and Cosner, 1973). Jordan and Cosner postulated that because of relatively low annual rainfall and high average annual temperatures, most recharge occurred after major storms, which produced more than 2 inches of rainfall.

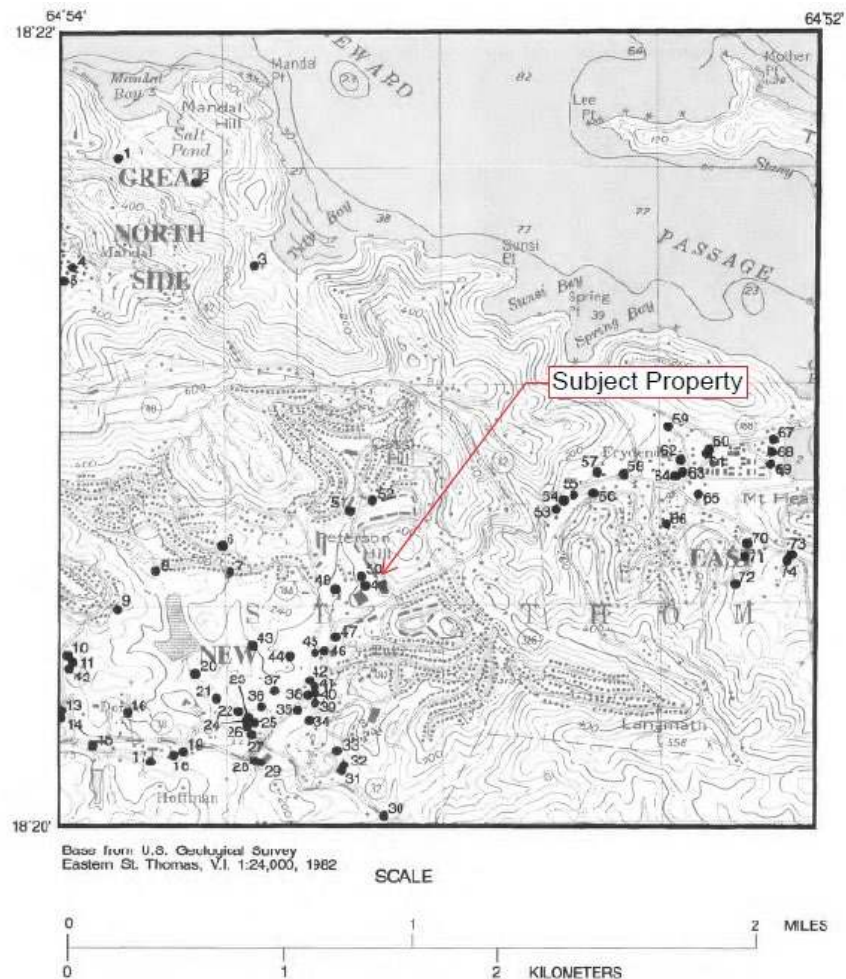


Figure 5. Location of Wells near Subject Property, St. Thomas, USVI (Steiger & Kessler, 1993)

Tysam Tech reviewed *Water Wells on St. Thomas*, prepared in 1993 as a US Geological Survey. Between 68 and 72 wells were recorded within 1 mile of the Subject Property.

The closest wells to the Subject Property, directly adjacent or upgradient from the Subject Property, are 4 VIHA wells, detailed in the table below:

Subject Property, Adjacent or Upgradient Wells				
Well Name	Virgin Islands Housing Authority 1	Virgin Islands Housing Authority 2	Virgin Islands Housing Authority 3	Virgin Islands Housing Authority 4
Location	Adjacent	Adjacent	Upgradient	Upgradient
Use of Water	Public Supply	Not Used	Public Supply	Not Used
Year Constructed	1978	1977	1978	1978
Depth of Well (ft)	175	150	142	140
Ground Level of Well (ft)	231	235	239	278
Depth to water (ft)	58	61	--	41
Yield Est. (gpm)	48	47	44	46

Table 4. Subject Property, Adjacent or Upgradient Wells

The next closest wells are one west of the Subject Property, owned by Ramsey Motors, and one to the Southwest, owned by E. Tillet. Their locations on the map in Figure 5 correspond to the current properties of Metro Motors and Tillet Gardens, respectively. The following table provides some relevant information:

Other Nearby Wells		
Well Name	E. Tillet	Ramsey Motors
Use of Water	Not Used	Commercial
Year Constructed	1963	1978
Depth of Well (ft)	100	105
Ground Level of Well (ft)	186	180
Depth to water (ft)	22	9
Yield Est. (gpm)	60	60

Table 5. Other Nearby Wells

Tysam Tech also reviewed the CDM Document *RAC2 EPA Region 2 Final Quality Assurance Project Plan Tutu Wellfield Site Long Term Response Action St. Thomas, U.S. Virgin Islands EPA Contract No. EP-W-09-002 WA 003-RALR-021D, April 2009*¹¹. This is a publicly available document relating to the Tutu Wellfield Superfund site and the ongoing remediation work to clean up the effects of the hazardous waste release.

This Superfund was established in 1995, after the publication of the *Water Wells on St. Thomas* document, and there are an additional approximately 65 wells that were installed as monitoring or remediation wells, not noted in the *Water Wells on St. Thomas* document.

The well map on page 99 of the document, provided in Figure 6, shows the Virgin Islands Housing Authority 1 well location, along with 3 other wells installed as part of the Superfund remediation work: MW-13, MW-13D, and RD-12, which border the western edge of the Subject Property, and are directly south of the VIHA1 well. An additional

¹¹ <https://dprn.vi.gov/wp-content/uploads/2022/10/Final-Tutu-QAPP-April-2009.pdf>

dozen or more wells are located on the adjacent property, the VIDE Curriculum Center (former LAGA Property).

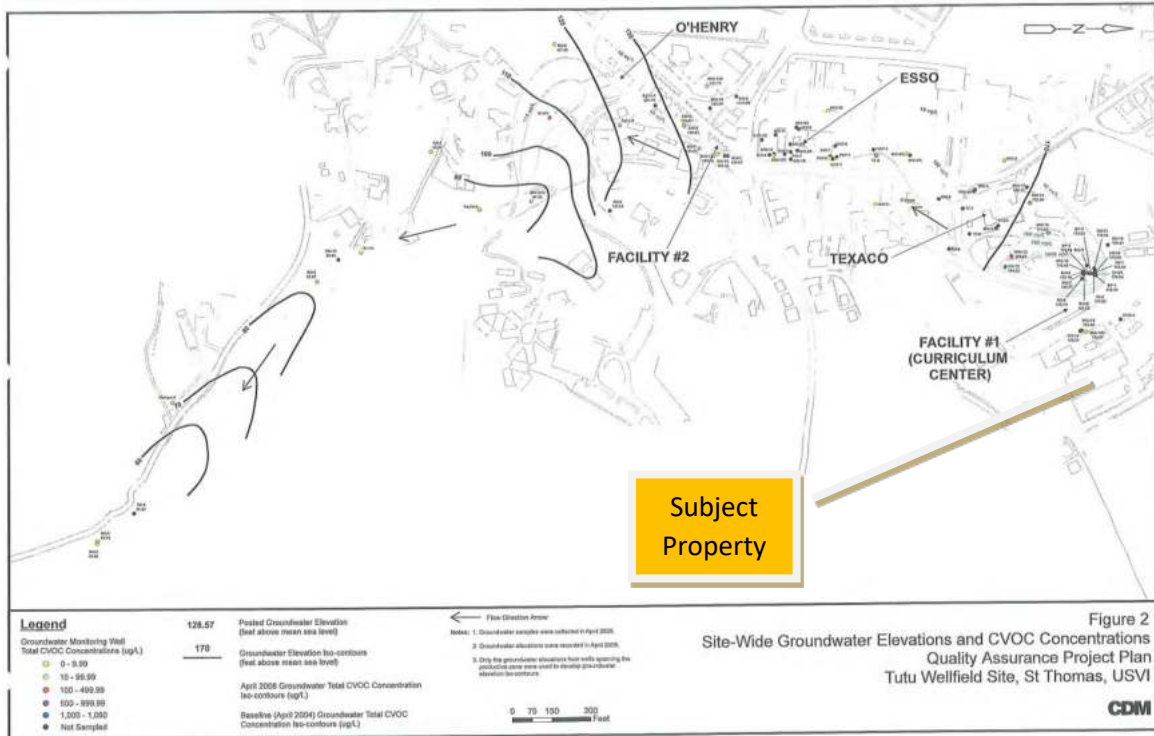


Figure 6. Location of Wells near Subject Property, St. Thomas, USVI (RAC2 EPA Region 2 Final Quality Assurance Project Plan Tutu Wellfield Site, 2009)

A review of more recent documentation on the Tutu Wellfield NPL site included EPA's March 2018 *Final Focused Source Feasibility Study (TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2)* by HDR, RAC 2 Program, St. Thomas, United States Virgin Islands.

Figure 7 shows an updated map of existing wells related to the NPL site remediation. It indicates an additional well on the Subject Property, RD-12, and 22 monitoring and treatment wells on the Curriculum Center adjoining property.

Those wells are regularly tested for Volatile Organic Compounds ("VOC") that include petroleum and non-petroleum chemicals and are included in Tutu Wellfield remediation reporting.

Further information on the testing results, the Tier 1 VES performed, and the Tutu Wellfield NPL site is provided in **Appendix N**.

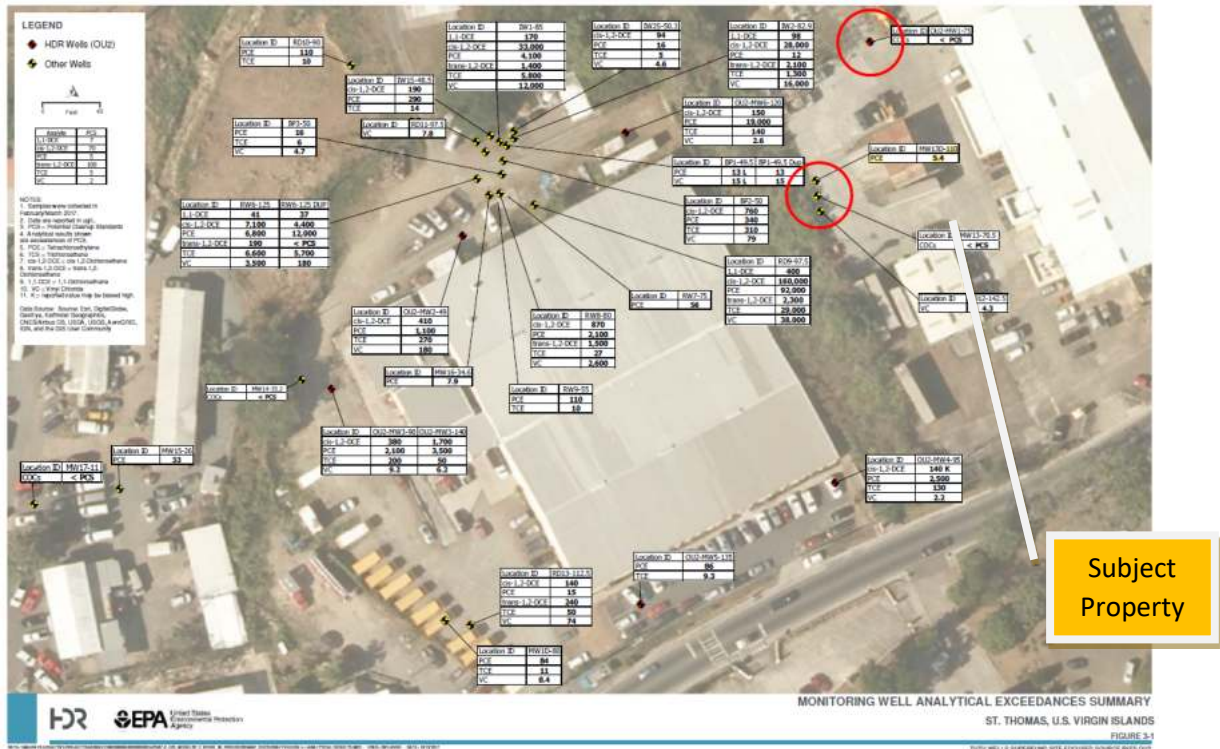


Figure 7. Location of Wells near Subject Property, St. Thomas, USVI (Final Focused Source Feasibility Study, TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2, 2018)

A vicinity well map along with Well Description tables taken from the USGS *Water Wells on St. Thomas* assessment are provided in **Appendix G**.

Tysam Tech submitted a request to review DPNR Well records for the Subject Property on February 8, 2024. Tysam was approved and performed a file review on March 19, 2024. No documents or environmental records were found in the existing Groundwater Program files for wells for the Subject Property.

Note that the above records of water yield are over 30 years old, and accurate and up to date yield records are not comprehensive for the Subject Property or the USVI in general. According to the USDA/NRCS *Soil Survey of the United States Virgin Islands* documents, many springs and wells have gone dry on the island. Subterranean reservoirs have become more depleted, losing most of the moisture to runoff from the steep slopes and evaporation before it can be absorbed into the ground. Estimated groundwater levels and/or flow direction(s) may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations.

5.3. Historical Use Records Review

Historical use information for the Subject Property and adjoining properties are limited. From interview with the property owners, and record review, the properties have only been used as a residential lot, for the purposes of residential use. Before that time, the site was covered in heavy brush and undeveloped.

5.3.1. Recorder of Deeds Office

The online Recorder of Deeds (“ROD”) database¹² did not yield recorded deeds for the plots that make up the Subject Property. Interviews with the Current Owner, as well as review of the Lt. Governor Office ArcGIS map system, MapGEO¹³, indicate that the owner is the Virgin Islands Housing Authority (“VIHA”).

5.3.2. Cadastral Office

Official Survey Maps of the Subject Property plots were requested from the Lt Governor’s Office of Cadastral but have not yet been received. Upon receipt of the Official Survey Maps, this report will be updated to reflect a copy of the certified copies. Copies of the Official Survey Maps will be provided in **Appendix H**.

5.3.3. Topographic Maps

Tysam Tech reviewed historical topographic maps provided by EDR (**Appendix I**). Table 3, below, presents a summary of Tysam Tech’s review of the topographic maps.

Topographic Map Summary	
YEAR	Description
1954	The Subject Property shows no existing boundaries or structures, though shows the adjacent major road (Emile Francis Memorial Drive); topography slopes down from East to West.
1982	The 1982 map depicts the Senior Housing buildings on Plot 388-A, central office individual structure on Plot 402, Emile Francis Memorial Drive, along with topographic contours.
2013	The 2013 map depicts no individual structures other than roads, though includes Douglas Drive in addition to Emile Francis Memorial Drive, and just topographic contours.

Table 6. Topographic Map Summary

Tysam Tech did not identify specific environmental concerns associated with the Subject Property based on the topographic map review, though environmental concerns may exist in the Subject Property area depending on the past use of commercial properties. **Section 5** discusses regulated facilities in the Subject Property area.

5.3.4. Aerial Photographs

The earliest available resource (1954 Aerial Map) identifies the lot location. The 1954 Aerial Map does not identify the Subject Property as it had not yet been delineated and is in an undeveloped area. The major road, Emile Francis Memorial Drive, is the only structure that exists in the immediate area of the Subject Property. The next available aerial, the 1970 Aerial Map, also shows the Subject Property as having development activity but no structures constructed and appears to have been delineated into plots. The next aerial with high detail, from 1974, shows the plot developed with what appears to be the Senior Housing structures on Plot 388-A (now demolished), and what appears to be some structure and concrete slab on Plot 402. 1976 aerials show what appear to be the fully developed central office structure on Plot 402 and the 1983 aerials confirm this in greater detail. No further changes to the property appear on aerials until September 2017, with what appears to be storm damage from Hurricanes Irma and Maria. Between aerials taken in April 2021 and December 2021,

¹² <https://countyfusion6.kofiletech.us/countyweb/loginDisplay.action?countyname=USVI>

¹³ <https://usvi.mapgeo.io/datasets/properties?abuttersDistance=120&latlng=18.340472%2C-64.884392&previewId=105602019100&zoom=18>

the buildings on Plot 388-A appear to have been fully demolished and material removed from the site.

EDR conducted a search of reasonably available aerial photographs depicting development of the Subject Property and the Subject Property vicinity at periodic intervals dating back to 1954 (**Appendix I**). Tysam Tech also performed a review of available aerial photography from several sources, including Google Earth.

Table 4, below, provide a summary of Tysam Tech's aerial photograph review.

Aerial Photograph Summary	
YEAR	Description
1954	The Subject Property shows nothing that would delineate the lot or show development.
1970	The Subject Property shows having development activity, but no structures constructed and appears to have been delineated into plots. Douglas Drive appears to exist as a dirt road only. Additional significant development, with what appear to be residential units to the south, is ongoing, along with potential commercial and residential development to the west. Only dirt roads exist to the north (upgradient) of the Subject Property.
1971	The aerial photo is not high enough resolution to identify the Subject Property structures but appears to have some additional clearing on Plot 388-A and potential structures. Additional development appears to be ongoing to the north, west and south.
1974	The Subject Property shows the plot developed with what appears to be the Senior Housing structures on Plot 388-A (now demolished), and what appears to be some structure and concrete slab on Plot 402. Additional significant development, with what appear to be residential units to the north, is ongoing.
1976	The Subject Property shows the plot developed with what appears to be the Senior Housing structures on Plot 388-A (now demolished), and what appears to be the central office structure and concrete slab on Plot 402.
1983	The Subject Property appears more clearly than previous aerials but appears relatively unchanged from the previous photographs and shows what appear to be the same structures present. More dense development all around the Subject Property is evident.
1988	The aerial photo is low resolution making it difficult to identify structures, but enough to show the previously existing structures are present on the Subject Property.
1992	The aerial photo is low resolution making it difficult to identify structures, but enough to show the previously existing structures are present on the Subject Property.
1999	The aerial photo is low resolution making it difficult to identify structures, but enough to show the previously existing structures are present on the Subject Property. The property directly adjacent to the East, Annasville Apartments, appear developed.
2002	The aerial photo shows the previously existing structures are present on the Subject Property. Even more development appears in the surrounding properties.
2003	The aerial photo shows the previously existing structures are present on the Subject Property.
2004	The aerial photo shows the previously existing structures are present on the Subject Property.
2006	The aerial photo shows the previously existing structures are present on the Subject Property.
2009	The aerial photo shows the previously existing structures are present on the Subject Property.
2010	The aerial photo shows the previously existing structures are present on the Subject Property.
2013	The aerial photo shows the previously existing structures are present on the Subject Property.
2014	The aerial photo shows the previously existing structures are present on the Subject Property.
2016	The aerial photo shows the previously existing structures are present on the Subject Property.
Aug. 2017	The aerial photo shows the previously existing structures are present on the Subject Property.
Sept. 2017	The Subject Property appears relatively unchanged from the previous photographs and shows what appear to be the same structure present. Hurricane Irma and Maria have already hit the Territory, and the structure appear damaged from the storms.
Nov. 2017	The aerial photo shows the previously existing structures are present on the Subject Property.
2018	The aerial photo shows the previously existing structures are present on the Subject Property.
2019	The aerial photo shows the previously existing structures are present on the Subject Property.

Aerial Photograph Summary	
YEAR	Description
2020	The aerial photo shows the previously existing structures are present on the Subject Property.
Apr. 2021	The aerial photo shows the previously existing structures are present on the Subject Property.
Dec. 2021	The aerial photo shows the buildings on Plot 388-A appear to have been fully demolished and material removed from the site. The central office on Plot 402 appears the same as the previous aerial.
2022	The aerial photo shows the empty Plot 388-A with central office present on the Subject Property.
2023	The aerial photo shows the empty Plot 388-A with central office present on the Subject Property.

Table 7. Aerial Photograph Summary

Tysam Tech did not identify specific environmental concerns associated with the Subject Property based on the aerial photograph review, though environmental concerns may exist in the Subject Property area depending on the past use of surrounding properties. Section 5 discusses regulated facilities in the Subject Property area.

5.3.5. Other Historical Use Records

BUILDING PERMITS

Tysam Tech requested available Building Permit files on February 8, 2024 at the Building Permits Division in DPNR. However, no records for the Subject Property were available due to destruction of historical records at the DPNR offices in St. Thomas after Hurricanes Irma and Maria in 2017, as well as due to the age of structures on the Subject Property.

5.4. Prior Reports

A previous ESA Phase 1 report was prepared for Plot 388 Douglas Street, conducted by Hillmann Consulting LLC between the months of August and October 2021. While the name of the Subject Property is different from this report's Subject Property, the GPS and property boundaries are the same, indicating identical areas reviewed.

The Phase 1 was conducted in accordance with ASTM Practice E 1527-13, the most current version at the time of the report. No RECs, CRECs, or HRECs were identified as part of the Phase 1 ESA. The following were all of the notable environmental conditions listed:

- *A vehicle maintenance pit was noted in the maintenance shed. The pit was observed full of water at the time of the site inspection, and therefore, observations of the bottom of the pit were not made.*
- *Scattered debris and machinery were observed throughout the lot behind the central office building. Additionally, crushed concrete and other demolition debris were observed on the Property in the areas of former buildings 11 through 22. No evidence of petroleum odors, leaks, and/or stressed vegetation was observed; therefore, the observed debris, machinery, crushed concrete, and other demolition materials are not considered a REC.*
- *The adjoining property to the west at 193 Altona & Welgunst was identified as Presto Cleaners and listed on the RCRA NonGen / NLR, FINDS, and ECHO databases. The site is located down-gradient of the Property. According to the*

RCRA NonGen / NLR database, the site is involved in the handling and/or storage of hazardous materials. The site is listed on the FINDS and ECHO database under EPA Registry ID# 110024273392 in relation to the RCRA database listing. There are no reported violations associated with the facility; therefore, this site is not considered a REC in connection with the Property.

No response actions were recommended at the time of the report.

Tysam Tech makes no warranty, guaranty or certification regarding the quality, accuracy or reliability of any prior report provided to Tysam Tech and discussed in this Phase I ESA report. Tysam Tech expressly disclaims any and all liability for any errors or omissions contained in any prior reports provided to Tysam Tech and discussed in this Phase I ESA report.

6. SITE RECONNAISSANCE

The objective of the site inspection is to obtain information to evaluate through visual and olfactory evidence the likelihood of RECs being present in connection with the Subject Property, to the extent that bodies of water, buildings, debris, adjacent buildings, or other obstacles do not obstruct these conditions. Adjoining properties were observed from the Subject Property and public rights-of-way to evaluate potential environmental conditions that could affect the Subject Property. Environmental Professional, Robert Wallace, visually observed the Subject Property and adjoining properties on February 21, 2024. **Appendix K** provides a photograph log, site inspection notes, and Subject Property map. The Subject Property Detail Map (**Appendix A**) shows the adjacent and surrounding properties.

6.1. Methodology and Limiting Conditions

The site reconnaissance consisted of visual and/or physical observations of:

- the property and improvements
- adjoining sites as viewed from the property
- and the surrounding area based on visual observations made during the trip to and from the property

Unimproved portions of the Subject Property were observed along the perimeter and then in a general grid pattern in safely accessible areas along the northwest portion of the Subject Property. Building exteriors were observed along the perimeter from the ground, unless described otherwise. Building interiors were not observed for these site inspections.

At the time of the site inspection, the weather was warm and clear with good visibility.

6.2. Subject Property Observations

6.2.1. General Subject Property Setting

The Subject Property was the site of Virgin Islands Housing Authority's Tutu Senior Center Public Housing Project and VIHA Offices and Maintenance Facility. The public housing was built in the 1970's and demolished in 2021 due to extensive hurricane damage from Hurricanes Irma and Maria in 2017. The residential buildings were demolished in place, but the office and maintenance facility remain in place. The original sidewalks remain in place.

Demolition of the residential structures seems to be complete with little visible residual material. The office and maintenance facility are in a dilapidated state and ingress/egress is hazardous. The Subject Property topography is moderately steep and has become heavily overgrown with herbaceous plants and small trees. The vegetation grows amid and over the scattered debris and waste tires. Over the last several years since the 2017 hurricanes, the structures have deteriorated to a state where it is unsafe to enter due to the potential presence of lead-based paint, and potentially friable Asbestos-Containing Material ("ACM"). The site is secured with perimeter fencing and there were no obvious indications (i.e. graffiti, trash, etc.) of vagrancy and trespassing. There do not appear to be any indications of removal of material in either the office building or maintenance facilities.

6.2.2. Site-Specific Features

The following sections detail specific Subject Property features, observations and details. References to areas, rooms and structures follow the assigned ID in the Subject Property Detail Map (**Appendix A**). Pictures of key features and findings are provided in **Appendix K**.

6.2.2.1. Hazardous Substance Use, Storage, and Disposal

There are various analytical laboratory chemicals located in the maintenance shop. There were several 1-L amber bottles containing hazardous chemicals (such as formaldehyde). These chemicals were unsecured and prone to spillage.

Electronic waste, which can contain heavy metals, is ubiquitous inside both the maintenance and office buildings.

No spills, contaminated soils surrounding the area or other findings were observed at the time of the inspection relating to hazardous substances.

6.2.2.2. Underground Storage Tanks (USTs)

No USTs were identified at the Subject Property.

6.2.2.3. Aboveground Storage Tanks (ASTs)

There is an approximately 5,000-gal capacity #3 diesel tank which fuels the on-site generator on the southeast corner of Plot 402 (upper parking lot). Fuel levels in the tank were unknown as indicated by VIHA representative Mr. Joseph Morris. There was no secondary containment evident, and it is unknown whether or not the tank is double-walled.

No evidence of spills, leaks or drips was found at the time of the inspection; however, due to its position and vegetation overgrowth, a full assessment of the surface area of the tank was not possible to verify the absence of leaks, cracks or damage to the tank.

6.2.2.4. Other Petroleum Products

There are several (~10) large-deck mowers that are stored in the maintenance yard. It was observed that all these mowers contained oil in their crankcases and varying levels of old gasoline. There was no immediate indication of release from these small motors.

There are multiple (~5) 5-gallon buckets containing hydraulic oil and/or lube oil scattered throughout the maintenance yard. These buckets contain fluid and there was evidence of spillage in the maintenance yard. There are also 5-gallon buckets inside the maintenance garages that contain residual petroleum products. There was evidence of staining and spillage on the garage floors.

There are motor vehicles (1-van, & 2-backhoes) stored on the site containing petroleum products in the crankcases, fuel tanks and hydraulic oil tanks.

6.2.2.5. Polychlorinated Biphenyls (PCBs)

No ground or pole mounted transformers were observed.

However, the on-Site generator is connected to switch gear and a ground-mounted transformer which can potentially contain PCB-containing dielectric fluid.

Additionally, there were multiple light fixtures which may be Fluorescent Light Ballasts (FLBs). PCBs are contained within the FLB capacitors and interior potting material of old magnetic T12 lighting fixtures.

6.2.2.6. Unidentified Substance Containers

There are various containers of analytical laboratory chemicals located in the maintenance shop. Most had visible labels but there are several that could not be determined.

There are miscellaneous containers of unknown chemicals and other substances around the Subject Property.

6.2.2.7. Nonhazardous Solid Waste

There are several hundred waste tires disposed in discrete piles around the Subject Property. These piles are visible in the maintenance yard but there are also piles within the thick brush near the middle of the parcel. There was a large pile of terracotta roof tile that was disposed north of the maintenance yard.

There are pallets of treated lumber and other construction raw materials located throughout the maintenance yard.

There are several ABC fire extinguishers piled both on the interior of the office building as well as the maintenance yard.

There are four (4) 53-ft trailers located on the site that contain construction raw materials, such as water heaters, lumber, construction brackets, piping, etc.

6.2.2.8. Wastewater

Based on the presence of sewer manhole covers, it appears there are sewer lines on the property under the roadways that served the residents. The condition of the sewage system is unknown. There is currently no wastewater being produced on the Subject Property.

No evidence of wastewater surface spillage, failure or contamination was observed at the Subject Property or surrounding areas at the time of the inspection.

6.2.2.9. Waste Pits, Ponds and Lagoons

There was one maintenance pit located adjacent to the maintenance shed on a concrete pad. The pit was filled with stormwater at the time of the inspection.

6.2.2.10. Drains and/or Sumps

There was a sump of unknown usage in the middle of the Subject Property near the large compressor and mobile generator storage pad, immediately north of the maintenance yard. The sump was filled with stormwater or groundwater at the time of the inspection. The Subject Property has a few stormwater drop inlets.

6.2.2.11. Septic Systems

No evidence of septic systems was observed at the Subject Property or downhill during the site inspection.

6.2.2.12. Stormwater Management System

The Subject Property drains southwest to local streams/drainage systems via overland flow. Based on locations of spills of petroleum material on the Subject Property, there is potential for this exposed material and other containers of petroleum to be entrained with stormwater flow and discharge to pervious surface or off the Subject Property.

6.2.2.13. Wells

No wells were observed at the Subject Property. A vicinity well map along with Well Description tables are provided in **Appendix G**.

Note: Through records review, it was determined that there are wells that exist on the Subject Property. However, during the inspection, these wells were not observed.

6.2.2.14. Odors

No unusual odors were observed on the exterior of the Subject Property. The interior contained musty odors related to water damage and potential mold on the drywall.

6.2.2.15. Pools of Liquid

No unusual pools of liquid were observed or noted on the Subject Property.

6.2.2.16. Interviews

Interview with Mr. Joseph Morris, Property Manager, explained that the 5,000-gal AST noted in Section 6.2.2.3. still contains fuel.

6.3. Adjoining Properties

Tysam Tech observed adjoining properties from public access rights-of-way to make a cursory assessment of the current land use and its potential for RECs that may have the potential to affect the Subject Property. Reconnaissance was performed by viewing land use from legal boundaries or by walking upon the adjoining properties that were legally accessible.

Environmental concerns were not identified on adjoining properties from view of the properties from public rights-of-ways.

7. INTERVIEWS

Tysam Tech interviewed the User, Subject Property Owner, Regulatory Agencies, and Other Persons about conditions at the Subject Property and surrounding area. This section presents information obtained during the interviews. **Appendix L** includes copies of records of communication.

7.1. User Questionnaire

The User (the Client) was sent a User Questionnaire, and it was returned on February 20, 2024. According to the written response from the User, no environmental concerns were identified for the Subject Property. A copy of the correspondence is located in **Appendix L** of this report.

7.2. Current Landowner Questionnaire

Mr. Joseph Morris, who serves as the property manager, was interviewed both pre and post inspection with the intent to ascertain history, current status and the potential presence of environmental hazards on the site. Mr. Morris was unaware of the details of contents within the buildings due to sensitivity to the mold odors in the building interior. Ms. Lydia Pelle, the VIHA Chief Operating Officer (COO) also provided a Current Owner Questionnaire on March 22, 2024. A copy of the correspondence is located in **Appendix L** of this report.

7.3. Previous Landowner Questionnaire

The current owners, VIHA, have owned the property since at least the 1970s, and did not know the previous owner. A records search could not determine information on the previous owner, so no interview was conducted with any previous landowner.

7.4. Key Subject Property Manager Questionnaire

The only Property Manager for the Subject Property is the current owner who was interviewed as Current Landowner and represented by Mr. Joseph Morris. A written summary of what was discussed is noted above in **Section 7.2**.

7.5. Occupant Questionnaire

There are no residents at this time, so no occupants of the site were interviewed at the time of the inspection.

7.6. Local Agencies Contacted

Dr. Clanicia Pelle of the Solid Waste Program at DPNR was contacted for an interview but noted during an in-person meeting that she did not know any details about the Subject Property, aside from the Superfund Site (Tutu Wellfield) adjacent to the Subject Property.

Director Austin Callwood, of DPNR-DEP, was contacted and requests for review of existing files were submitted to him for the Subject Property on February 8, 2024. Tysam was approved and performed a file review on March 19, 2024, that no documents or environmental records were found in the existing files for the Subject Property.

VI Fire Service (VIFS) Fire Marshal Leon Battiste was sent a questionnaire and responded by phone on March 25, 2024. More details are provided in **Section 5.1.2.8**.

7.7. Adjacent Landowners Interviewed

Several adjacent landowners/residents were interviewed as part of this assessment. The following table provides a list of all adjacent properties.

Adjacent Owner Information		
Plot	Owner/Interviewee	Years Residing on Plot
394-386 Anna's Retreat, No. 1 New QTR	Eleanor Jackson	Over 30 years
390 Anna's Retreat	Roland Knight	Firefighter for several years
152 Anna's Retreat	Principal Renee Hodge	Principal at STT/STJ Seventh Day Adventist School for 4 years

Table 8. Adjacent Landowner Information

The following adjacent owners were verbally interviewed:

Resident at 394-386 Anna's Retreat, No. 1 New QTR: The woman interviewed lived at the property for over 30 years. She stated he did not know of any spills, hazardous wastes, fires or environmental concerns at the Subject Property. She stated that people would dump trash at the site, but usually standard house waste and it was done infrequently. She did not observe any activity or uses of the Subject Property besides what is already known.

Firefighter at 390 Anna's Retreat (Tutu Fire Station): The gentleman interviewed was a firefighter at the station for several years. He stated he did not know of any spills, hazardous wastes, fires or environmental concerns at the Subject Property. He did not know of any dumping at the site and did not observe any activity or uses of the Subject Property besides access to the site made by VIHA staff.

Principal at STT/STJ Seventh Day Adventist School at 152 Anna's Retreat: Ms. Renee Hodge was interviewed and noted she lived in the USVI for many years but was only principal at the school for the past 4 years. She stated he did not know of any spills, hazardous wastes, fires or environmental concerns at the Subject Property. She stated that she observed the demolition, but no unusual things were observed, or concerns raised. She did not observe any activity or uses of the Subject Property besides what is already known.

8. OTHER ENVIRONMENTAL CONDITIONS

Tysam Tech also evaluated several ASTM Non-Scope Considerations, also called potential Business Environmental Risks (BER) and described in ASTM E1527-21 as environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside the scope of this practice. Those Non-Scope Considerations and Business Environmental Risks assessed by Tysam Tech are presented here.

8.1. Asbestos Containing Materials (ACM)

An ACM site inspection of the Community Building was performed at the Subject Property by Developer Assistance Company LLC ("DAC") on January 18, 2022. The survey was performed by Mr. Maurice Clark, a Puerto Rico certified Asbestos Building Inspector, qualified by experience, education, and training in the recognition of suspect ACM and approved bulk sampling techniques.

A total of forty-seven (47) samples of suspect materials were collected and submitted under chain of custody for laboratory analysis to Hillmann Laboratory Services of Union, New Jersey (NVLAP Laboratory ID #101421-0). The method of analysis was Polarized Light Microscopy (PLM) with dispersion staining, as required by the EPA. ACM is defined by federal regulations as any material or product containing more than one percent asbestos.

The laboratory analysis indicated that the following materials were identified as asbestos containing materials, as listed in the table below:

Location	Material	Quantity	Friable (Y/N)	Condition
Community Center – First Floor Foyer	12" x 12" Floor Tile, Multi-Strip Color	500 SF	Y	Fair
Community Center – First Floor Foyer	Black Mastic	500 SF	N	Fair
Community Center – First Floor Foyer	Floor Tile, Black	500 SF	Y	Fair
Community Center – First Floor Foyer	Black Mastic associated with Black Floor Tile	500 SF	N	Fair
Community Center – First Floor Kitchen	Black Mastic associated with 12" x 12" Floor Tile, Second Layer	250 SF	N	Fair
Community Center – First Floor Kitchen Closet	Black Mastic associated with 12" x 12" Floor Tile, Brown	40 SF	N	Fair
Community Center – First Floor Kitchen	Joint Compound, Tan*	4,000 SF	Y	Fair
Community Center – First Floor Lobby	Black Mastic associated with 12" x 12" Floor Tile, Second Layer	650 SF	N	Fair

*Due to its association with the joint compound, the drywall present within the building should also be handled as ACM.

Table 9. Asbestos Containing Material (ACM) Testing Results (Hillmann ACM report, 2022)

The asbestos NESHAP (40 CFR Part 61, Subpart M) standards regulate asbestos fiber emissions and asbestos waste disposal practices. As required by these standards, existing building materials must be identified and classified prior to demolition or renovation activity. By evaluating and considering consistencies in building type, materials and construction dates across the development, sampling was conducted in a manner that provided results representative of the entire Subject Property.

Additionally, during the examination of the interior of the Community Building as well as the Central Office on Plot 402 as part of this Phase 1 ESA, the inspector noted the suspected presence of asbestos-containing material (ACM) in floor tiles, ceiling tiles, insulation and windows.

8.2. Lead-Based Paint (LBP)

An LBP site inspection was performed at the Subject Property on September 9, 2023 – September 13, 2023 by Tysam Tech, LLC. The LBP investigation was conducted by Selena Parilla, Lead Inspector Technician #LBP-R-I225004-1.

A total of one thousand, eighty hundred seventy-three (1,873) surfaces were tested via XRF analysis at the Subject Property between September 9 and 13, 2023. As detailed by the XRF readings provided in the tables of the prepared report, no lead-based paint with lead concentrations at or above 1.0 mg/cm² was identified during the inspection.

For the purposes of this inspection, "lead-based paint" is defined as any "paint, surface coating that contains lead equal to or exceeding one milligram per square centimeter (1.0 mg/cm²) or 0.5% by weight." This threshold is established by the Residential Lead-Based Paint Hazard Reduction Act of 1992--Title X¹⁴, as well as 40 CFR Part 745.¹⁵

Testing was performed using a Viken Detection Pb200i X-Ray Fluorescence (XRF) Analyzer, Serial #2872. Calibration checks were completed prior to all testing and at four-hour intervals thereafter or as recommended by manufacturer guidelines. The results are reported at 95% confidence levels and the quality of the testing verified according to the manufacturers' recommendations.

Results of this inspection must be provided to new lessees (tenants) and prospective buyers of this property under Federal law (24 CFR Part 35 and 40 CFR Part 745) before they become obligated under a lease or sales contract.

8.3. Mold/Microbial Growth

During the examination of the interior of the buildings as part of this Phase 1 ESA, the inspector noted what appeared to be visible mold located in the interior of the building due to the exposure of rainwater. There is the potential for hazardous black mold on-site as well, based on the visual examination.

8.4. Radon

There is no radon data available from the EPA for the USVI at the time of this report.

¹⁴ <https://www.epa.gov/lead/residential-lead-based-paint-hazard-reduction-act-1992-title-x>

¹⁵ <https://www.ecfr.gov/current/title-40/part-745>

8.5. Wetlands

According to the USFWS National Wetlands Inventory (“NWI”), there are no wetlands present at the Subject Property. A riverine gut, identified on the flood maps as Turpentine Run Gut, is the only potential wetland area adjacent to the Subject Property.

A copy of the NWI Wetlands Map for the Subject Property is included in **Appendix M**.

8.6. Lead in Drinking Water

This assessment included a review of the potential for elevated levels of lead in drinking water by determining the source of the drinking water supply and a review of available compliance or testing data.

No active potable water service or testing results were identified at the Subject Property. The existing units did not appear to have any lead piping, and no water main lines were observed to determine if any suspected lead content was in existing infrastructure.

8.7. Flood Plain

The Federal Emergency Management Agency (“FEMA”) flood zone data for the US Virgin Islands (Community Panel 7800000028G, 2018) depicts the Subject Property to be partially within Flood Zone A designation, and adjacent to the start of the delineated Turpentine Run Gut.

A copy of the Flood Insurance Rate Map (“FIRM”) for the Subject Property is included as **Appendix E**.

9. FINDINGS AND OPINIONS

This Phase I ESA was prepared in accordance with ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process Designation: E 1527-21, 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries: Final Rule, and accepted Phase I ESA industry standards.

Tysam Tech identified five (5) Recognized Environmental Conditions at the Subject Property, three (3) Business Environmental Risks and four (4) De Minimis Conditions.

The following table provides a summary of all the findings:

Report Section	No Findings	De Minimis Condition	Recognized Environmental Condition (REC)	Historical REC	ASTM Non-Scope Condition (BER)	Description/Finding
User Provided Information	X					
Federal Database Findings			X			NPL site on adjacent property within AOC, VES determined VEC exists. See section 5.1.2.1
State and Tribal Database Findings	X					
Local Environmental Record Sources	X					
Historical Records Sources	X					
Hazardous Substance Use, Storage and Disposal			X			Chemical containers with hazardous material were observed. See section 6.2.2.1
Underground Storage Tanks	X					
Aboveground Storage Tanks			X			Existing 5000-gal diesel tank was observed without secondary containment and contains fuel. See section 6.2.2.3
Other Petroleum Products			X			Existing oil-filled equipment onsite, along with 5-gal buckets with petroleum product. See section 6.2.2.4
Polychlorinated Biphenyls (PCBs)		X				Fluorescent Light Ballasts (FLBs) observed at Subject Property. PCBs are contained within the FLB capacitors and interior potting material of old magnetic T12 lighting fixtures. See section 6.2.2.5
Unidentified Substance Containers			X			Several containers were unlabeled or unreadable. See section 6.2.2.6
Nonhazardous Solid Waste		X				Significant waste tires, construction material

Report Section	No Findings	De Minimis Condition	Recognized Environmental Condition (REC)	Historical REC	ASTM Non-Scope Condition (BER)	Description/Finding
						found out in open. See section 6.2.2.7
Wastewater	X					
Waste Pits, Ponds and Lagoons		X				Pit collects stormwater and possible contaminants See section 6.2.2.9
Sumps		X				Sump contains water as a low point See section 6.2.2.9
Septic Systems	X					
Stormwater Management System	X					Spilled hydrocarbons are in line with stormwater drains See section 6.2.2.12
Wells	X					
Odors	X					
Pools of Liquid	X					
Interviews	X					
Asbestos-Containing Material (ACM)					X	Previous ACM evaluation confirmed ACM material in structures. See section 8.1
Lead-Based Paint (LBP)	X					
Mold					X	Mold is present on various surfaces of the interior of structures. See section 8.3
Radon	X					
Wetlands	X					
Lead in Drinking Water	X					
Flood Plain					X	The Subject Property is partially in the Flood Zone. See section 8.7

Table 10. Summary of Findings

9.1. Recognized Environmental Conditions

9.1.1. Vapor Encroachment Condition

A Tier 1 VES was conducted due to the presence of an NPL site on the adjacent property to the west. An AOC was developed, and a VEC was determined to exist.

Based on the VEC, as well as data and evidence review, Tysam Tech has determined a REC exists for vapor encroachment.

9.1.2. Hazardous Substance Use, Storage and Disposal

Electronic waste, which often contain hazardous and toxic materials that pose environmental risks if they are landfilled or incinerated, is ubiquitous inside both the maintenance and office buildings.

Based on the presence of electronic waste on the Subject Property in locations that may likely result in a release of these hazardous substances to the environment, Tysam Tech has determined a REC exists for this material.

9.1.3. Above-Ground Storage Tanks (ASTs)

There is an approximately 5,000-gal capacity #3 diesel tank which fuels the on-site generator on the southeast corner of Plot 402 (upper parking lot). Fuel levels in the tank were unknown as indicated by VIHA representative Mr. Joseph Morris, however, it is assumed that there is residual fuel in the tank. Moreover, there was no secondary containment evident, and it is unknown whether or not the tank is double-walled. No records showing a Terminal Facility License (TFL), or Spill Prevention, Control and Countermeasures (SPCC) Plan were found at DPNR.

Based on the facts that (1) secondary containment is potentially absent, (2) fuel is potentially in the tank, (3) the tank cannot currently be inspected and condition confirmed across its entire surface, and (4) no oversight is provided at present for the tank in the form of DPNR/EPA or landowner inspections, there is potential for a spill, leak or release of the petroleum contents of this tank, and Tysam Tech has determined a REC exists for this AST.

9.1.4. Other Petroleum Products

There are several (~10) large-deck mowers that are stored in the maintenance yard. It was observed that all these mowers contained oil in their crankcases at varying levels of old gasoline. There was no immediate indication of release from these small motors.

There are multiple (~5) 5-gallon buckets containing hydraulic oil and/or lube oil scattered throughout the maintenance yard. These buckets contain fluid and there was evidence of spillage in the maintenance yard. There are also 5-gallon buckets inside the maintenance garages that contain residual petroleum products. There was evidence of staining and spillage on the garage floors.

There are motor vehicles (1-van, & 2-backhoes) stored on the site containing petroleum products in the crankcases, fuel tanks and hydraulic oil tanks.

Based on the facts that (1) oil and fuel remain in and secondary containment is absent from all these oil-filled equipment and containers, (2) there are observable leaks and spills of what appear to be petroleum products, and (3) no oversight is provided at present for these units in the form of DPNR/EPA inspections or landowner inspections, there is potential for a spill, leak or release of the petroleum contents to the environment, and Tysam Tech has determined a REC exists for these equipment units and containers.

9.1.5. Unidentified Substance Containers

There are various containers of analytical laboratory chemicals located in the maintenance shop. Most had visible labels but there are several that could not be determined.

There are miscellaneous containers of unknown chemicals and other substances around the Subject Property.

Based on the fact that other laboratory chemicals found on the Subject Property are hazardous, there is a potential for these chemicals to be hazardous and for spillage or release of these substances to the environment, and Tysam Tech has determined a REC exists for this material.

9.2. Historical Recognized Environmental Conditions

No Historical Recognized Environmental Conditions (HRECs), as defined by ASTM 1527-21, were found to be associated with the Subject Property.

9.3. Controlled Recognized Environmental Conditions

No Controlled Recognized Environmental Conditions (CRECs), as defined by ASTM 1527-21, were found to be associated with the Subject Property.

9.4. De Minimis Conditions

Four (4) De Minimis conditions were observed on the Subject Property.

9.4.1. Sumps

A sump of unknown usage was observed in the middle of the parcel near the large compressor and mobile generator storage pad, immediately north of the maintenance yard. The sump was filled with stormwater or groundwater at the time of the inspection. As the sump contained water, it may be a collection point for slabs on the Subject Property, and be a concentration point for pollutants.

9.4.2. Non-hazardous Solid Waste

There are several hundred waste tires disposed in discrete piles around the Subject Property. These piles are visible in the maintenance yard but there are also piles within the thick brush near the middle of the parcel.

There are pallets of treated lumber and other construction raw materials located throughout the maintenance yard.

9.4.3. Waste, Pits, Ponds and Lagoons

There was one maintenance pit located adjacent to the maintenance shed on a concrete pad. The pit was filled with stormwater at the time of the inspection.

9.4.4. PCBs

There were multiple light fixtures throughout the office section and maintenance garages which may be Fluorescent Light Ballasts (FLBs). PCBs are contained within the FLB capacitors and interior potting material of old magnetic T12 lighting fixtures.

9.5. ASTM Non-Scope Conditions – Business Environmental Risks (BER)

9.5.1. Asbestos Containing Material (ACM)

The Subject Property contains suspected ACM within the Community Building and Central Office. ACM is suspected to be in floor tiles, ceiling tiles, insulation and windows within these two structures. **The confirmed and suspected ACM at the Subject Property is considered a BER.**

9.5.2. Mold/Microbial Growth

The Subject Property contains suspected mold above ambient concentrations based on visual and olfactory inspection of the existing structures, and the state of the structures to allow rainwater in and remain in a state conducive to mold growth. **The suspected mold and microbial growth at the Subject Property is considered a BER.**

9.5.3. Flood Plain

The Subject Property is partially within Zone A of the Flood Plain, and therefore would be subject to FEMA and local flood plain regulations as applicable.

The location of the Subject Property within Flood Zone A is considered a BER.

9.6. Other Findings of Concern

None.

10. CONCLUSIONS & RECOMMENDATIONS

Tysam Tech, Inc. (Tysam Tech) has performed this Phase I Environmental Site Assessment (ESA) of Plots 388-A and 402 of Estate Anna's Retreat, located in New Quarter on the island of St. Thomas.

As summarized in Table 10, this assessment has revealed evidence of five (5) Recognized Environmental Conditions ("REC"), three (3) Business Environmental Risks ("BER"), and four (4) De Minimis Conditions in connection with the Subject Property.

There is no evidence of any Historically Recognized Environmental Conditions ("HREC") or Controlled Recognized Environmental Conditions ("CREC") in connection with the Subject Property.

Tysam Tech recommends the following actions to address the RECs, BERs, and De Minimis Conditions:

- Conduct either an *invasive* or *non-invasive* Tier 2 VES in accordance with Section 9 of ASTM E2600-22 to confirm or reject whether a VEC exists as determined by the Tier 1 VES
- Dispose of hazardous chemicals and substances in accordance with federal and territorial disposal regulations
- Drain motors, transformers and other oil-filled equipment of petroleum products, and dispose of the petroleum material along with other petroleum material observed in 5-gallon buckets in accordance with federal and territorial disposal regulations
- Dispose of electronic waste in accordance with applicable federal and territorial regulations
- Have the unlabeled and unknown chemicals analyzed, identified (if possible) and disposed of in accordance with federal and territorial disposal regulations
- Identify if electrical equipment associated with the on-Site generator contains PCB dielectric fluid and if present, properly dispose of the contents in accordance with applicable Federal and Territorial disposal regulations.
- Dispose of Fluorescent Light Bulbs and Ballasts in accordance with federal and territorial disposal regulations
- Dispose of used tires, treated wood, construction material, and other non-hazardous solid waste or place in a covered, dry place to prevent potential contamination of storm water
- Empty the AST on the Subject Property of all petroleum and contents
- Before demolition, renovation or repair to the structures on the Subject Property, ensure an ACM and Mold Evaluation has been performed, to include sampling and testing of suspected ACM and mold materials observed and noted in this report
- Sample all on-Site sumps and pits for hydrocarbon impacts and drain accumulated stormwater/groundwater accordingly

-
- Ensure future demolition, renovations, repairs or construction follows FEMA regulation as it pertains to the portions of the Subject Property that are within Zone A of the Flood Plain

Provided observed spills are cleaned up from concrete slabs and other impervious surfaces and all hazardous and/or petroleum products are disposed of in accordance with federal and territorial disposal regulations, further investigation of petroleum hydrocarbons and hazardous substances at the Subject Property **is not warranted** based on the information obtained and evaluated during this Phase I ESA as: 1) the observed spills or releases of hazardous substances or petroleum products identified during the assessment are all on impervious surfaces; and 2) all known records and documents relating to the Subject Property or adjoining properties do not indicate on-site spills or releases of petroleum hydrocarbons and/or hazardous substances.

Under the All-Appropriate Inquiry Rule, future and continuing obligations are required to maintain landowner liability protections under CERCLA. Specifically, (1) complying with land use restrictions and institutional controls; (2) taking reasonable steps with respect to hazardous substance releases; (3) providing full cooperation, assistance and access to persons that are authorized to conduct response actions or natural resource restoration; (4) complying with information requests and administrative subpoenas; and (5) providing legally required notices.

11. DEVIATIONS

No deviations from the recommended scope of ASTM Standard E 1527-21 were performed as part of this Phase I ESA.

12. ENVIRONMENTAL PROFESSIONAL STATEMENT

This Phase I Environmental Site Assessment was conducted consistent with generally accepted environmental consulting practices within the limitations identified in this report.

The site inspections, interviews, record reviews, and preparation of this report were performed by Environmental Professionals, Robert Wallace and Benjamin Keularts.

The information contained in this ESA was obtained from personal inspection by the Environmental Professionals of data provided by appropriate government agencies and additional sources deemed to be reliable.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR § 312.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed All Appropriate Inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.



Robert D. Wallace, P.E.
Environmental Professional

April 7, 2024

Date



Benjamin Keularts
Environmental Professional

April 7, 2024

Date

Appendix O includes the Environmental Professionals' qualifications.

13. REFERENCES

13.1. Agencies Contacted and Documents Reviewed

- US Virgin Islands Department of Planning and Natural Resources (DPNR). Records review conducted in person at 45 Estate Mars Hill, Frederiksted, VI 00840.
- US Virgin Islands Recorder of Deeds Office. Document search conducted in person at ROD office and online at Lt. Gov.'s online services at <https://countyfusion6.kofiletech.us/countyweb/loginDisplay.action?countyname=USVI>.
- US Virgin Islands Fire Service. Document request and discussion by phone and electronic follow up.
- US Virgin Islands Tax Collector's Office. Document search conducted online at <https://propertytax.vi.gov/Lookup/ParcelLookup.aspx>.
- United States Geological Survey (USGS). Map review of St. Croix searched online at <https://viewer.nationalmap.gov/basic/#productSearch>.
- United States Department of Agriculture (USDA). Natural Resources Conservation Services Web Soil Survey and soil characteristics researched online at <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- Federal Emergency Management Agency (FEMA). Flood Insurance Rate Mapping search conducted online at <https://msc.fema.gov/portal/>.
- United States Virgin Islands Geospatial Information System (MapGeo). Topographic, Hydrologic, & Geographic map search conducted online at <https://usvi.mapgeo.io/datasets/>.
- Historical Aerial photos viewed on Google Earth Pro, NOAA Data Access Viewer, and USGS EarthExplorer

13.2. Documents and Resources Reviewed

- *EDR Historical Topographic Map Report Inquiry Number: 7576809.4, February 23, 2024.* Report prepared by Environmental Data Resources, 6 Armstrong Road, 4th floor Shelton, CT 06484.
- *EDR Environmental Database Report (EDR ZIP) Inquiry Number: 7576809.2s, February 23, 2024.* Report prepared by Environmental Data Resources, 6 Armstrong Road, 4th floor Shelton, CT 06484.
- Steiger, Judy & Kessler, Richard. *Water Wells on St. Thomas, U.S. Virgin Islands* U.S. GEOLOGICAL SURVEY, Open-File Data Report 91-504 1993
- Robert Graves *Hydrogeology in the Vicinity of Test Holes and Wells on St. Croix, St. Thomas, and St. John, U.S Virgin Islands* U.S. GEOLOGICAL SURVEY, Water-Resources Investigations Report 96-4004. 1996
- Geological Maps of John T. Whetten 1961
- Geological Maps of USGS 1958
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Caribbean Islands Region (Version 2.0)* ERDC/EL TR-11-4, U.S. Army Corps of Engineers May 2011
- Jordan, D.G. and Cosner, O.J. 1973, *A Survey of the Water Resources of St. Thomas, Virgin Islands*; US Geological Survey, Open-File Report, 55p.
- *Final Draft: Preliminary Assessment, LAGA Building/Virgin Islands* Department of Education St. Thomas, U.S. Virgin Islands, **MARCH 24, 1989 TECHNICAL DIRECTIVE DOCUMENT NO. 02-8902-44; CONTRACT NO. 68-01-7346 02-8902-44-PA, REV. NO. 0**

- *RAC2 EPA Region 2 Final Quality Assurance Project Plan Tutu Wellfield Site Long Term Response Action, St. Thomas, U.S. Virgin Islands EPA Contract No. EP-W-09-002; WA 003-RALR-021D, April 2009*
- *Remediation System Evaluation (RSE): Report of the Remediation System Evaluation Site inspection Conducted at the Tutu Wellfield Superfund Site on February 8, 2011, Tutu Wellfield Superfund Site, St. Thomas, U.S. Virgin Islands EPA-542-R-11-008 November 2011*
- *Final Focused Source Feasibility Study: TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2 United States Environmental Protection Agency Work Assignment Number: 031-RICO-021D Contract Number: EP-W-09-009 HDR, RAC 2 Program March 2018*
- *Third Five-Year Review Report for Tutu Wellfield Superfund Site St. Thomas, U.S. Virgin Islands. United States Environmental Protection Agency, September 2019*
- *Final Monitoring and Residential Well Sampling Report Tutu Wellfield Site St. Thomas, U. S. Virgin Islands SSID No.: 021D EPA ID No.: VID982272569 Superfund Technical Assessment & Response Team V, Weston Solutions, Inc., January 2020*
- *Record of Decision (ROD) Document, Operable Unit 2 Tutu Wellfield Superfund Site, St. Thomas, U.S. Virgin Islands, United States Environmental Protection Agency, September 2021*
- *TUTU WELLFIELD SUPERFUND SITE CLEANUP DESIGN INVESTIGATION, FACTSHEET, United States Environmental Protection Agency, October 2022*
- <https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0202749>
- <https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#VI>

13.3. Persons Interviewed

The following Government Officials, Property Users, and Property Operators were interviewed by Tysam Tech, LLC during the development of this environmental site assessment.

Person Interviewed		
Name	Agency/Company/Sector	Title
Harry Moody	Pennrose, LLC	Client / User Representative
Joseph Morris	VIHA	Landowner/Key Site Manager
Lydia Pelle	VIHA	Landowner/COO
Leon Battiste	VIFS	VIFS Fire Marshal
Eleanor Jackson	Resident	Nearby Landowner
Ronald Knight	VIFS	Tutu Fire Station Fire Fighter
Renee Hodge	STT/STJ SDA School	Principal

Documentation of each interview is contained in **Section 7** and **Appendix L**.

14. APPENDICES

APPENDIX A – SUBJECT PROPERTY MAPS





APPENDIX B – ZONING CERTIFICATION



GOVERNMENT OF THE UNITED STATES VIRGIN ISLANDS
-----0-----
DEPARTMENT OF PLANNING AND NATURAL RESOURCES
4611 Tutu Park Mall
Suite 300, 2nd Floor
St. Thomas, VI 00802
(340) 774-3320



Division of Comprehensive and Coastal Zone Planning

ZONING CERTIFICATION

This will certify that Parcel Nos. 388 and 402 Estate Anna's Retreat, St. Thomas are zoned R-3 (Residential-Medium Density) as per Official Zoning Map No. STZ-7.

The list of permitted uses and development provisions for the R-3 zoned district can be found in Virgin Islands Code, Title 29, Chapter 3, Subchapter 1, §228 and 229 (<https://legvi.org/index.php/service/social-care/>).

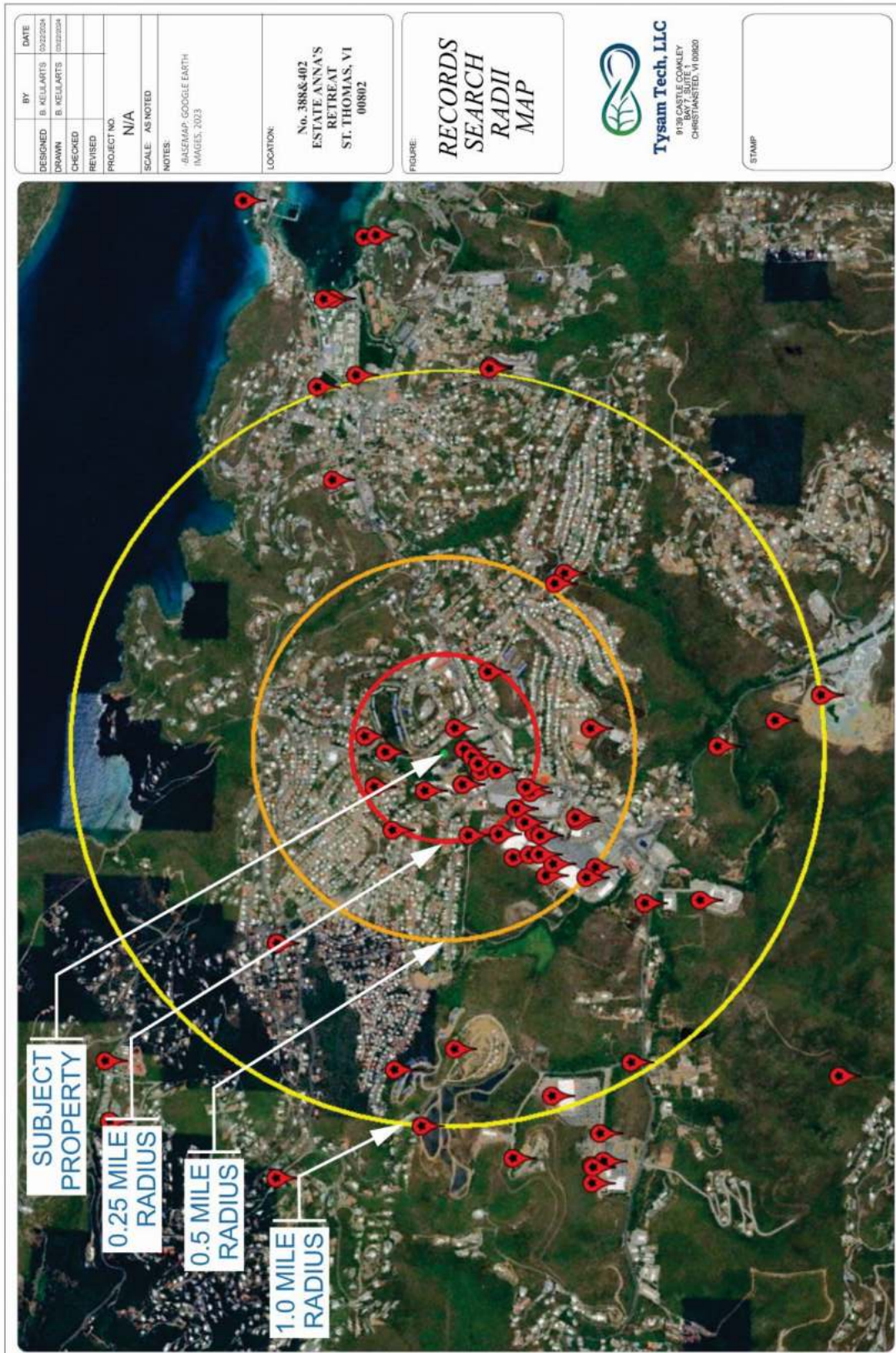
The R-3 zoned district permits Dwellings- Attached, Detached, Group, Multiple, Semidetached, Single-Family, Two-Family.

GOVERNING AUTHORITY:
Department of Planning and Natural Resources
Government of the U.S. Virgin Islands

Researched and Certified By: _____
Name: Leia LaPlace
Title: Territorial Planner
Date: February 12, 2024
Phone: 340-773-1082 ext. 2215
Email: leia.laplace@dpr.vi.gov



APPENDIX C – RECORDS SEARCH RADII MAP



APPENDIX D – SOIL SURVEY



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FsD	Fredriksdal-Susannaberg complex, 12 to 20 percent slopes, extremely stony	8.0	84.2%
FsE	Fredriksdal-Susannaberg complex, 20 to 40 percent slopes, extremely stony	1.5	15.5%
FsF	Fredriksdal-Susannaberg complex, 40 to 60 percent slopes, extremely stony	0.0	0.4%
Totals for Area of Interest		9.5	100.0%

Soil Map—Virgin Islands of the United States
 (388 & 402 Estate Anna's Retreat)

MAP LEGEND

- Area of Interest (AOI)**
- Area of Interest (AOI)
- Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features
- Water Features**
- Streams and Canals
- Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background**
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Virgin Islands of the United States
 Survey Area Data: Version 5, Sep 13, 2023

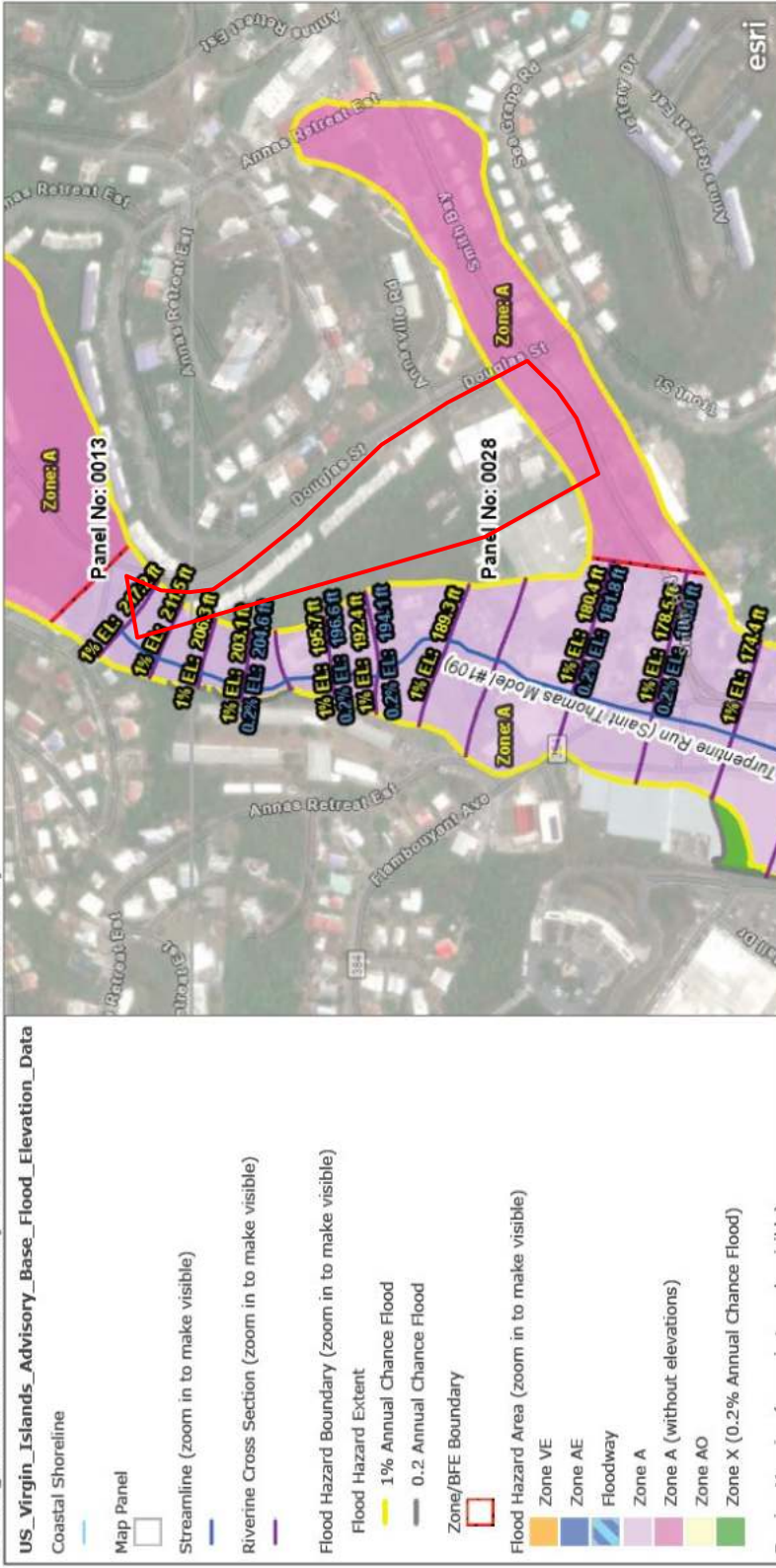
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 1, 2016—Feb 18, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

APPENDIX E – FLOOD INSURANCE RATE MAP (FIRM)

US Virgin Islands - Advisory Flood Hazard Resources Map



Updated flood hazard data available for recovery and rebuilding efforts in US Virgin Islands affected by Hurricane Maria and Irma

Maxar | Esri Community Maps Contributors, US Virgin Islands GIS Division, Esri, TomTom, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, NPS, US Census Bureau, USFWS | Vexcel Imaging | FEMA

APPENDIX F – GEOLOGIC MAPS

APPENDIX G – WELL RECORDS

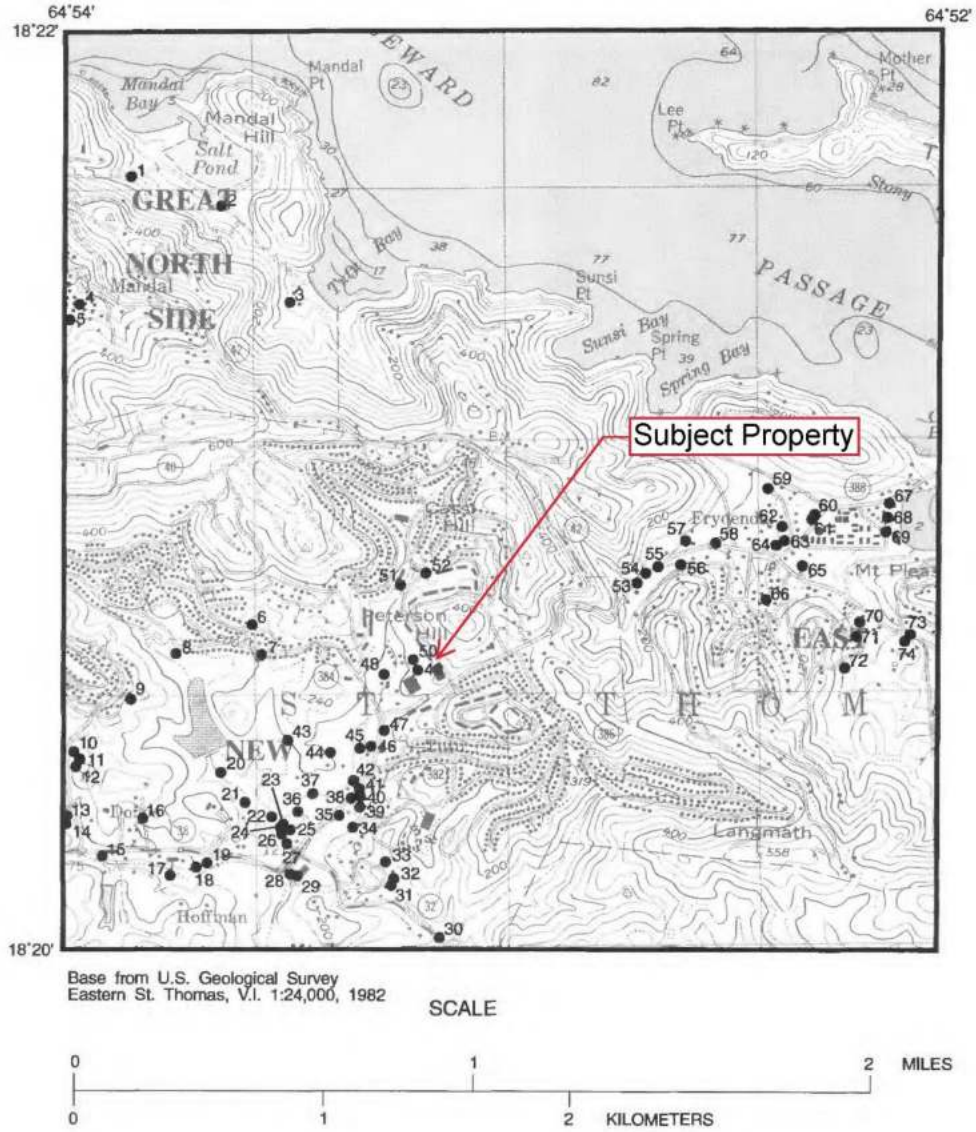


Figure 12. Location of wells on grid 10 of figure 1. The well numbers shown on this figure correspond to the well numbers which begin with 10- in table 8 and appendixes A and B.

Table 8. Description of wells located on figure 12
 [C, commercial well; D, domestic well; IS, institutional well; NU, well not in use; --, indicates data not available]

Well number on figure 12	Well name	Use of water	Year constructed	Reported depth of well (feet)	Measured depth of well (feet)	Casing diameter (inches)	Type of well	Land surface elevation of well (feet)	Depth to water below land datum (feet)	Date water level measured (month-day-year)	Yield (gallons per minute)
10-1	Mandahl Beach	NU	--	--	58	6	--	80	37	05-07-90	--
10-2	VI Government/Mandahl Beach	NU	--	--	10	102	--	20	8	05-04-90	--
10-3	V. Wallace	D	1986	45	--	6	sloated	30	--	--	reported yield 20
10-4	Peace Corps School	IS	1967	90	--	6	open hole 20-30	210	--	--	--
10-5	Mandahl Homestead well	NU	--	--	20	108	--	260	9	05-04-90	--
10-6	Demitry	--	--	300	--	6	--	231	--	--	--
10-7	Alpha Leonard	D	1977	70	--	6	open hole 44-70	205	--	--	--
10-8	VI Government/near treatment plant	NU	1925	34	--	84	--	175	--	--	--
10-9	VI Government/Dunro 3	NU	--	400	--	6	open hole 20-400	235	62	10-24-90	--
10-10	K. Bryan 2	C	1978	140	--	6	open hole 48-140	220	15	05-04-90	--
10-11	K. Bryan 3	NU	1978	140	--	6	open hole 30-140	218	14	05-04-90	--
10-12	K. Bryan 1	C	1978	140	--	6	--	215	--	--	--
10-13	Sockhart 1	NU	1977	185	--	6	open hole 50-185	192	7	02-06-90	reported yield 15
10-14	Sockhart 2	NU	1977	145	--	6	open hole 38-145	192	5	02-06-90	reported yield 40
10-15	I. Kirkertarp	NU	1978	85	72	6	--	170	19	06-11-90	--
10-16	J. Baugh	NU	1967	120	--	6	open hole 18-120	200	33	02-23-90	reported yield 3
10-17	Pedersen	NU	--	--	9	--	--	150	2	06-11-90	--

Table 8. Description of wells located on figure 12--Continued
 [C, commercial well; D, domestic well; NU, well not in use; --, indicates data not available]

Well number on figure 12	Well name	Use of water	Year constructed	Reported depth of well (feet)	Measured depth of well (feet)	Casing diameter (inches)	Type of well	Land surface altitude of well (feet)	Depth to water level below land surface datum (feet)	Date water level measured (month-day-year)	Yield (gallons per minute)
10-18	A. Sharp	D	--	200	--	6	open hole 20-200	150	6	02-20-90	reported yield 15
10-17	Pedersen	M	--	--	9	--	--	150	2	06-11-90	--
10-18	A. Sharp	D	--	200	--	6	open hole 20-200	150	6	02-20-90	reported yield 15
10-19	E. Eglin	D	--	--	13	72	--	150	7	02-20-90	reported yield 4
10-20	Harbman dug well	NU	--	--	15	--	--	150	1	02-21-90	--
10-21	Harbman domestic well	D	1978	325	--	6	--	150	pumping water level 18	02-21-90	--
10-22	VITELCO	NU	--	--	131	6	--	137	17	05-08-90	--
10-23	Gassett Motors 1	--	--	--	--	--	--	135	--	--	--
10-24	Gassett Motors 2	NU	--	--	128	6	--	135	22	05-08-90	--
10-25	Rodriguez Auto 2	--	--	120	--	6	--	126	--	--	--
10-26	Rodriguez Auto 3	C	--	80	--	6	--	126	11	02-07-90	--
10-27	Rodriguez Auto 4	NU	1978	230	--	6	--	125	--	--	reported yield 15
10-28	Fort Mylner	NU	1978	18	--	133	--	120	--	--	--
10-29	Versailles Assoc.	NU	1965	40	--	6	--	130	--	--	--
10-30	Deisgarde	D	1965	70	--	6	--	70	--	--	--
10-31	Watches	D	1966	50	--	6	--	90	--	--	reported yield 30
10-32	L. Smith	D	--	--	--	6	--	90	--	--	--
10-33	C. Hodgr	D	1967	80	--	6	open hole 20-80	111	26	01-01-90	--

Table 8. Description of wells located on figure 12--Continued
 [C, commercial well; D, domestic well; NU, well not in use; --, indicates data not available]

Well number on figure 12	Well name	Use of water	Year cons-tructed	Reported depth of well (feet)	Measured depth of well (feet)	Casing diameter (inches)	Type of well	Land surface altitude of well datum (feet)	Depth to water level below land surface (feet)	Date water level measured (month-day-year)	Yield (gallons per minute)
10-34	E. Steep	D	1965	150	--	6	--	175	63	02-13-90	reported yield 8
10-35	O. Harvey	NU	1978	160	--	5	--	138	24	02-13-90	--
10-36	Hartman near Gassett Motors	NU	1976	325	80	6	open hole 36-325	130	21	08-16-90	reported yield 25
10-37	Crusker well	NU	1978	--	--	6	--	140	26	02-11-90	--
10-38	G. Eglin 1	C	1965	--	--	6	--	144	--	--	reported yield 60
10-39	G. Eglin 1	C	--	325	--	6	open hole 40-325	152	18	02-09-90	reported yield 60
10-40	G. Eglin 2	C	--	--	--	6	--	149	14	02-09-90	reported yield 60
10-41	Tom Cat Laundry	NU	--	--	--	--	--	160	--	--	--
10-42	VI Government/near Church of God So. Inness	NU	--	--	27	108	--	145	13	03-01-90	--
10-43	Hartman estate well USGS-25	--	1965	210	--	6	slotted 100-200	196	35	12-24-90	reported yield 30
10-44	Church of God So. Inness	NU	1981	255	--	6	--	200	--	--	reported yield 35
10-45	Four Winds Plaza 2	NU	1981	285	--	6	--	165	8	02-07-90	reported yield 5-10
10-46	Four Winds Plaza 1	NU	1981	305	--	6	open hole 30-305	166	12	02-07-90	reported yield 12
10-47	E. Tillet	NU	1963	100	--	6	open hole 15-100	186	22	02-23-90	reported yield 60

Table 8. Description of wells located on figure 12--Continued
 [C, commercial well; D, domestic well; PS, public-supply well; NU, well not in use; --, indicates data not available]

Well number on figure 12	Well name	Use of water	Year constructed	Reported depth of well (feet)	Measured depth of well (feet)	Casing diameter (inches)	Type of well	Land surface altitude of well datum (feet)	Depth to water level below land surface (feet)	Date water level measured (month-day-year)	Yield (gallons per minute)
10-48	Ramsey Motors	C	1978	105	--	6	open hole 65-105	180	9	02-23-90	reported yield 60
10-49	Virgin Islands Housing Authority 1	PS	1978	175	--	6	open hole 41-175	231	58	02-12-90	reported yield 48
10-50	Virgin Islands Housing Authority 2	NU	1977	150	--	6	open hole 57-150	235	61	03-12-90	reported yield 47
10-51	Virgin Islands Housing Authority 3	PS	1978	142	--	6	open hole 73-142	239	--	--	reported yield 44
10-52	Virgin Islands Housing Authority 4	NU	1978	140	176	6	open hole 69-140	278	41	02-13-90	reported yield 46
10-53	C. F. Rosenberg - DRGS-2	C,D	1963	120	--	6	open hole 21-120	95	20	03-01-90	reported yield 5
10-54	Super Pool Restaurant	C	1968	110	--	6	open hole 60-110	90	pumping water level 32	02-22-90	--
10-55	Smith Bay Center	C	1987	150	--	6	--	85	--	--	--
10-56	A. Levia	D	1966	110	--	6	--	80	42	03-01-90	--
10-57	O. Pilgrim	D	1967	80	--	6	slotted 40-80	70	39	02-22-90	reported yield 45
10-58	Pat Man's/C. Husband	D,C	1985	80	--	6	slotted 35-75	40	27	02-22-90	reported yield 10
10-59	R. Mercer	NU	--	--	54	6	--	40	30	04-12-90	--
10-60	Stouffer Grand Beach Hotel A	C	--	--	--	5	--	15	--	--	measured yield 16
10-61	Stouffer Grand Beach Hotel B	C	1985	100	--	6	screened 70-90	15	--	--	reported yield 35-40

Table 8. Description of wells located on figure 12--Continued
 [C, commercial well; D, domestic well; NU, well not in use; --, indicates data not available]

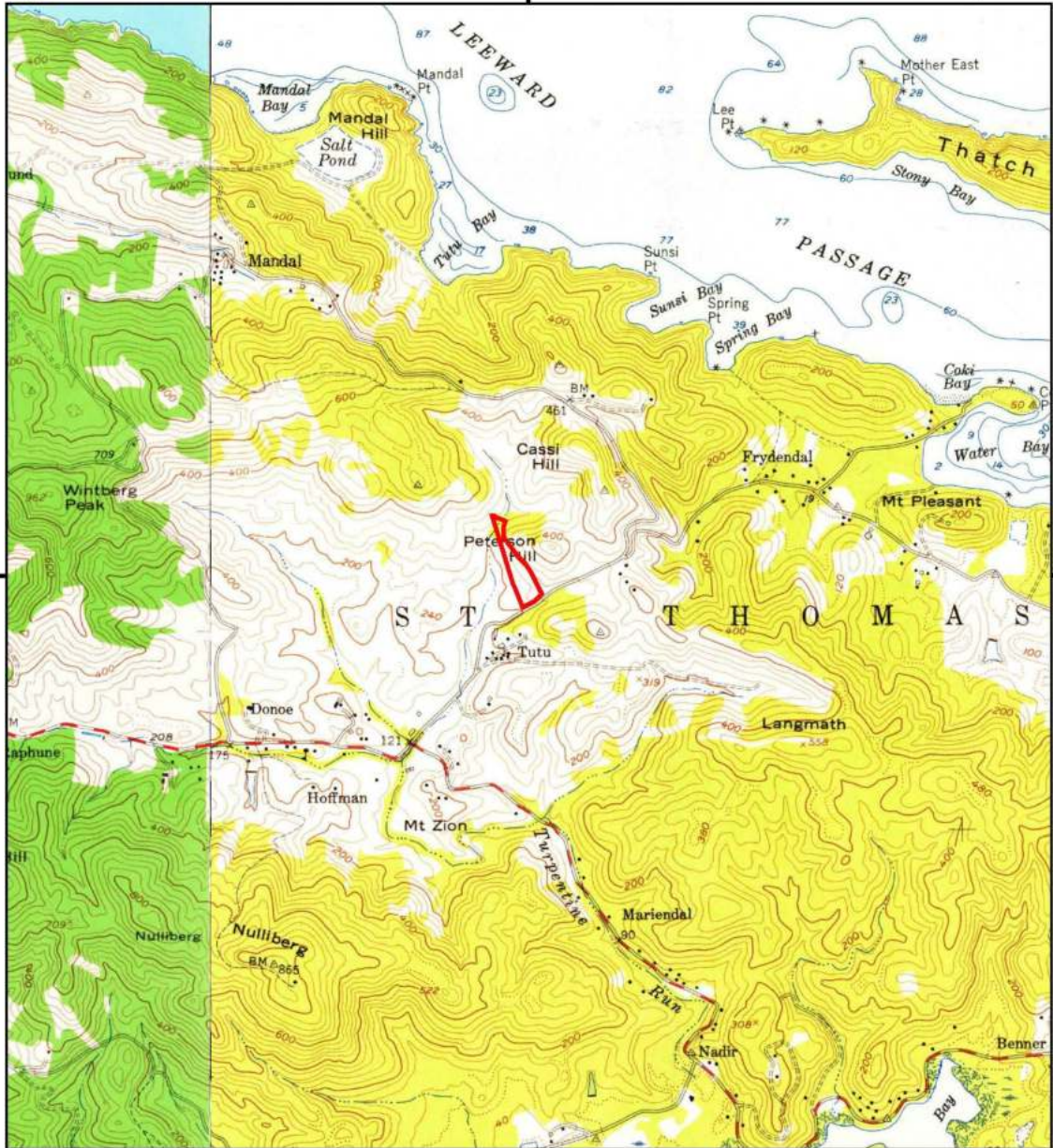
Well number on figure 12	Well name	Use of water	Year constructed	Reported depth of well (feet)	Measured depth of well (feet)	Casing diameter (inches)	Type of well finish and interval (feet)	Land surface altitude of well (feet)	Depth to water below land surface datum (feet)	Date water level measured (month-day-year)	Yield (gallons per minute)
10-62	Leonard	NU	--	--	35	6	slotted 20-35	20	9	03-01-90	--
10-63	A. Leonard 2	D	1988	140	--	6	open hole 100-140	20	11	02-22-90	--
10-64	A. Leonard 1	NU	1964	30	25	4	slotted 10-30	20	10	02-22-90	--
10-65	S & S Service	C	--	--	--	8	--	20	--	--	--
10-66	E. Francis	NU	--	70	--	6	--	30	34	10-10-90	--
10-67	Stouffer Grand Beach Hotel C	C	1985	--	--	6	--	4	--	--	reported yield 60
10-68	Stouffer Grand Beach Hotel D	NU	1985	--	--	6	--	4	--	--	--
10-69	Stouffer Grand Beach Hotel E	C	1985	--	--	6	--	4	--	--	reported yield 40
10-70	Martin	D	1972	59	--	6	--	20	24	05-25-90	--
10-71	Lindquist/VI Government	NU	--	--	29	120	--	25	19	04-13-90	--
10-72	Sprauve	C	1977	73	--	6	--	40	51	06-18-90	--
10-73	Point Pleasant Resort 1	C	--	--	--	6	--	20	41	04-13-90	measured yield 8
10-74	Johnson	D	1977	100	--	6	--	20	pumping water level 41	06-01-90	--

APPENDIX H – CADASTRAL SURVEY MAP

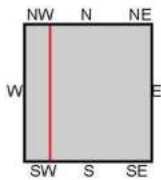
*To Be Included
Pending Receipt from Cadastral*

APPENDIX I – TOPOGRAPHIC SITE MAPS

EDR[®] **Historical Topo Map** 1954, 1955



This report includes information from the following map sheet(s).



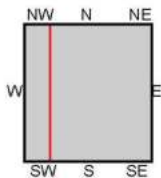
TP, Eastern St. Thomas, 1954, 7.5-minute
 W, Central St. Thomas, 1955, 7.5-minute

SITE NAME: 388A & 402 Estate Annas Retreat
 ADDRESS: 388A & 402 Estate Annas Retreat
 St Thomas, VI 00802
 CLIENT: Tysam Tech, LLC





This report includes information from the following map sheet(s).



TP, Eastern St. Thomas, 1982, 7.5-minute
 W, Central St. Thomas, 1982, 7.5-minute

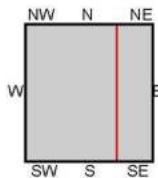
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 St Thomas, VI 00802
 CLIENT: Tysam Tech, LLC



EDR[®] **Historical Topo Map** 2013



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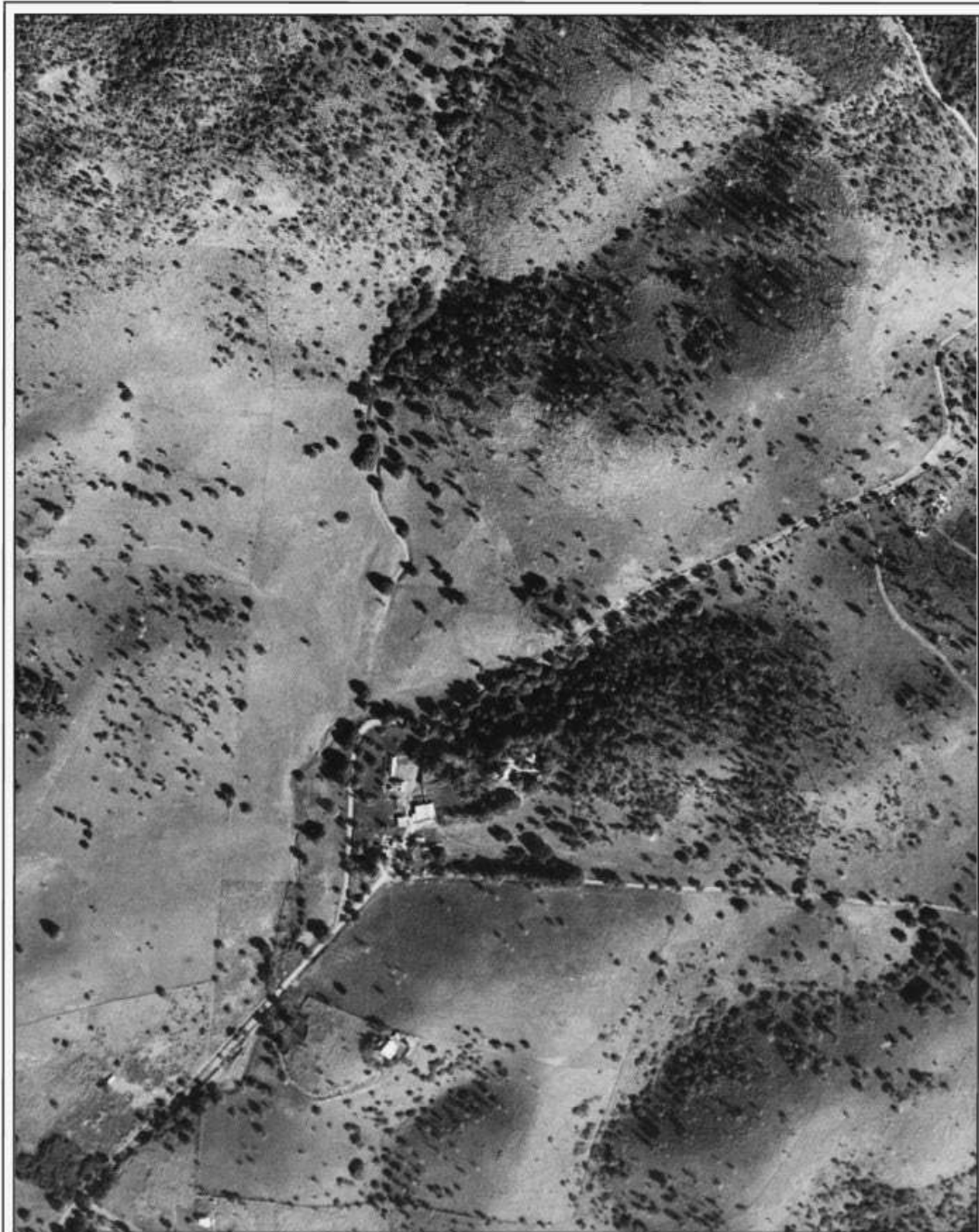


TP, Charlotte Amalie, 2013, 7.5-minute
 SE, Cruz Bay, 2013, 7.5-minute

SITE NAME: 388A & 402 Estate Annas Retreat
 ADDRESS: 388A & 402 Estate Annas Retreat
 St Thomas, VI 00802
 CLIENT: Tysam Tech, LLC



APPENDIX J – AERIAL PHOTOGRAPHS



AERIAL PHOTOGRAPH

YEAR

1954

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

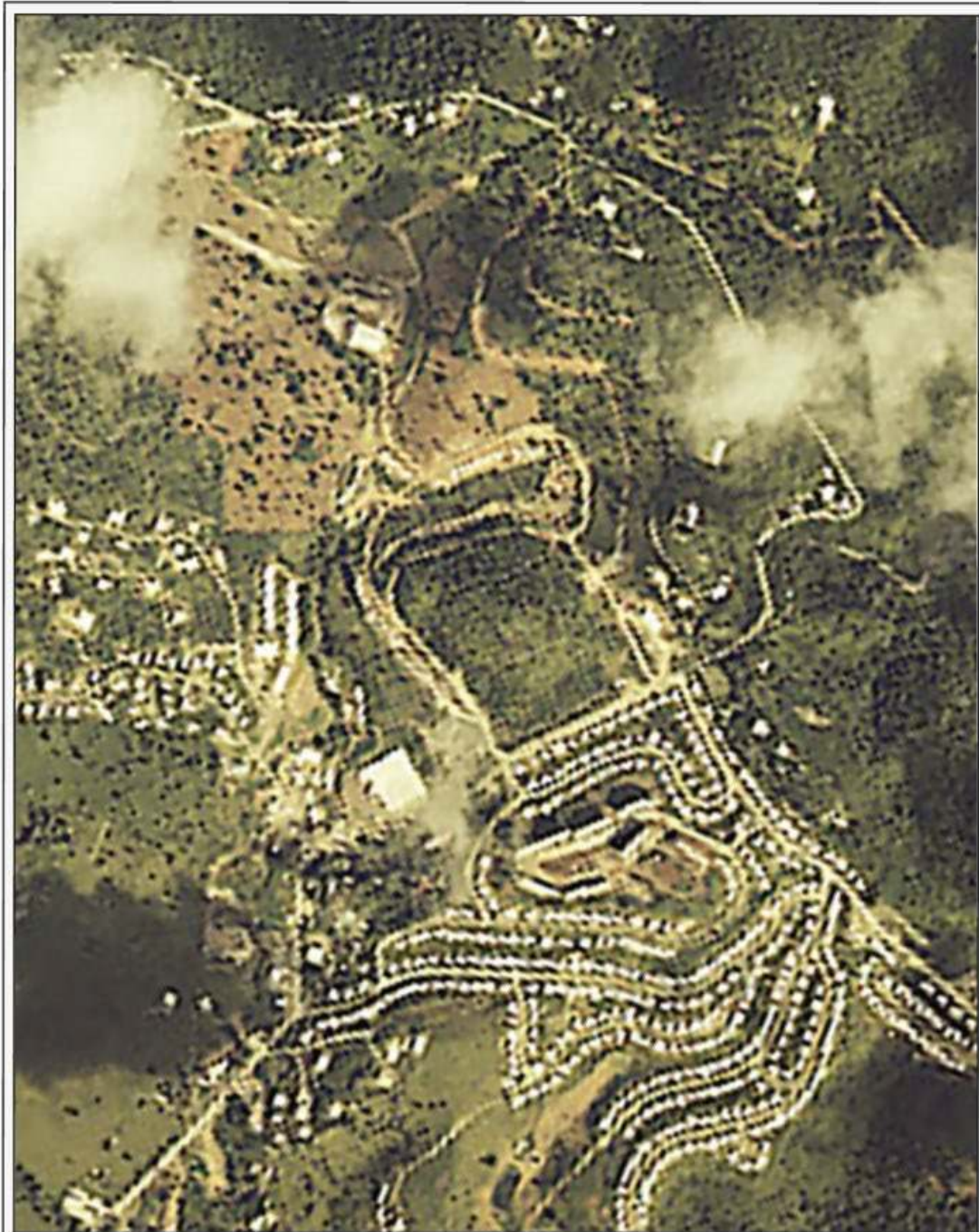
YEAR

1970

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

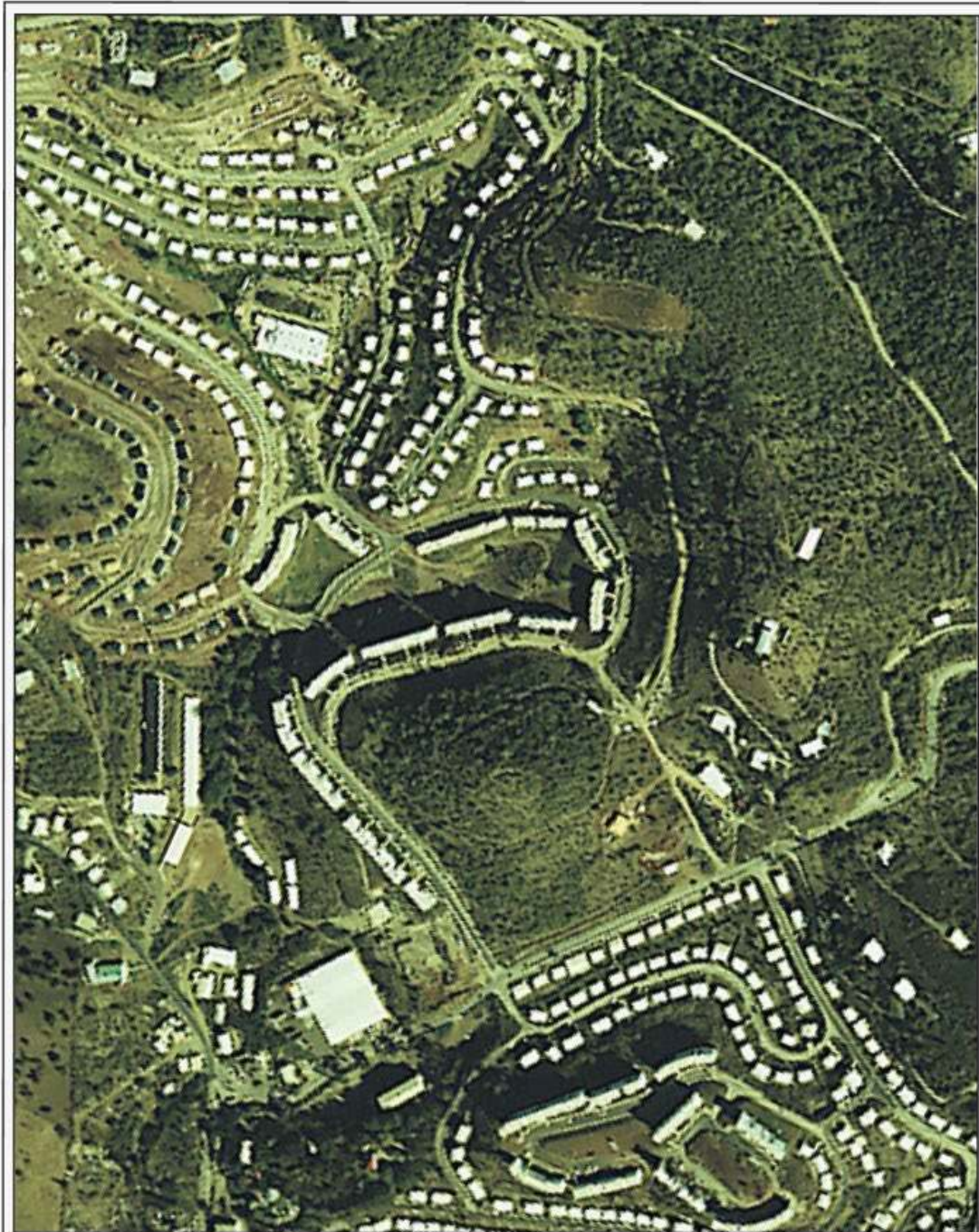
YEAR

1971

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

1974

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

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ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

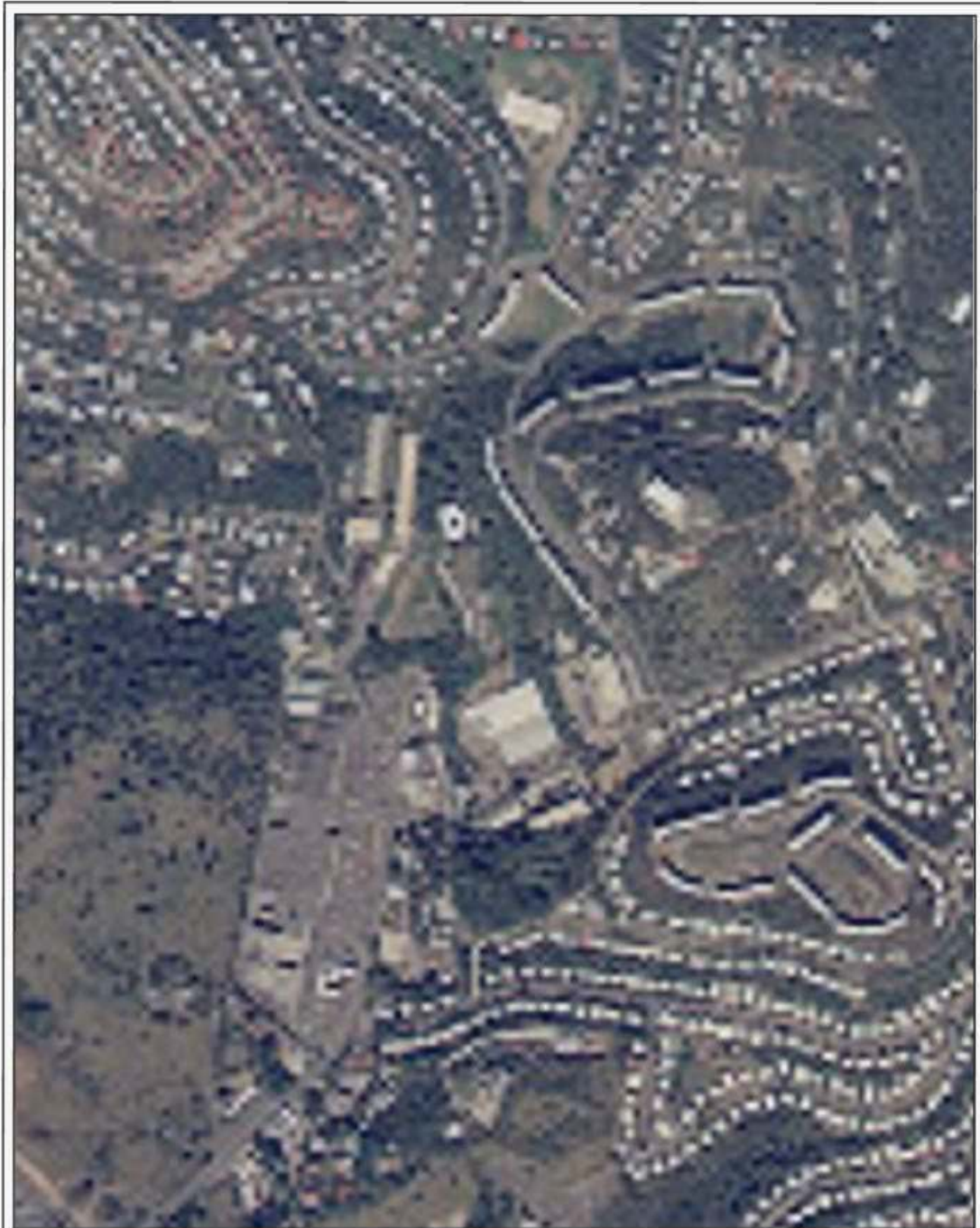
YEAR

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No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

1988

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

1992

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

1999

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

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No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



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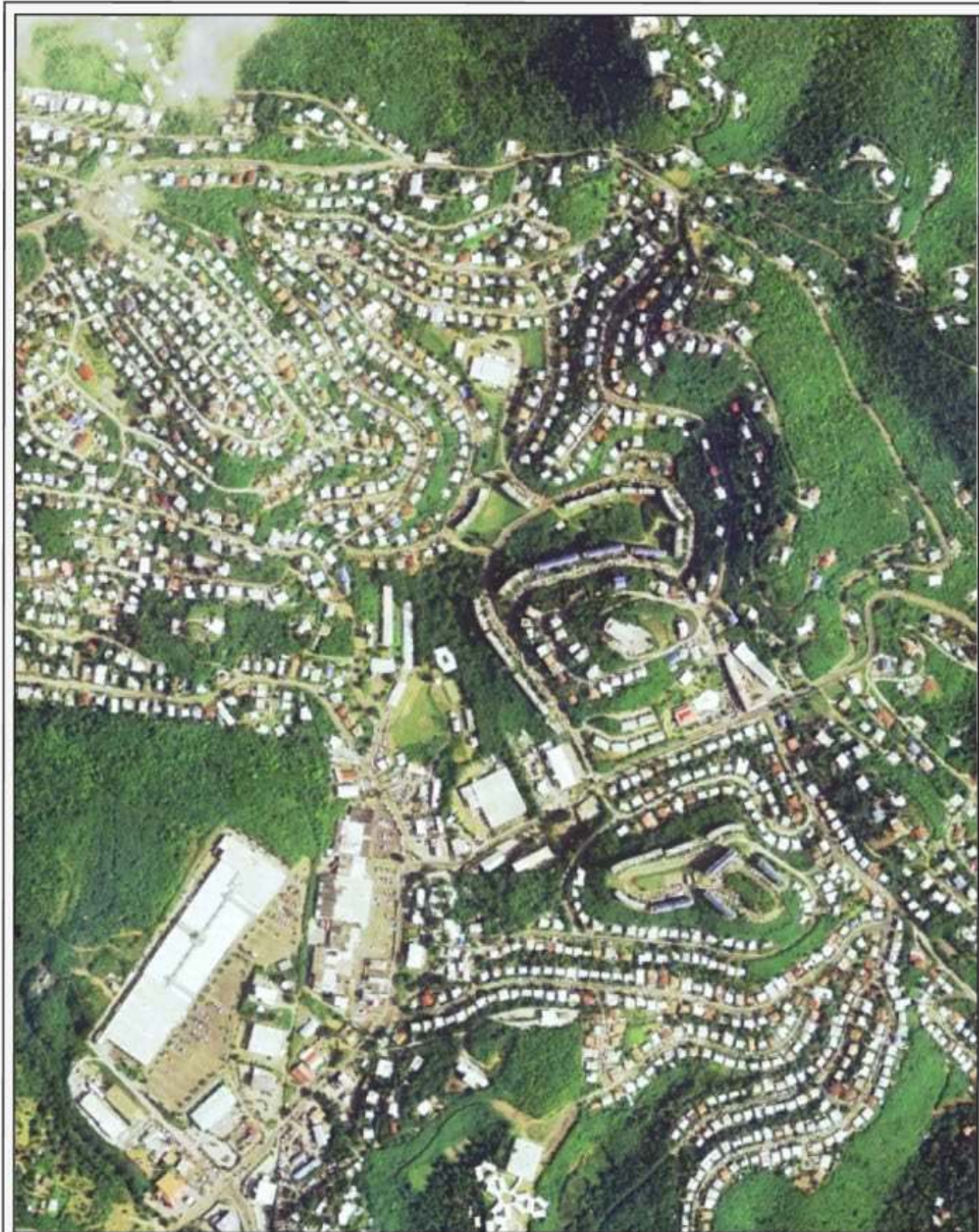
YEAR

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No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

2004

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

2006

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

2009

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

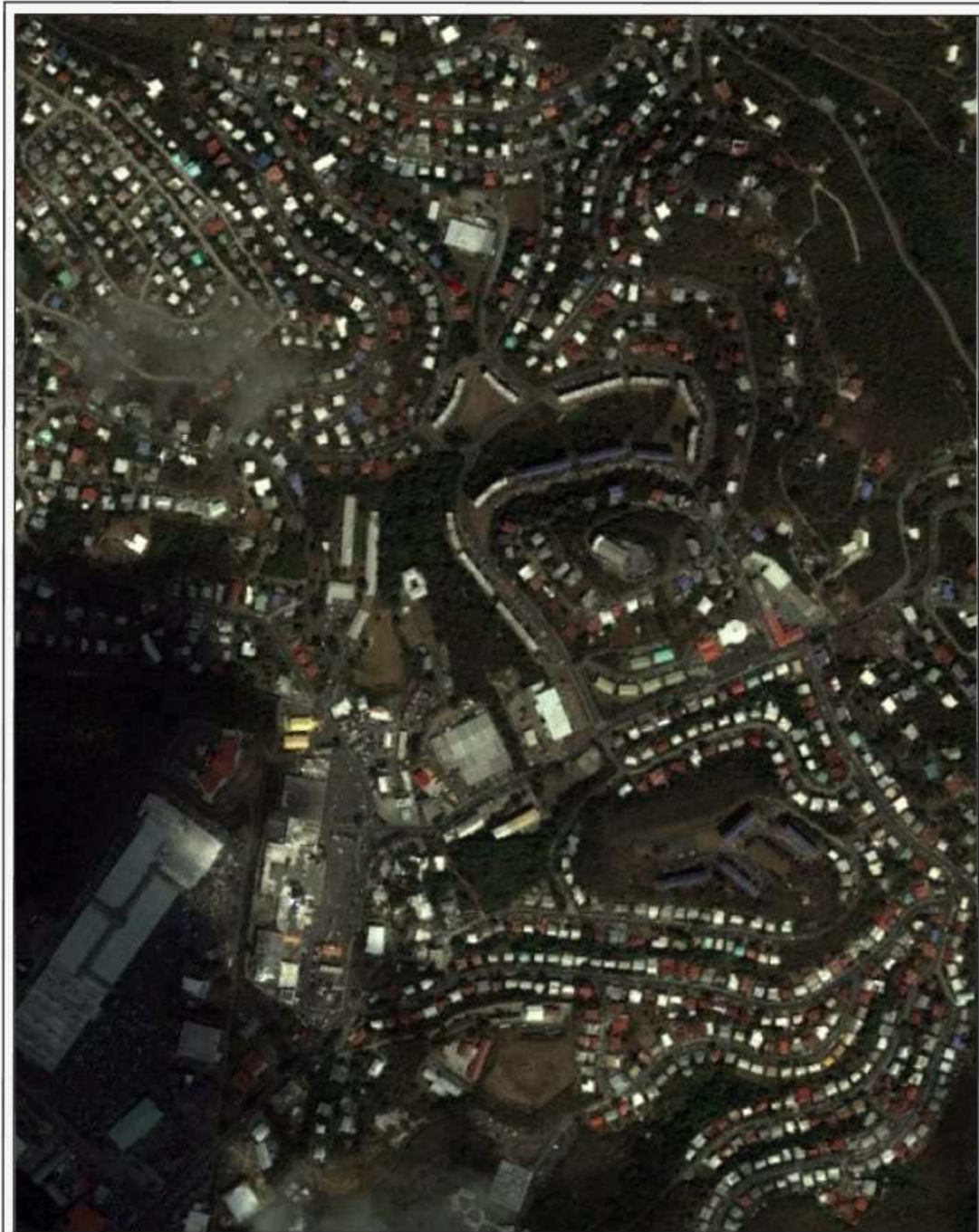
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ST. THOMAS, VI 00802



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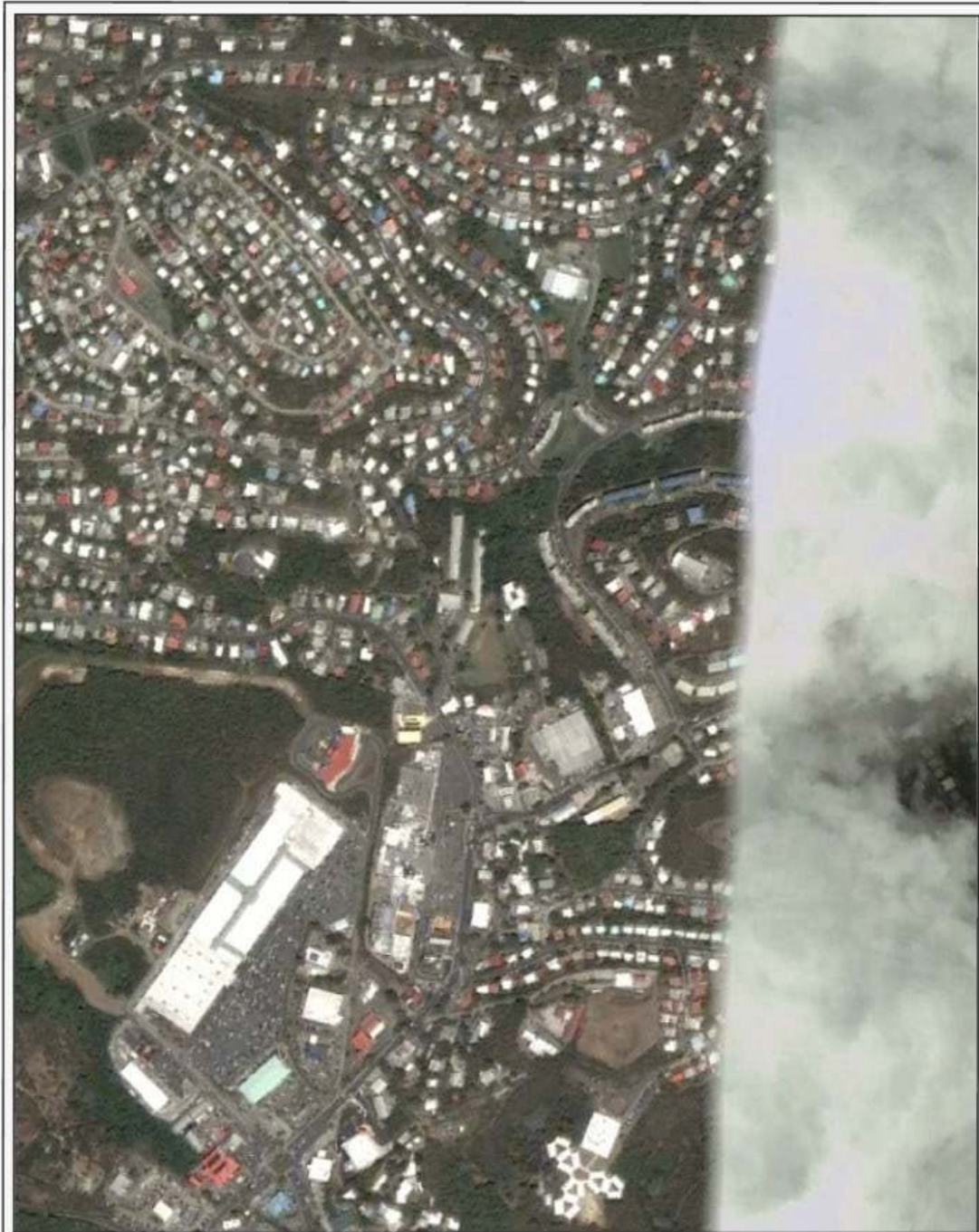
YEAR

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No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

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No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

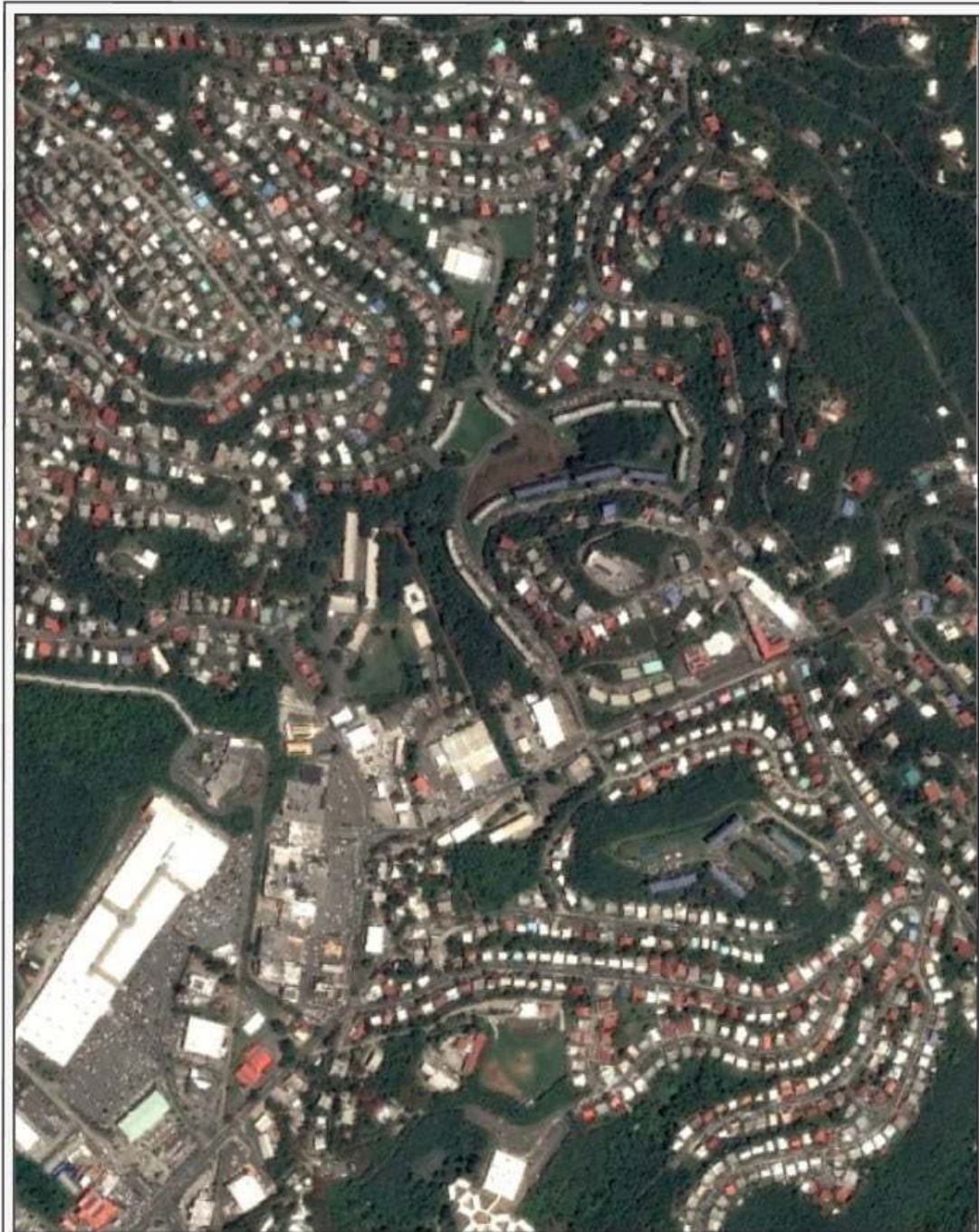
YEAR

2016

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



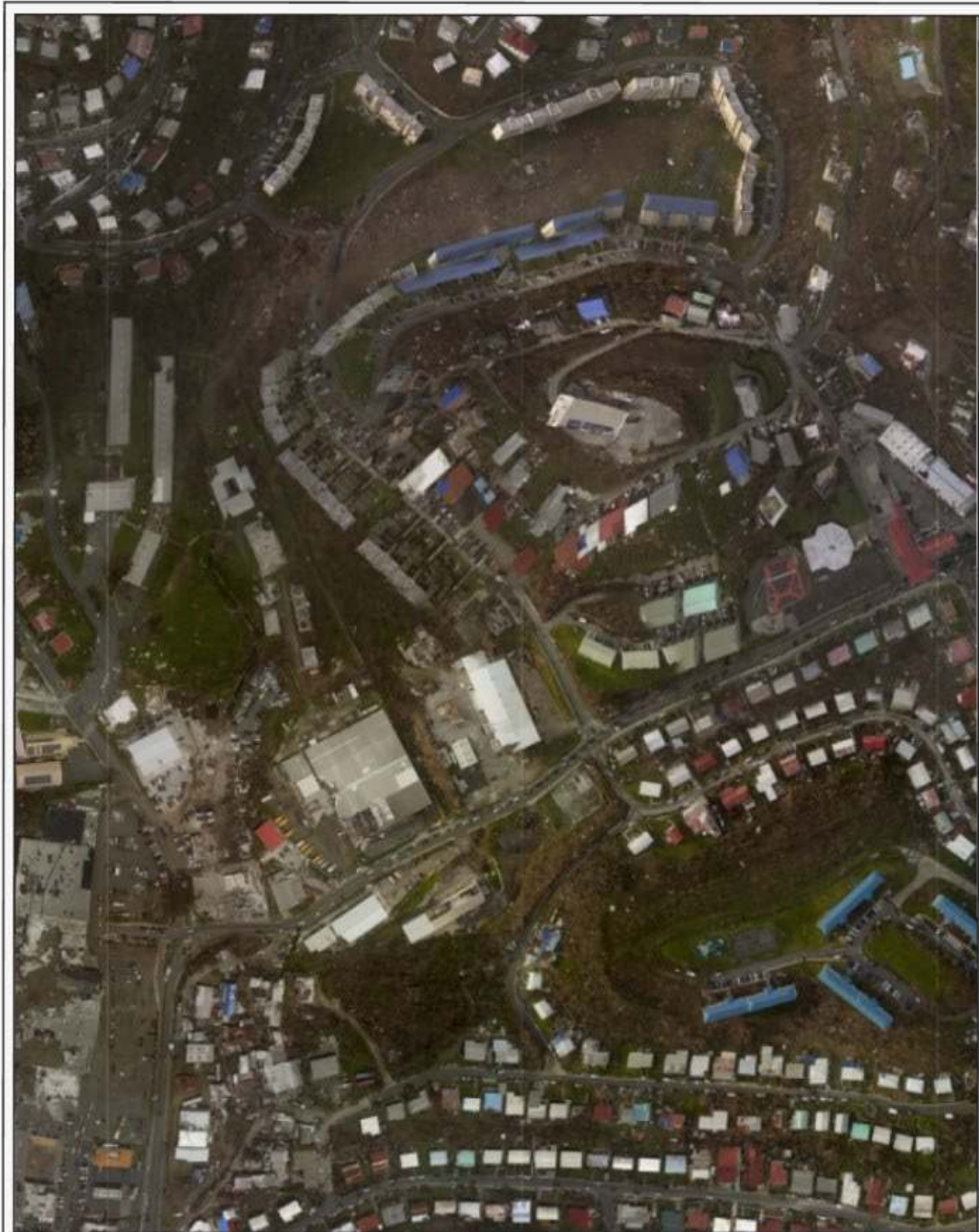
AERIAL PHOTOGRAPH

YEAR
AUG. 2017

**No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802**



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

SEPT. 2017

No. 388&402

**ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802**



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR
NOV. 2017

**No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802**



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

2018

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02

8.75"



AERIAL PHOTOGRAPH

YEAR

2019

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR

2020

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR
APR. 2021

**No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802**



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR
DEC. 2021

**No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802**




Tysam Tech, LLC

PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR
DEC. 2022

No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802



PROJECT No. 20231211-02



AERIAL PHOTOGRAPH

YEAR
DEC. 2023

**No. 388&402
ESTATE ANNA'S RETREAT
ST. THOMAS, VI 00802**



PROJECT No. 20231211-02

APPENDIX K – SITE INSPECTION PHOTOS AND FINDINGS



Subject Property, central office, facing North.



Subject Property, central office, facing Northeast.



Subject Property, maintenance building, facing Northwest.



Subject Property, former Senior Center residences, facing west.



Construction material, including treated plywood, staged outside.



Oil-filled small equipment staged outside at Subject Property.



Evidence of oil in small equipment, staged outside.



ABC fire extinguishers stockpiled outside at Subject Property.



Solar Water Heater Tanks and Panels stored in trailer.



Damaged materials stored in trailers.







5-gallon bucket containing petroleum product located outside on slab.



Petroleum staining around heavy equipment stored on slab.



<p>Chemical products, including hazardous chemicals (e.g. formaldehyde), stored onsite.</p>	<p>Petroleum mixed with water in open 5-gallon, with spilled material on concrete slab.</p>
	
<p>Suspected ACM material (floor tile).</p>	<p>Suspected PCB ballast for florescent light fixture.</p>
	
<p>Suspected ACM material (floor tile).</p>	<p>Suspected mold on floor and walls.</p>



Suspected ACM material (floor tile). Suspected PCB ballast in light fixture.



ABC Fire Extinguishers staged inside.



Electronic waste.



Electronic waste.



Vehicle Maintenance Pit with collected stormwater. No sheen or odor present to suspect contamination of water.



Sump/pit onsite with water. No sheen or odor present to suspect contamination of water.



Hazardous chemicals stored in 5-gallon buckets inside building.



Various chemicals, some hazardous, stored in maintenance shed.



Piles of construction debris (e.g. terracotta tile)



Used tires stored outside.



Used tires piled outside.



Used tires stored under trailers.



Suspected ACM material (floor tile).



Existing emergency generator for site. Electrical switch gear suspected to contain transformer oil.



Existing 5,000-gallon fuel tank. No secondary containment, unknown if double-walled. Suspected to contain diesel fuel of unknown quantity.



Suspected ACM material (floor tile).



Suspected ACM material (floor tile).



Suspected ACM material (ceiling tile).

APPENDIX L – INTERVIEW COMMUNICATIONS

USER INTERVIEW



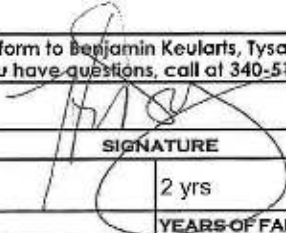
ESA PHASE I QUESTIONNAIRE

USER QUESTIONNAIRE

SUBJECT PROPERTY NAME:	388 & 402 ESTATE ANNA'S RETREAT		
SUBJECT PROPERTY ADDRESS:	388 & 402 ESTATE ANNA'S RETREAT, ST. THOMAS, 00802		
*IF ANY ANSWER TO QUESTIONS BELOW IS YES, PLEASE PROVIDE ADDITIONAL INFORMATION ON INCLUDED SHEET			
QUESTION	YES	NO	UNK
1. Have you ever performed a search of recorded land title records (or judicial records where appropriate) and identified any environmental liens filed or recorded against the property under federal, tribal, state or local law?		X	
2. Have you ever performed a search of recorded land title records (or judicial records where appropriate) and identified any Activity and Use Limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?		X	
3. Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		X	
4. Are you aware of any pending, threatened, or past litigation and/or administrative proceedings relevant to hazardous substances or petroleum products, in, on or from the subject property?		X	
5. Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?		X	
6. Do you know the past uses of the property?	X		
7. Do you know of any specific chemicals that are or once were present at the property?		X	
8. Do you know of any spills or chemical releases that have occurred at the property?		X	
9. Do you know of any environmental cleanups that have taken place at the property?		X	
10. Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of releases at the property?		X	
11. Is the property or has the property been used as a gas (he station, motor repair facility, commercial printing, dry cleaners, photo developing, landfill, industrial use, waste treatment or disposal facility?			X
12. Are you aware of fill dirt that has been brought onto the subject property that originated from a contaminated site or that is of an unknown origin?		X	
13. Are there currently, or to the best of your knowledge have there been previously, any registered or unregistered storage tanks (above or underground) located on the subject property?		X	
14. Are there existing or proposed stationary tanks containing explosive or fire-prone materials of 100 gallons or larger on the site or nearby the site?		X	
15. Are there any wells at the subject property, either for monitoring or water draw?			X
16a. Does the purchase price being paid for this property reasonably reflect the fair market value of the property?	X		
16b. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	X		
17. Has a title search been performed? If yes, please attach _____		X	
18. What type of property transaction is being performed? (e.g. sale, purchase, transfer, refinance)?	ground Lease		
Please submit the completed and signed form to Benjamin Keularts, Tysam Tech, LLC at benjamin.keularts@gmail.com or if you have questions call at 340-514-1888			
Harry Moody			2/20/24
PRINT NAME	SIGNATURE		DATE
Sr. Developer, Pennrose	2 yrs		
TITLE/COMPANY	YEARS OF FAMILIARITY WITH THE PROPERTY		



ESA PHASE I QUESTIONNAIRE


SUBJECT PROPERTY NAME:		388 & 402 ESTATE ANNA'S RETREAT	
SUBJECT PROPERTY ADDRESS:		388 & 402 ESTATE ANNA'S RETREAT, ST. THOMAS, 00802	
PLEASE PROVIDE ADDITIONAL INFORMATION BASED ON THE QUESTIONS MARKED "YES" ABOVE			
QUESTION NUMBER	ADDITIONAL DETAILS		
Please submit the completed and signed form to Benjamin Keularis, Tysam Tech, LLC at benjamin.keularis@gmail.com or if you have questions, call at 340-514-1888			
Harry Moody			2/20/24
PRINT NAME		SIGNATURE	DATE
Sr. Developer, Pennrose		2 yrs	
TITLE/COMPANY		YEARS OF FAMILIARITY WITH THE PROPERTY	

CURRENT OWNER INTERVIEW

ESA PHASE I QUESTIONNAIRE




CURRENT LANDOWNER QUESTIONNAIRE

SUBJECT PROPERTY NAME:	388 & 402 ESTATE ANNA'S RETREAT		
SUBJECT PROPERTY ADDRESS:	388 & 402 ESTATE ANNA'S RETREAT, ST. THOMAS, 00802		
*IF ANY ANSWER TO QUESTIONS BELOW IS YES, PLEASE PROVIDE ADDITIONAL INFORMATION ON INCLUDED SHEET			
QUESTION	YES	NO	UNK
1. Have you ever performed a search of recorded land title records (or judicial records where appropriate) and identified any environmental liens filed or recorded against the property under federal, tribal, state or local law?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Have you ever performed a search of recorded land title records (or judicial records where appropriate) and identified any Activity and Use Limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Are you aware of any pending, threatened, or past litigation and/or administrative proceedings relevant to hazardous substances or petroleum products, in, on or from the subject property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Do you know the past uses of the property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Do you know of any specific chemicals that are or once were present at the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Do you know of any spills or chemical releases that have occurred at the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Do you know of any environmental cleanups that have taken place at the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of releases at the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Is the property or has the property been used as a gasoline station, motor repair facility, commercial printing, dry cleaners, photo developing, landfill, industrial use, waste treatment or disposal facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are you aware of fill dirt that has been brought onto the subject property that originated from a contaminated site or that is of an unknown origin?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Are there currently, or to the best of your knowledge have there been previously, any registered or unregistered storage tanks (above or underground) located on the subject property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Are there existing or proposed stationary tanks containing explosive or fire-prone materials of 100 gallons or larger on the site or nearby the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. Are there any wells at the subject property, either for monitoring or water draw?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Is the subject property served by a private well and/or a private septic system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17. What year did you purchase the subject property?			
Please submit the completed and signed form to Benjamin Keularis, Tysam Tech, LLC at benjamin.keularis@gmail.com or if you have questions, call at 340-514-1888			
Lydia Pelle		3-22-2024	
PRINT NAME	SIGNATURE	DATE	
Chief Operating Officer/V.I Housing Authority			
TITLE/COMPANY	YEARS OF FAMILIARITY WITH THE PROPERTY		

ESA PHASE I QUESTIONNAIRE



SUBJECT PROPERTY NAME:		388 & 402 ESTATE ANNA'S RETREAT	
SUBJECT PROPERTY ADDRESS:		388 & 402 ESTATE ANNA'S RETREAT, ST. THOMAS, 00802	
PLEASE PROVIDE ADDITIONAL INFORMATION BASED ON THE QUESTIONS MARKED "YES" ABOVE			
QUESTION NUMBER	ADDITIONAL DETAILS		
6.	The subject property was used in the past as: 1. A Car Dealership 2. Cloth Dyeing Factory.		
11.	A portion of the Property was used in the past as a Motor Repair Facility.		
15.	There are two wells at the subject property and they are being monitored by the U.S. Environmental Protection Agency.		
Please submit the completed and signed form to Benjamin Keularts, Tysam Tech, LLC at benjamin.keularts@gmail.com or if you have questions, call at 340-514-1888			
Lydia Pelle		3.22.2024	
PRINT NAME	SIGNATURE	DATE	
Chief Operating Officer/V.I. Housing Authority			
TITLE/COMPANY		YEARS OF FAMILIARITY WITH THE PROPERTY	

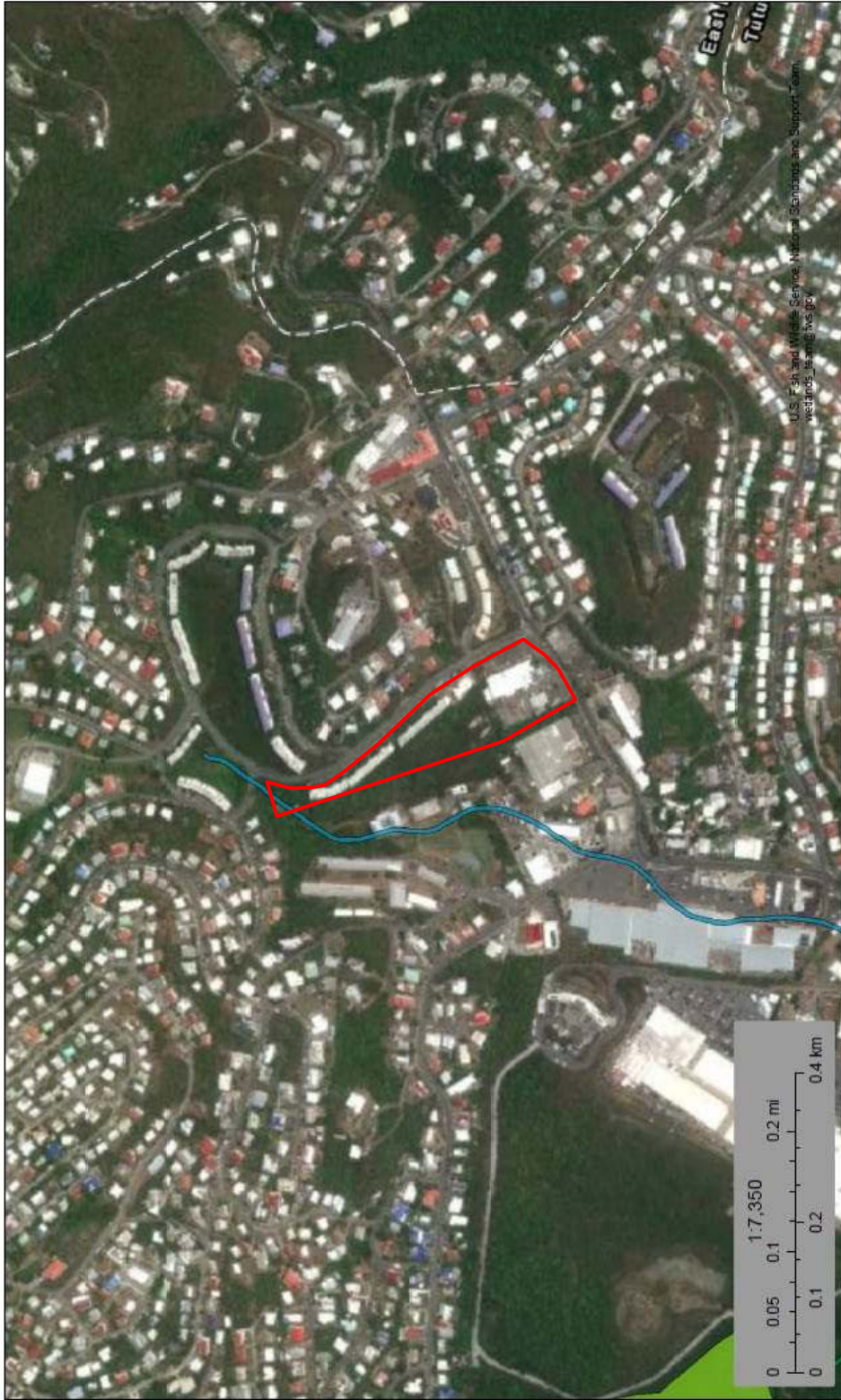
ADJACENT OWNERS' INTERVIEWS

Adjacent Owner	Years as Tenant/Owner	Summary of Interview
<p>Eleanor Jackson</p>	<p>30+</p>	<p>Mr. Marie has lived at the adjacent property, No. 394-386 Estate Anna's Retreat, for over 30 years. She states: Subject Property has been developed with the existing structures for as long as she has been living adjacent.</p> <p>She was aware of the demolition of the Senior Housing Units when it was done but has no concerns to the work done, or unusual findings to share.</p> <p>She has no Knowledge of the following on or near Subject Property:</p> <ul style="list-style-type: none"> Previous use of the Subject Property Prior Assessments or Reports Other Helpful Documents Pending, threatened, or past litigation Spills Fires Chemicals USTs, ASTs or other storage containers with unknown materials Sewage Issues Strong, Pungent or Noxious Odors Standing water, sumps, or other containers that may house Hazardous material or waste Pits, Ponds or Lagoons Stained Soil or Pavement Strained Vegetation
<p>Roland Knight</p>	<p>3+</p>	<p>Roland Knight has been a fire fighter at the Tutu Fire Station southwest of the Subject Property for several years. He states: Subject Property has been developed with the existing structures for as long as he has been working adjacent.</p> <p>He was aware of the demolition of the Senior Housing Units when it was done but has no concerns to the work done, or unusual findings to share.</p> <p>He has no Knowledge of the following on or near Subject Property:</p> <ul style="list-style-type: none"> Previous use of the Subject Property Prior Assessments or Reports Other Helpful Documents Pending, threatened, or past litigation Spills










		<p>Fires Chemicals USTs, ASTs or other storage containers with unknown materials Sewage Issues Strong, Pungent or Noxious Odors Standing water, sumps, or other containers that may house Hazardous material or waste Pits, Ponds or Lagoons Stained Soil or Pavement Strained Vegetation</p>
<p>Renee Hodge</p>	<p>4+</p>	<p>Renee Hodge has been the Principal of the St. Thomas/St. John Seventh Day Adventist School south of the Subject Property for a little over 4 years.</p> <p>She states: Subject Property has been developed with the existing structures for as long as she has been working adjacent.</p> <p>She was aware of the demolition of the Senior Housing Units when it was done but has no concerns to the work done, or unusual findings to share.</p> <p>She has no Knowledge of the following on or near Subject Property: Previous use of the Subject Property Prior Assessments or Reports Other Helpful Documents Pending, threatened, or past litigation Spills Fires Chemicals USTs, ASTs or other storage containers with unknown materials Sewage Issues Strong, Pungent or Noxious Odors Standing water, sumps, or other containers that may house Hazardous material or waste Pits, Ponds or Lagoons Stained Soil or Pavement Strained Vegetation</p>

APPENDIX M – NWI WETLANDS MAP

NWI Map - 388-A & 402 Estate Anna's Retreat



This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

- Wetlands**
-  Estuarine and Marine Deepwater
 -  Estuarine and Marine Wetland
 -  Estuarine and Marine Wetland
 -  Freshwater Emergent Wetland
 -  Freshwater Forested/Shrub Wetland
 -  Freshwater Pond
 -  Lake
 -  Other
 -  Riverine

National Wetlands Inventory (NWI)
 This page was produced by the NWI mapper

APPENDIX N – VEC BACKGROUND INFORMATION

IDENTIFICATION OF VEC

As noted in Section 5.1.2.1, Tysam Tech identified that a VEC exists for the Subject Property based on one (1) neighboring property (potential offsite source) of contamination within the AOC developed as part of an ASTM E2600-22 Tier 1 VES.

The source of contamination is detailed under Superfund Site Name "Tutu Wellfield", Site EPA ID No. VID982272569, listed 09/29/1995. A Remedial Investigation in 1995 identified a plume of groundwater contaminated with chlorinated volatile organic compounds (CVOC) and two plumes of groundwater contaminated with gasoline components (the Texaco and Esso plumes) that co-mingled with the CVOC plume. The CVOC plume originated at or near the VIDE Curriculum Center and extended beyond the former O'Henry Dry Cleaners building (potential secondary source), following an eastward path towards the discharge area of Turpentine Run (Geraghty & Miller, 1995).

The VIDE Curriculum Center is located on the immediate adjacent property to the Subject Property. It contains a number of monitoring and treatment wells, along with a large Groundwater Treatment Facility (GWTF1). The plume extends from this area on the Curriculum Center to the edge of the Subject Property. Additional monitoring wells exist on the Subject Property itself.

EPA and DPNR have managed these groundwater treatment systems and have been treating and testing the groundwater and contamination plume in the area since 1995.

Tysam Tech reviewed available public documents online, relating to correspondences, reports, findings and lab data prepared during the years from initial investigation, discovery and evaluation of the sources of contamination, as well as progress over the decades of remediation and cleanup efforts.

Based on the available data and evidence, as well as a Tier 1 Vapor Encroachment Screening (VES) performed in accordance with ASTM E2600-22, Tysam Tech has determined that a Vapor Encroachment Condition (VEC) exists for the Subject Property.

Further, based on this VEC, Tysam Tech has determined a REC exists for the Subject Property.

This Appendix provides summary information relating to the data and evidence used in the VES that determined a VEC exists for the Subject Property.

DETAILS OF DOCUMENT RESEARCH

The following are sections taken from referenced documents with summarized details of the NPL site, to provide context and background information of the extent of the condition and its potential effect on the Subject Property.

DOCUMENT 1:

Final Focused Source Feasibility Study: TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2
United States Environmental Protection Agency Work Assignment Number: 031-RICO-021D
Contract Number: EP-W-09-009 HDR, RAC 2 Program **March 2018**

The Tutu Wells Superfund Site (the Site) encompasses an area of approximately 1.5 square miles of the Tutu Valley in the Anna's Retreat section of St. Thomas, east of the city of Charlotte-Amalie. The Site is within the Upper Turpentine Run surface drainage basin, which covers approximately 2.3 square miles. The basin is oriented along a north-south axis and is bordered by steeply sloping hills. Turpentine Run is an intermittent stream that traverses the length of the basin from north to south. The original RI (Geraghty & Miller, 1995) identified a plume of groundwater contaminated with chlorinated volatile organic compounds (CVOC) and two plumes of groundwater contaminated with gasoline components (the Texaco and Esso plumes) that co-mingled with the CVOC plume. The CVOC plume originated at or near the VIDE Curriculum Center and extended beyond the former O'Henry Dry Cleaners building (potential secondary source), following an eastward path towards the discharge area of Turpentine Run.

The CVOC and petroleum sources are briefly described below:

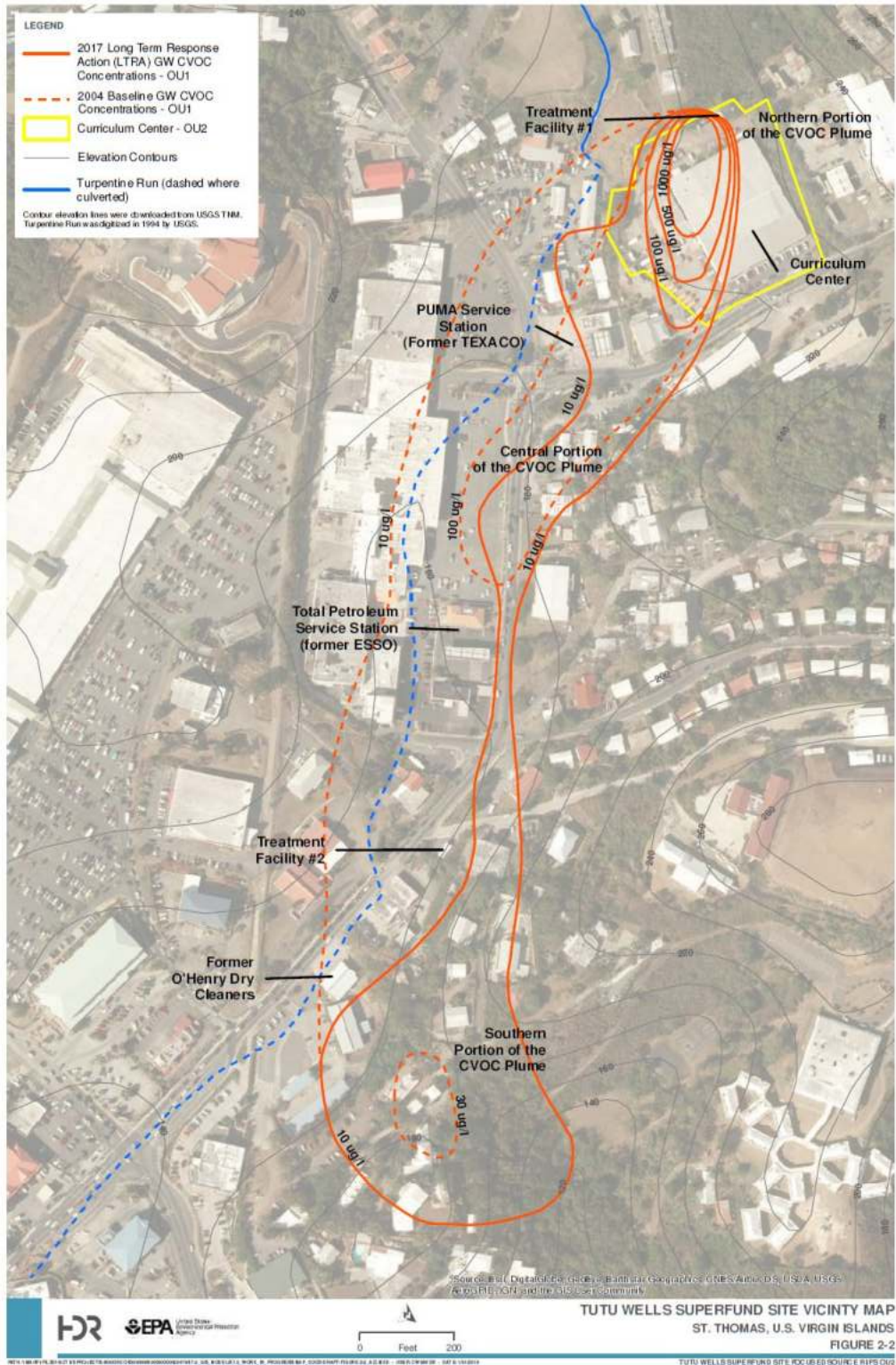
VIDE Curriculum Center (adjacent to Subject Property) – The northernmost (upgradient) source of CVOC groundwater contamination is located on the Curriculum Center property and is currently owned and operated by the VIDE. The Curriculum Center building, and property were previously occupied by LAGA Industries, Ltd. (LAGA). LAGA owned and operated a textile manufacturing plant at this location from 1971 to 1978. The plant included a dry-cleaning process that utilized tetrachloroethene (PCE) as the dry-cleaning solvent. The RI documented the presence of CVOC contaminants in the soils and groundwater at the Curriculum Center property. The Curriculum Center property is the focus of this OU2 FS.

Texaco Service Station (now Puma) – The RI documented the presence of benzene, toluene, ethylbenzene and xylene (BTEX) and other petroleum constituents in soil and groundwater at the Texaco Caribbean, Inc., (Texaco) service station. The Texaco station is located approximately 90 feet downgradient (southwest) of the Curriculum Center property (beyond the adjoining Tutu fire station). Historically, an automotive service station was also operated at the Texaco facility. This facility overlies the CVOC plume originating at the Curriculum Center.

Esso Service Station (now Total Petroleum) – The RI documented the presence of CVOC, BTEX, and other petroleum constituents in soil and groundwater at the Esso Standard Oil, U.S.A., Inc., (Esso) service station. The Esso station is located approximately 750 feet southwest (downgradient) of the Curriculum Center. An automotive service station also operated at the Esso facility.

O'Henry Dry Cleaners – The RI documented the presence of CVOC contaminants in soils at the O'Henry dry cleaning facility located approximately 1,300 feet south/southwest (downgradient) of the Curriculum Center. The O'Henry facility was in operation at the time of the original RI. Currently this facility does not overlap the current CVOC plume originating at the Curriculum Center, but it is within the historical footprint of the plume. The current land use surrounding the Tutu Wells Superfund Site and the Curriculum Center ranges from institutional and commercial to residential.

Figures 8-10 below show the 2017 plume where it originates from the Curriculum Center, the well layout and modeled contamination plume migration based on sample data.



Subject Property

Figure 8. Tutu Wellfield Contamination Plume in 2017, St. Thomas, USVI (Final Focused Source Feasibility Study, TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2, 2018)

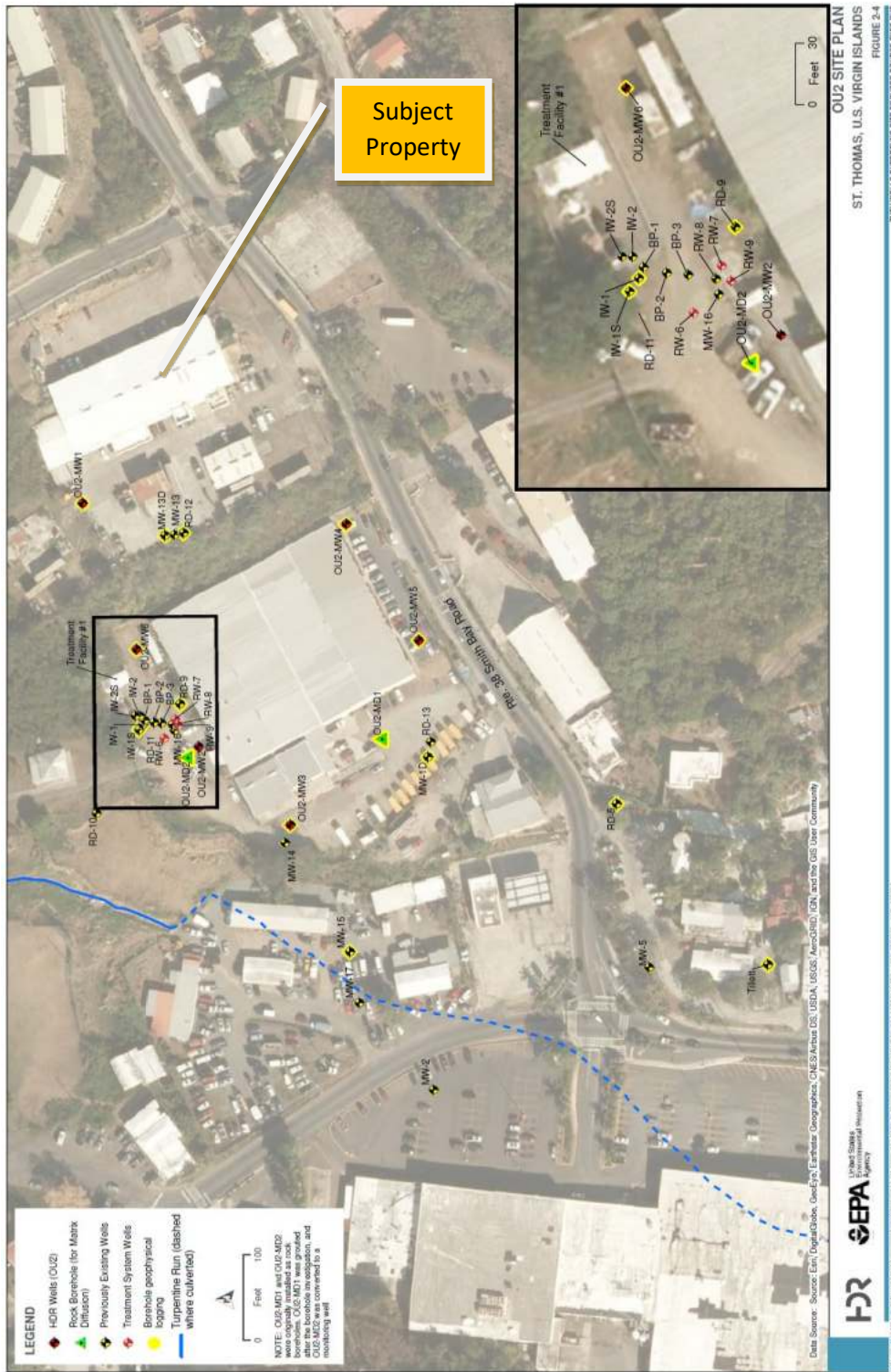


Figure 9. 2017 Curriculum Center and Surrounding Area Wellfield Well Locations, St. Thomas, USVI (Final Focused Source Feasibility Study, TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2, 2018)

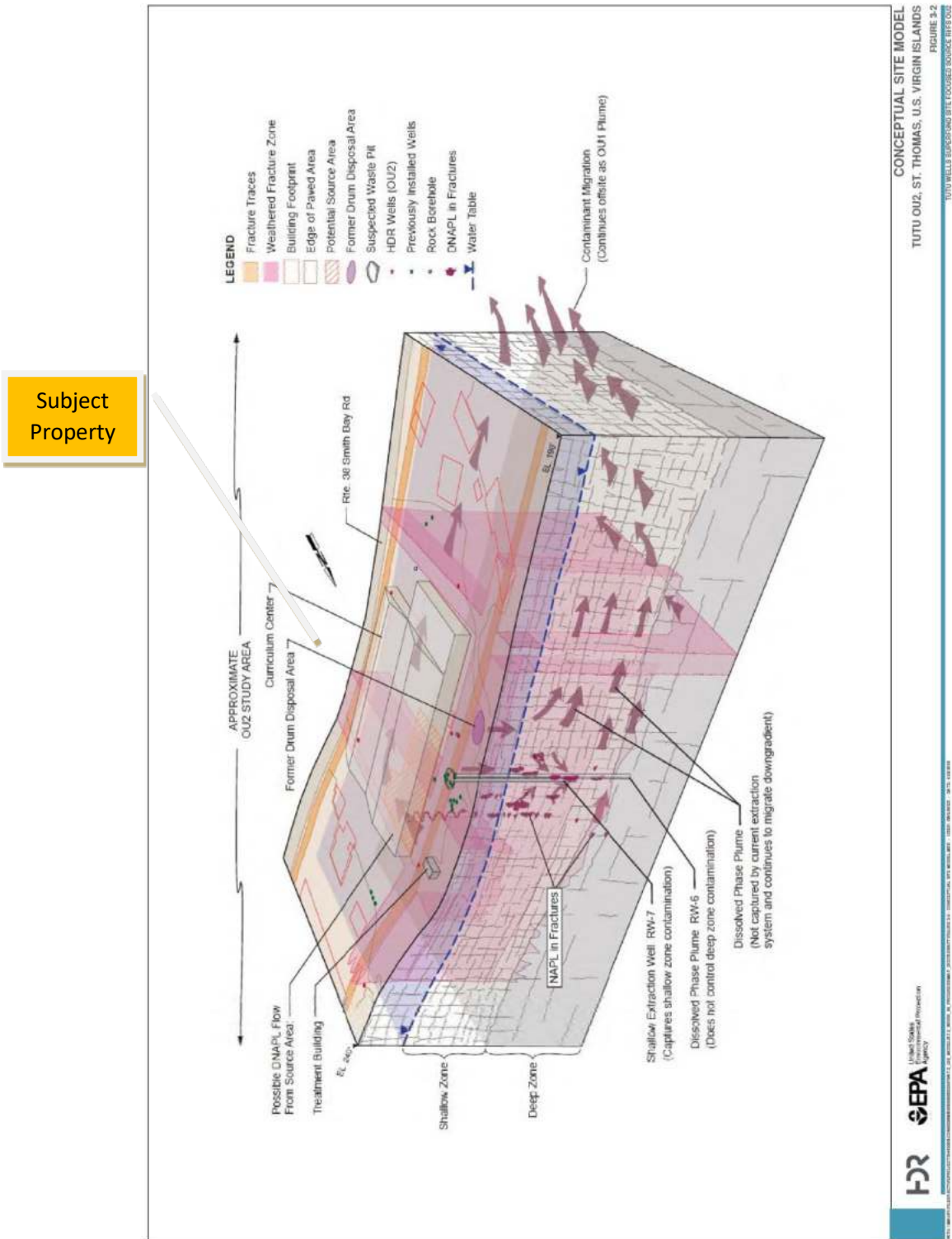


Figure 10. 2017 Curriculum Center and Surrounding Area Plume Migration, St. Thomas, USVI (Final Focused Source Feasibility Study, TUTU WELLS SUPERFUND SITE OPERABLE UNIT 2, 2018)

The following narrative summarizes investigations that have been performed at the Curriculum Center property and the Subject Property.

1982 Groundwater Sampling of Virgin Islands Housing Authority (VIHA) Well No. 1 Located at the Subject Property.

In 1982, Geraghty & Miller conducted an aquifer pumping test and water quality sampling of a supply well (VIHA #1) at the VIHA property to the northeast (upgradient) of the Curriculum Center (Geraghty & Miller 1995). A sample collected after five hours of pumping had concentrations of 12 micrograms per liter ($\mu\text{g/l}$) of cis-1,2-dichloroethene (cis-1,2-DCE), 55 $\mu\text{g/l}$ of PCE, and 10 $\mu\text{g/l}$ of trichloroethene (TCE). At the time, drinking water standards had not been established by EPA.

1987 EPA Well Sampling

Mr. Eric Tillett, owner of Tillett Gardens, contacted USVI Department of Planning and Natural Resources (DPNR) about an odor emanating from the water of his supply well, which is on the south side of Smith Bay Road, approximately 450 feet southwest of the Curriculum Center. DPNR requested help from the EPA and between July and October 1987, EPA collected groundwater samples from 26 wells and water samples from approximately 50 cisterns.

Twenty-four wells and five cisterns were found to be contaminated. Elevated concentrations of petroleum hydrocarbons and CVOCs were detected in the Tillett supply well; Subject Property's VIHA Well No. 1, located approximately 120 feet northeast of the Curriculum Center building; and four other supply wells. The Tillett supply well had total volatile organic compound (VOC) concentrations above 1,000 $\mu\text{g/l}$. Both the Tillett well and VIHA Well No. 1 were taken out of service, along with other contaminated commercial, institutional, and private wells (Weston, 1988).

1989 Preliminary Assessment

The EPA Field Investigation Team (FIT) contractor, NUS Corporation, conducted a Preliminary Assessment (PA) of the LAGA building in 1989 (NUS, 1989). The PA identified a drum disposal area located less than 100 feet to the northwest of the LAGA building. Twenty-two drums were in an area of thick brush. Several drums were on their sides, some were corroded, and at least one drum contained an unknown liquid.

1995 Phase II RI

A Phase II Remedial Investigation/Feasibility Study (RI/FS) was completed from May 1994 to 1995 by Geraghty & Miller at the Curriculum Center property on behalf of the Tutu Environmental Investigation Committee (Geraghty & Miller, 1995). Prior investigations completed by Geraghty & Miller from December 1989 until May 1993 (e.g., preliminary reconnaissance activities and field activities for the Tutu Service Station investigation) were subsequently referred to as the Phase I RI and were reported to the EPA in technical memoranda (Geraghty & Miller 1992a, 1992b, and 1993).

During the multi-phase Phase II RI, Geraghty & Miller collected groundwater samples from 51 monitoring wells and 15 supply wells in the Tutu Valley. The samples were analyzed for target compound list (TCL) organic compounds, target analyte list (TAL) inorganic substances, and various geochemical parameters.

The results showed a CVOC plume and two separate plumes of gasoline components (the Texaco and Esso plumes) that co-mingle with the northern portion of the CVOC plume. The CVOC plume starts at or near the VIDE Curriculum Center creating a $\frac{3}{4}$ -mile long plume. This plume is divided into a northern, central and southern portion. The data showed an additional CVOC source near the O'Henry Dry Cleaners building within the southern portion of the CVOC plume.

The CVOCs detected at Curriculum Center were cis-1,2-DCE, PCE, TCE, and vinyl chloride (VC). The highest concentrations detected were 2,100 $\mu\text{g/l}$ of cis-1,2-DCE, 1,300 $\mu\text{g/l}$ of VC, 360 $\mu\text{g/l}$ of PCE, and 78 $\mu\text{g/l}$ of TCE; all exceeded their respective Maximum Contaminant Levels (MCLs). Soil and groundwater at the former Texaco and Esso service stations were found to be impacted with BTEX and other petroleum hydrocarbon-related compounds). Historically, BTEX compounds have not exceeded MCLs in groundwater at the Curriculum Center (Geraghty & Miller, 1995).

In 1995, the northern portion of the CVOC plume (i.e., groundwater with concentrations above cleanup standards) extended 1,600 feet from the Curriculum Center to Four Winds Plaza. The plume was approximately 500 feet wide. The highest concentrations of total CVOCs, were observed in shallow zone monitoring wells near the northern source area at Curriculum Center. Groundwater at the Curriculum Center below a depth of 50 feet was not investigated during the RI. Monitoring well groundwater samples between Tillett Gardens and Four Winds Plaza contained 140 $\mu\text{g/l}$ of PCE, 100 $\mu\text{g/l}$ of cis-1,2-DCE, and 33 $\mu\text{g/l}$ of TCE. VOC concentrations in the southern part of the plume were higher in deeper monitoring wells than in shallow wells.

1995 EPA and DPNR Investigation

In March of 1995, EPA and USVI DPNR discovered oil (containing 30% PCE) in subslab piping beneath the Curriculum Center building. The piping was traced from the floor drains to a room that apparently held a PCE reclamation still. There was no evidence of leakage in the section of pipe investigated; however, the full extent of the piping and its integrity remained unknown. Soil samples contained from three to 180 micrograms per kilogram ($\mu\text{g/kg}$) of PCE at eight locations near the north-central side of the main building, in the vicinity of the former discharge pipe and former waste pit. TCE was detected in four soil samples at concentrations from one to 130 $\mu\text{g/kg}$. Although no samples were collected from beneath the building, it was suspected that higher concentrations of CVOCs might have been present in soil beneath the building or in the unsaturated bedrock.

BTEX and other petroleum-related compounds exceeded EPA's site-specific soil screening levels (SSLs) in two surface soil samples collected from the northern corner of Curriculum Center where a drain from the paint shop sink discharged to the ground. Benzene, toluene, total xylenes, and a number of naphthalenes and polycyclic aromatic hydrocarbons were present at high concentrations in these samples. Concentrations of both toluene and total xylenes exceeded their soil saturation limits of 289 milligrams per kilogram (mg/kg) and 168 mg/kg , indicating that residual saturation levels of non-aqueous phase liquid (NAPL) may have been present. One CVOC, 1,1,1-trichloroethane (TCA) also exceeded EPA SSLs in the sample that exhibited the highest toluene concentration.

The RI concluded that the elevated concentrations of CVOCs in groundwater adjacent to and immediately downgradient of the Curriculum Center indicated a high probability that PCE was present as DNAPL in the saturated or unsaturated bedrock.

2007 & 2011 Vapor Intrusion Investigations

EPA's Environmental Response Team (ERT) performed two investigations to characterize the potential for vapor intrusion into the Curriculum Center building. The investigations were performed in December 2007 and December 2011 (Lockheed Martin, 2008 and Lockheed Martin, 2012). Sub-slab vapor and indoor air samples were collected on both occasions.

The extent of soil vapor with elevated concentrations of PCE and TCE did not change noticeably between the two sampling rounds. All but one sample exceeded the soil vapor action level for PCE. The area of the highest sub-slab concentrations was found in the warehouse area located in the central portion of the Curriculum Center building and extends into the adjoining maintenance and office areas. The extent of TCE concentrations that exceeded action levels in soil vapor falls within the area of highest PCE concentrations.

LTRA Monitoring Results – Curriculum Center GWTF

Based on historical analytical data from LTRA monitoring between 2004 and 2017, CVOC concentrations in most wells in the vicinity of the Curriculum Center have decreased since the startup of the groundwater extraction and treatment facility in 2004 but have remained relatively unchanged for the past five to eight years. The data indicate that the Curriculum Center treatment facility is successfully removing contaminant mass and retarding the migration of a portion of the CVOC groundwater plume. However, the very high and stable CVOC concentrations over the past several years in the shallow zone just downgradient of the facility suggests that there is a continuing source of contamination at Curriculum Center that is not captured by the treatment facility.

2016-2017 FSRI Summary

Some of the PCE released on the north side of Curriculum Center or an unknown source of PCE DNAPL has not been reductively dechlorinated and migrates to the southeast through a bedrock deformation zone along the northeast side of Curriculum Center. Groundwater containing PCE migrates through the deformation zone into bedrock fractures that extend to the west-southwest on the southeast side of the Curriculum Center. Groundwater on the southeast side of Curriculum Center contains PCE at a concentration of 2.5 mg/l. A relatively small fraction of PCE degradation by-products were detected in groundwater in these fractures. This groundwater also migrates in a west-southwest direction down Tutu Valley.

DOCUMENT 2:

Third Five-Year Review Report for Tutu Wellfield Superfund Site St. Thomas, U.S. Virgin Islands. United States Environmental Protection Agency, **September 2019**

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The Site consists of two operable units (OUs). OU1 addresses Site-wide groundwater and will be addressed in this FYR. OU2 addresses source areas at the USVI Department of Education (VIDE) Curriculum Center property. OU2 was created after the second FYR concluded that while the OU1 remedy protects human health and the environment in the short term, in order for the remedy to be protective in the long-term additional evaluation of potential dense non-aqueous phase liquid (DNAPL) source areas in the Northern Plume area was needed. A Focused Source Remedial Investigation/ Feasibility Study for OU2 was completed in 2018. OU2 will not be addressed in this FYR because it does not yet have a Record of Decision (ROD).

Data Review

The Site has a plume of groundwater contaminated with CVOCs, which is divided into the Northern and Southern portions, and two plumes of groundwater contaminated with gasoline components (the Texaco and Esso plumes). The CVOC plume originated at or near the Curriculum Center and extended beyond the former O'Henry Dry Cleaners building (potential secondary source), following an eastward path towards the discharge area of Turpentine Run. The two CVOC groundwater plumes were previously comingled, but recent data indicate that there may now be two separate plumes. Contaminants in the Northern CVOC Plume migrate southwest from north of the Curriculum Center. This plume extends vertically from 15-30 feet bgs to about 80 feet bgs. Contaminants in the Southern CVOC Plume migrate southeast from the former O'Henry Dry Cleaners and along Turpentine Run.

Two Category 5 hurricanes, Irma and Maria, hit St. Thomas USVI and caused extensive damage to St. Thomas and the treatment facilities (GWTF #1 & GWTF #2). Efforts were made to prepare for the storms and protect process equipment; however, the initial impact, flooding, and lack of electricity followed by inconsistent voltage has left the systems inoperable since their shutdown on September 2nd 2017.

The following data table shows VCOC sample results for various wells around GWTF #1 and #2.

It indicates that MW-13D, on the west border of the Subject Property has been consistently low in CVOC concentrations, but showed some increase in 2012, and has hovered around the Potential Cleanup Standard to present, specifically for PCE.

DOCUMENT 3:

*Final Monitoring and Residential Well Sampling Report Tutu Wellfield Site St. Thomas, U. S. Virgin Islands SSID No.: 021D EPA ID No.: VID982272569 Superfund Technical Assessment & Response Team V, Weston Solutions, Inc., **January 2020***

On September 30, 2019 through October 7, 2019, the U.S. Environmental Protection Agency, Region II (EPA) Superfund and Emergency Management Division (SEMD) with support from Weston Solutions, Inc., Superfund Technical Assessment Team V (START V) conducted a monitoring and residential well sampling event as part of Technical Assistance activities at the Tutu Wellfield Site (the Site) located in St. Thomas, U.S. Virgin Islands (USVI). A total of 35 groundwater monitoring wells, one artesian well, and four residential wells situated downgradient from the Site were sampled during the event. The water samples collected were submitted to the assigned laboratory for analysis in order to verify that constituents related to the Site are not present in the water samples. In addition, EPA and START V installed passive diffusion bags (PDBs) in 10 select monitoring wells in order to evaluate its potential use for future sampling events.

Figure 11 below shows one of the monitoring wells on the Subject Property.



Photograph 11: EPA OSCs providing field support to START V personnel during pump setup for the sampling monitoring well MW-13D.

Figure 11. MW-13D on Subject Property, St. Thomas, USVI (Final Monitoring and Residential Well Sampling Report Tutu Wellfield Site, United States Environmental Protection Agency, January 2020)

Table 12 below shows test results from historical testing as well as samples taken before and after hurricane events. MW-13D was found to have PCE levels of 13 ug/L.

Table 4: Historical Comparison of Groundwater Analytical Data
 Prior to and After Hurricane Maria
 Turu Wellfield Site, St. Thomas, U.S. Virgin Islands

Area	Well ID	Total CVOC Concentration (µg/L)				Concentration (µg/L)				Concentration (µg/L)								
		Pre-Hurricane Maria		Post-Hurricane Maria		January 2018 - CVOC Breakdown		October 2019 - CVOC Breakdown		January 2018 - CVOC Breakdown		October 2019 - CVOC Breakdown						
		March 2004	April 2016	January 2017	January 2018	October 2019	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC		
Carricham Center/ Facility #1	MW-1D	701	160	113.9	85.94	NS	74.33	NS	74.33	NS	74.33	NS	74.33	NS	74.33	NS	74.33	NS
	MW-12D	0	4	4.91	4.1	NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS
	MW-14	11	6	9.6	39.1	NS	8.9	NS	8.9	NS	8.9	NS	8.9	NS	8.9	NS	8.9	NS
	MW-15	55	40	50	85.6	NS	53.4	NS	53.4	NS	53.4	NS	53.4	NS	53.4	NS	53.4	NS
	MW-2	11	11	0.43	1.88	NS	3.09	NS	3.09	NS	3.09	NS	3.09	NS	3.09	NS	3.09	NS
	MW-6D	31	3	3.68	13.32	NS	1.96	NS	1.96	NS	1.96	NS	1.96	NS	1.96	NS	1.96	NS
	MW-7	1	5	2.68	0.31	NS	5.82	NS	5.82	NS	5.82	NS	5.82	NS	5.82	NS	5.82	NS
	RD-13	780	511	340	368	NS	147.6	NS	147.6	NS	147.6	NS	147.6	NS	147.6	NS	147.6	NS
	RD-9	152020	601	237	2314	NS	47.5	NS	47.5	NS	47.5	NS	47.5	NS	47.5	NS	47.5	NS
	RD-5	204	37	21.9	27.5	NS	55.6	NS	55.6	NS	55.6	NS	55.6	NS	55.6	NS	55.6	NS
IT-6	165	30	16.7	23.1	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	
Filler	100	22	20.9	8.69	NS	27.6	NS	27.6	NS	27.6	NS	27.6	NS	27.6	NS	27.6	NS	
MW-10D	48	1.8	1.2	0.25	NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	
MW-25	26	3	2.42	3.6	NS	3.96	NS	3.96	NS	3.96	NS	3.96	NS	3.96	NS	3.96	NS	
MW-3					NS	14.269	NS	14.269	NS	14.269	NS	14.269	NS	14.269	NS	14.269	NS	
MW-8	44	4	2.87	2.14	NS	4.49	NS	4.49	NS	4.49	NS	4.49	NS	4.49	NS	4.49	NS	
MW-5					NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	
MW-15					NS	26.2	NS	26.2	NS	26.2	NS	26.2	NS	26.2	NS	26.2	NS	
MW-2					NS	23.97	NS	23.97	NS	23.97	NS	23.97	NS	23.97	NS	23.97	NS	
OU2-MD-2					NS	747.3	NS	747.3	NS	747.3	NS	747.3	NS	747.3	NS	747.3	NS	
OU2-MW-1					NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	
OU2-MW-2					NS	160.5	NS	160.5	NS	160.5	NS	160.5	NS	160.5	NS	160.5	NS	
OU2-MW-3					NS	668	NS	668	NS	668	NS	668	NS	668	NS	668	NS	
OU2-MW-4					NS	949	NS	949	NS	949	NS	949	NS	949	NS	949	NS	
OU2-MW-5					NS	308.6	NS	308.6	NS	308.6	NS	308.6	NS	308.6	NS	308.6	NS	
OU2-MW-6					NS	16.7	NS	16.7	NS	16.7	NS	16.7	NS	16.7	NS	16.7	NS	
DW-2	16	5	2.97	5.57	NS	13.5	NS	13.5	NS	13.5	NS	13.5	NS	13.5	NS	13.5	NS	
Eglin-3	33	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-11D	0	5	4.5	17.31	NS	10.5	NS	10.5	NS	10.5	NS	10.5	NS	10.5	NS	10.5	NS	
MW-12D	71	14	6.4	7.12	NS	18.9	NS	18.9	NS	18.9	NS	18.9	NS	18.9	NS	18.9	NS	
RD-7	74	3	3.68	5.98	NS	17.1	NS	17.1	NS	17.1	NS	17.1	NS	17.1	NS	17.1	NS	
Dixland	12	2	1.33	-	NS	1.32	NS	1.32	NS	1.32	NS	1.32	NS	1.32	NS	1.32	NS	
Laplace	24	4	5.4	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mabius	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-21D	72	20	13.21	29.45	NS	25.1	NS	25.1	NS	25.1	NS	25.1	NS	25.1	NS	25.1	NS	
RD-1	6	0.3	0.68	0.71	NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	
RD-2	1	0.7	0	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	
RD-3	4	0	0	1.6	NS	1.5	NS	1.5	NS	1.5	NS	1.5	NS	1.5	NS	1.5	NS	
RD-6	8	7	7.9	5.8	NS	5.69	NS	5.69	NS	5.69	NS	5.69	NS	5.69	NS	5.69	NS	
RD-8	14	0.6	0	0.66	NS	0	NS	0	NS	0	NS	0	NS	0	NS	0	NS	
RD-14					NS	0.98	NS	0.98	NS	0.98	NS	0.98	NS	0.98	NS	0.98	NS	
RD-4	11	13	8.2	11.6	NS	21.9	NS	21.9	NS	21.9	NS	21.9	NS	21.9	NS	21.9	NS	
Smith					NS	4.4	NS	4.4	NS	4.4	NS	4.4	NS	4.4	NS	4.4	NS	
Steele	169	-	-	-	NS	7.9	NS	7.9	NS	7.9	NS	7.9	NS	7.9	NS	7.9	NS	

Notes:
 1. Non-detects were assumed to have a value of 0 µg/L.
 2. The Smith and Steele VOC samples were most likely mislabeled in April 2007. These wells will continue to be monitored to verify contaminant trends.
 3. Samples were not collected from the Eglin-3 well in April 2013 because the supply well pump was broken.
 4. The Steele well has not been sampled since April 2015 due to an inoperable well pump.
 5. The Steele and Eglin-3 wells have been removed from the list of wells to be sampled annually until well pumps are repaired.
 6. Samples were not collected at Dixland or Laplace during the 2018 sampling event. There was no power available and both well pumps were damaged in hurricanes Irma and Maria.
 7. Total CVOCs do not include values <1.0 with a J qualifier.
 8. NA - Not Applicable - Well has been destroyed.
 9. Hurricane Maria made landfall on Puerto Rico September 20, 2017.

Abbreviations:
 CVOCs - chlorinated volatile organic compounds
 DCE - dichloroethene
 ID - identification
 NS - not sampled
 TCE - trichloroethene
 PCE - perchloroethene
 VC - vinyl chloride
 µg/L - microgram per liter

Table 12. Groundwater Laboratory Analytical Results (2020 Residential Well Sampling Report)

DOCUMENT 4:

Record of Decision (ROD) Document, Operable Unit 2 Tutu Wellfield Superfund Site, St. Thomas, U.S. Virgin Islands, United States Environmental Protection Agency, September 2021

Operable Unit 2 (OU2) focuses on the source area of groundwater contamination located at what is referred to as the Curriculum Center property, located at 386 Smith Bay Road (Highway 38) in St. Thomas. The Curriculum Center property is occupied by a single-story building that formerly housed offices, maintenance shops, warehouse space, and walk-in freezers that supported the school district cafeterias. A paved parking lot is on the south side of the building, facing Smith Bay Road. An unpaved parking area and loading docks are located on the west side of the building. Additional parking areas are located on the north side of the building. The existing, northern groundwater treatment system that is part of the OU1 remedy at the Site is located on the north side of the building. The Curriculum Center building was condemned after sustaining extensive damage during Hurricanes Irma and Maria in 2017.

DOCUMENT 5:

TUTU WELLFIELD SUPERFUND SITE CLEANUP DESIGN INVESTIGATION, FACTSHEET, United States Environmental Protection Agency, October 2022

In October 2019, EPA sampled the groundwater to evaluate the extent of the contamination, including 40 monitoring and residential wells. In August 2022, EPA also sampled the groundwater at residential and monitoring wells.

2019 data showed very little decrease in contamination levels from previous years' data and data from August 2022 shows an actual increase in contamination levels near the source of the contamination. The recent contamination increase in levels near the contamination source corresponds with the period when the Department of Planning and Natural Resources' (DPNR) was not operating the current groundwater extraction and treatment system.

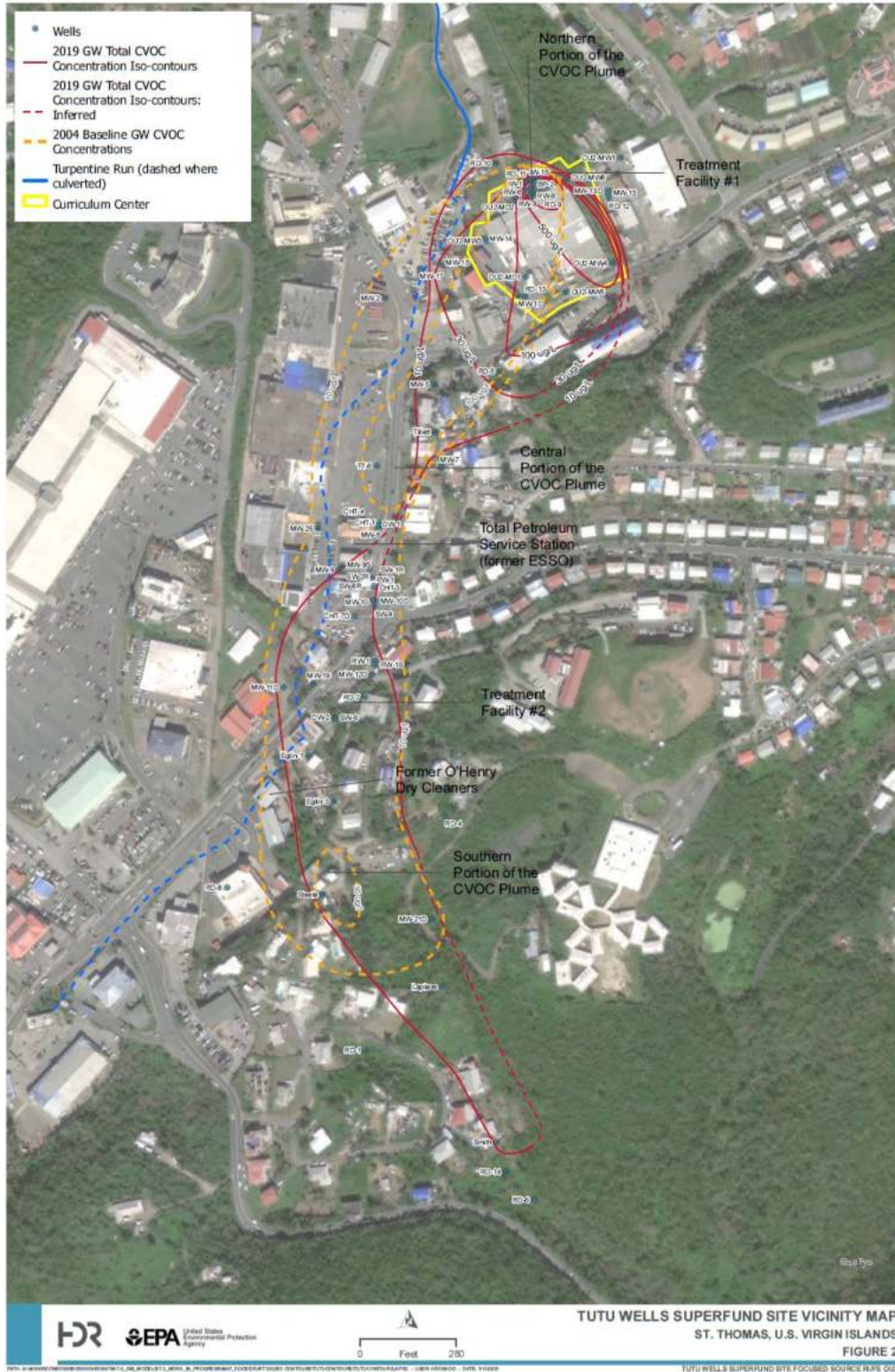


Figure 12. Tutu Wellfield Plume Change from 2004 to 2019, St. Thomas, USVI (Record of Decision (ROD) Document, United States Environmental Protection Agency, September 2021)

DETAILS OF VES & AOC DEVELOPMENT

Using information from the above documents, Tysam Tech performed a Tier 1 VES, evaluating and developing an AOC that was overlaid on EPA contamination plume maps.



Figure 13. Tier 1 VES AOC Estimation, St. Thomas, USVI (Basemap: Record of Decision (ROD) Document, United States Environmental Protection Agency, September 2021)

Based on this AOC and overlap with the most recent plume shape drawn from known groundwater contamination concentrations, it was determined that a VEC exists for the Subject Property.

APPENDIX O – ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS



Robert Wallace, PE

Project Engineer I

EDUCATION

- M.S. Civil Engineering, Brigham Young University, Provo, Utah, 2006
- B.S. Civil Engineering Technology & Geography (Dual Major) Old Dominion University, Norfolk Virginia

TRAINING & CERTIFICATIONS

- Licensed Professional Engineer
- 40-hr HAZWOPER
- RCRA Hazardous Waste Management
- DOT/IATA Hazardous Material Management
- Visible Emissions Evaluator (EPA Method 9)
- Level D Chemical/Physical Wastewater Operator
- ISO 14001:2015 Lead Auditor

KEY SKILLS

- Health and Safety
- Regulatory Compliance
- Audits
- Remediation
- Project Management
- Environmental Management Systems
- Sustainability Initiatives
- Regulatory Agency Interactions (USA, Mexico, Canada, and China)
- Training and Mentorship

MILITARY SERVICE

- United States Naval Reserve (NAVSEA NW, Puget Sound Naval Shipyard) Rank: LT (O-3) 2015-Present

Summary

Experienced Environmental Engineer in environmental mitigation on multi-million-dollar projects. Create and ensure comprehensive environmental management plans that provide solutions to meet objectives.

Relevant Experience

Tysam Tech, LLC-Independent Contractor *Environmental Engineer I*

**St. Croix, USVI
 2018-Present**

Providing Tysam Tech Clients with Project Management, Compliance Assistance and Consulting, Project Design support, and other tasks to ensure compliance and/or progress in development project.

Primary Duties:

- Provide Flood permit preparation for review and stamp approval
- Assist in providing project and environmental site review as well as permit development and Environmental Assessment Review (EAR) development.
- Assist in inspection of active sites, including construction, industrial and commercial to ensure operations are in line with environmental regulations.
- Assist in development of professional environmental documents such as Phase 1 and Phase 2 Environmental Site Assessments (ESA) in accordance with ASTM E1527-21.

Milliken & Company *Environmental Manager*

**Greenville, SC
 December 2017-Present**

Impact Award recipient for efforts in reconciling material balance gap of methanol. Capital planning-oriented role in capturing and diverting fugitive emissions by collectively working with processor engineers to identify and quantify methanol air emission sources.

Primary Duties:

- Manage and ensure NPDES compliance of plant aqueous waste streams to on-site WWTP & pre-treatment requirements for POTW permit
- Maintain compliance of air emissions in accordance to Part 70 Title V permit including applicable MACT and NESHAP reporting/documentation, NSR/PSD and NSPS conformance for new and modified sources
- Ensure compliance to RCRA regulations as a large-quantity generator for solid waste recycling, hazardous/non-hazardous waste disposal
- Maintain Spill Response and SPCC Plans, Stormwater Pollution Prevention Plan (SWPPP) in compliance with General NPDES permit.
- SARA (Tier II and TRI) emission reporting as well as TSCA review of new chemical approval process
- Develop, implement and maintain the continuous improvement program via an Environmental Management System certified to the Responsible Care® 14001 Standard
- Lead in the investigation and reporting of all spills and environmental incidents

ABB

Business Unit Environmental Manager

**Greenville, SC
 June 2015-December 2017**

Demonstrated 100% environmental compliance for 18 U.S.-based manufacturing facilities by zero NOV in 2016-2017. Spearheaded and executed installation of a 1.3 MW DC solar PV system at a select facility to offset utility costs by >\$100k/yr.

Primary Duties:

- Ensured environmental compliance to RCRA, CWA, CAA, TSCA, FIFRA, EPCRA, and DOT regulations for 18 facilities within the USA by serving as corporate technical resource and performing compliance audits



Robert Wallace, PE

Project Engineer I

- Functioned as Corporate liaison to Federal, State, local regulatory agencies within geographic footprint of operating facilities
- Mentored and train plant-level employees on environmental initiatives and compliance programs
- Measured and monitor environmental performance values of Corporate sustainability metrics and performed reporting for internal and external stakeholders

ABB

South Boston, VA

Senior Environmental Engineer

July 2012-June 2015

Built an award-winning compliance program at the plant achieving the highest tier of the Virginia Environmental Excellence Program (VEEP) in 2014.

Primary Duties:

- Functions associated with role as Plant Environmental Manager by developing, planning and verifying execution of environmental monitoring programs, including applicable Federal and State laws and regulations related to CAA (Synthetic Minor Non-Part 71 Permit); CWA (NPDES, POTW Pretreatment Standards, Nonpoint Source Pollution, TMDL, & Oil Discharges under SPCC Rule); SARA Title III/EPCRA(Sections 302-304 EHS and RQ Reporting, Sections 311-312 MSDS Inventory & Tier II Reports, Section 313 Form R/TRI Submission); RCRA (Subtitle C as LQG); Solid Waste BMPs (Waste Reduction & Recycling); and TSCA(PCB, asbestos and lead-based paint)
- Gathered data, interpret and analyze all data involved in performing engineering calculations to determine hazardous and non-hazardous waste volumes, air emissions, process chemical consumption, industrial wastewater and storm water constituent loads and other environmental performance values.
- Support aspect revision and implementation of a focused environmental compliance and management systems auditing program and support, ensure compliance with ISO 14001 standards
- Manage WWTP focusing on metals precipitation/neutralization, including direct supervision of two Class III Licensed Operators; WWTP system debottlenecking and optimization; and DMR compliance reporting
- Investigation and remediation of PCBs and chlorinated VOCs within soil and shallow aquifer

AECOM Technologies Corporation

Greenville, SC

Staff Environmental Engineer

September 2006 -July 2012

Working primarily with Class I Railroad Clients, networking and business development efforts landed projects worth more than \$1M USD.

Primary Duties:

- Remediation Project Manager of Fed and State Superfund Sites impacted with CAHs, PAHs & BTEX for Industrial and Federal Clients in accordance with SARA guidance including development of RI, FS, Proposed Plan, ROD, 5-yr Reviews, and preparation of bid documents including SOWs, specs & cost estimates
- Project engineer for the Kuwait Environmental Remediation Program (KERP) preparing remediation design of hydrocarbon sludges and waste ponds.
- Performed environmental Legal Compliance Audits for Railroad Client to review facility conformance with CAA (Title V & VI); CWA (NPDES, POTW discharge, SPCC, SWP3, SPRP, ODCP); SARA (EPCRA
- Sections 302, 312 Tier II, & 313 TRI); review of solid waste management/minimization practices under RCRA & HSWA rules; TSCA (PCB, asbestos & lead paint surveys); performed cursory review of ISO 14001
- Program Management of Class I Railroad due diligence program of real property investments and performed Phase I, Phase II & Phase III ESAs and associated reporting per ASTM standards.
- NEPA EIS investigation and reporting



Robert Wallace, PE

Project Engineer I

- Managed and designed multiple UST removal projects in several States for Railroad Client, which included regulatory notification, HASP preparation, confirmation sampling analysis, and tank closure reporting
- Managed air compliance programs for all Railroad Facility Title V and Synthetic and Natural Minor air permits of various industrial emission sources
- Prepared air permit applications for new and modified sources system-wide including PSD and NSPS
- Managed consultant teams performing BACT design and testing resulting from PSD new sources and process debottlenecking modifications
- Managed comprehensive air emission inventory for NAAQS and GHG at applicable Railroad facilities



Benjamin Keularts

Project Engineer II

EDUCATION & TRAINING

- B.S. Chemical Engineering, Leigh University
- Summer Chemical Engineering Technical Electives Program
University of Dortmund, Dortmund, Germany

CERTIFICATIONS

- NPDES Permit Writer's Training Certified
- NPDES Stormwater Permit Writer and Inspector Certified
- BEACH Sampler's Training Certified
- WOPPER/HAZMAT Training Certified - Expired
- Divermaster Certified
- EPA Certified Scientific Diver

SKILLS

- **Computer:** ArcView GIS, R Programming, Bentley CivilStorm, Storm Water Management Model (SWMM), WinTR-55 Hydrology, CorelCAD, Microsoft Office
- **Laboratory:** General laboratory skills, familiarity with all common laboratory apparatus and more complicated tool functions (i.e. reading pH, titration, centrifuging, etc.), familiarity with calibration and other QA/QC methods for common industry testing.

Summary

With an education and degree in Chemical Engineering, Benjamin has 15 years of experience in the environmental engineering field covering major environmental disciplines and branches, such as Air, Water, Solid Waste and Coastal Zone management and has expertise in both technical and regulatory (federal and local) aspects of environmental engineering. Having worked in both public and private sector, as both field reconnaissance engineer, technical reviewer, project leads, program manager, and support staff, provides a very flexible skill-set as typically required in the Virgin Islands territory.

Relevant Experience

Tysam Tech, LLC

Environmental Engineer II

Provides project and environmental site review as well as permit development and Environmental Assessment Review (EAR) development. Knowledge of both federal and local environmental regulation under CWA and CAA, used to advise clients and construct management plans for projects as well as day to day industrial and commercial operations. Storm water BMP design and hydrology & hydraulics report development, to address Low Impact Development (LID) requirements. Inspection of active sites, including construction, industrial and commercial to ensure operations are in line with environmental regulations. Project tasks performed include historic record review, site map creation and background environmental condition report development.

St. Croix, USVI

December 2019-Present

Major Projects:

- Limetree Bay Facility Emergency Response Plan Development
- Limetree Bay Facility Flare Exceedance monitoring, data review and reporting analysis
- Limetree Bay Facility Heaters and Process Boilers Energy Assessment analysis
- Diageo USVI Permit development for four (4) air pollution emitting units brought online in 2020
- Coastal Zone Management of \$20M upgrades to the Virgin Island's racetracks (2), including Emergency CZM and Rezoning Process, H&H Study Review & Site Inspections
- Coastal Zone Management of \$10M upgrades to the Virgin Island's Roads & Bridges through VIP/DPW VI ST ER STX(003): Storm Damage Repair to Roadways, Culverts, Embankments, Bridges, and Other Roadway Features on St. Croix, USVI
- Development of Concrete Batch Plant: EAR development and package submittal for flood, air storm water and building permits and site inspections.
- Updates to USVI refinery and terminal Integrated Contingency Plan: revisions and updates to regulations relating to RCRA, CERCLA, AST, HAZMAT, SPCC.

Virgin Islands Dept. of Planning & Natural Resources

Environmental Program Manager

Worked as Environmental Program Manager for all Water Pollution Control and Clean Water Act Programs, managing day to day program activities, grant management and renewal, work plan commitment reporting and development, SOP and policy development, Environmental Assessment Report review and project permit issuance, water quality sampling, as well as data collection and management. Supportive roles include permit writing, Storm Water TPDES inspections and reporting, field water sampling, regulation and code review and promulgation.

St. Croix, USVI

October 2015-December 2019



Benjamin Keularts

Project Engineer II

Major Projects:

- Veteran's Drive (Route 30) Major Road Improvements Project, St. Thomas, USVI: EAR, CWA401/404 assessment Review, H&H study and Storm Water design review, site compliance inspections.
- Turpentine Run (Route 32) Bridge Approaches Project St. Thomas, USVI: EAR, CWA 401/404 assessment Review, II&II study and Storm Water design review, site compliance inspections.
- Henry E. Rohlsen Airport Apron Rehab Project, St. Croix, USVI: H&H study and Storm Water design review, and site compliance and installation inspections.
- Water and Power Authority Major 24" Water Line Upgrade Project, St. Croix USVI: H&H study and Storm Water design review, site compliance and installation inspections.
- Louise E. Brown Phase 1-3 VIHA Housing Projects, S t. Croix USVI: H&H study and Storm Water design review, site compliance and installation inspections.

Virgin Islands Dept. of Planning & Natural Resources *Environmental Engineer*

St. Croix, USVI
October 2005-October 2015

Worked as Environmental Engineer with Water Pollution Control Program focusing on writing TPDES Permits, developing TPDES regulations, TPDES Permit evaluation and sampling inspections, developing TPDES Permit Writing SOPs, building GIS data related to the TPDES Program, survey and hydrology report assessment and inspection, Environmental Assessment Report review and development, EPA/DEP diving projects or investigations, and providing general engineering advice to other programs and divisions.