



# CZM PERMIT APPLICATION

St. Croix Renaissance Group Sea Water Reverse Osmosis Installation

Permit Application

**Applicant: ST. CROIX RENAISSANCE GROUP, LLLP**

November 3, 2025

## 1. INTRODUCTION

### St. Croix Renaissance Group Sea Water Reverse Osmosis CZM Permit Application

The proposed project is located at Plot #1 Estate Spanish Town Blessing Annaberg & Shannon Grove on the south coast of St. Croix, U.S. Virgin Islands, within the St. Croix Renaissance Park industrial complex. The site lies adjacent to the Krause Lagoon Channel, west of Limetree Bay Terminals and east of Henry E. Rohlsen Airport. St. Croix Renaissance Group, LLLP (SCRG), which owns and operates the property, seeks to reinstall and upgrade an existing seawater reverse osmosis (SWRO) system to ensure a reliable supply of potable and industrial-quality water for facility operations and distribution to off-site partners, including the Diageo USVI distillery.

The project will utilize the existing seawater intake station and infrastructure along the shoreline of Krause Lagoon Channel. Modular SWRO units, housed within 40-foot containerized systems, will be mounted on existing concrete slabs adjacent to the intake structure and connected to existing pipe racks and storage facilities. The system is designed as a double-pass configuration, capable of producing 105 gallons per minute (GPM) of ultra-pure water with a monthly average output of 4.6 million gallons per month. Brine discharge, estimated at peak volumes consistent with permit requirements, will be conveyed through Outfall 003 or 004 via existing pipe sleeves to a mooring dolphin structure in compliance with Territorial Pollutant Discharge Elimination System (TPDES) Permit No. VI0050024.

Environmental surveys and reviews of existing habitat conditions have determined that the project will remain within the footprint of previously developed industrial facilities, avoiding vegetation clearing, excavation in undisturbed areas, or shoreline expansion. As a result, anticipated impacts on terrestrial and marine resources are minimal. Protective measures, including best management practices for erosion and sediment control, will be applied during construction to mitigate potential short-term effects, such as noise, turbidity, or disturbance during installation of piping and tie-ins. No in-water dredging or excavation is proposed.

Construction is anticipated to take approximately 60 days, beginning in early 2026, and will be conducted in phased stages including installation of best management practices, delivery and anchoring of modular units, piping and electrical tie-ins, and final commissioning. The project approach emphasizes reusing and modernizing existing infrastructure, minimizing environmental disturbance, and ensuring compliance with regulatory requirements while meeting the long-term water supply needs of SCRG and its partners.

A project plan layout, including site maps, is provided with this document.

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# APPLICATION FORMS

**GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES  
DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DEVELOPMENT PERMIT APPLICATION**

**FORM L&WD-2  
PERMIT APPLICATION**

Date Received: \_\_\_\_\_

Date Declared Complete: \_\_\_\_\_

Permit No. \_\_\_\_\_

Application is hereby made for a Earth Change/Coastal Zone Permit

1. Name, mailing address and telephone number of applicant.  
Jehangir Zakaria - St. Croix Renaissance Group, LLLP  
President  
PO Box 1525, Kingshill, VI 00851  
zakaria@stxrenaissance.com (340) 643-0404
  
2. Name, title, mailing address and telephone number of owner of property and of developer.  

<u>Owner</u>	<u>Developer</u>
St. Croix Renaissance Group, LLLP	_____
PO Box 1525, Kingshill, VI 00851	_____
340) 643-0404	_____
  
3. Location of activity. Plot No. 2  
  
Estate Spanish Town Blessing Annaberg & Shannon Grove Island St. Croix
  
4. Zoning District Zone AE
  
5. Name, mailing address and telephone number of project designer.  
Jeff Bateman, BCSC DOSPIVA , 5001-12 Chandler's Wharf, Christiansted, Saint Croix, VI 00820  
jeff@thegreenpiece.us 340.778.7474
  
6. Name, mailing address and telephone number of principal earthwork contractor.  
N/A
  
7. Summary of proposed activity. Include all incidental improvements such as utilities, roads, etc. (Use additional sheets if necessary).  
Installation of a sea water reverse osmosis system. Support utilities include 480V 3PH power, brine discharge line to adjacent Krause Lagoon Channel, and product water line to Diageo USVI distillery.
  
- 7a. State type of Land Uses as specified in the VI Zoning Law, which are applied for e.g., restaurant, hotel, single dwelling, etc.  
Heavy Industry Zone (I-1) - Potable Water Production

**FORM L&WD-2/PERMIT APPLICATION  
CONT'D**

8. Date activity is proposed to start April 2026, be completed August 2026

9. Classification of minor or major permit. Check one:

Minor Permit Application

Major Permit Application

State below which criterion applies in making above check.

Development valued Above the minor/major project threshold.

10. Application is hereby made for a permit to authorize the activities described herein. I agree to provide any additional information/data that may be necessary to provide reasonable assurance or evidence to show that the proposed project will comply with the applicable territorial water quality standard or other environmental protection standards both during construction and after the project is completed. I also agree to provide entry to the project site for inspectors from the environmental protection agencies for the purpose of making inspections regarding this application, and that to the best of my knowledge and belief the information provided herein, is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities.

Signature of Applicant or Agent

Date

*[Handwritten Signature]*

11/3/25

Signature of Owner (Where Applicant or Agent is not Owner)

\_\_\_\_\_

\_\_\_\_\_

**FOR DEPARTMENT USE ONLY  
Inspector Record**

Date Inspected: \_\_\_\_\_

( ) Permit Approved

( ) Permit Disapproved

Inspector's Remarks: \_\_\_\_\_

\_\_\_\_\_

Inspector

Date

Commissioner, Planning & Natural Resources

Date

**GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES  
DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DEVELOPMENT PERMIT APPLICATION**

**FORM L&WD-3  
ZONING REQUIREMENTS TABLE**

The following table shall be completed by the applicant with entries as appropriate for the zoning district in which the activity is taking place. Not all the requirements will necessarily apply to a particular zone. Consult the Zoning Law. For your guidance also consult the zoning Requirement Matrix attached to the application forms, i.e., for a R-2 zone only items 1 through 11 will apply.

Applicants Name: Jehangir Zakaria Signature:  Date: 11/3/25

Location of Activity-Plot No. 2 Estate Spanish Town Blessing Annaberg & Shannon Grove Island St. Croix

Zoning District: I-1

1. Proposed use (residential etc.) Heavy Industry Zone - Potable Water Production
2. Accessory use if any N/A
3. Number of on site parking spaces Existing N/A proposed N/A
4. Area of lot, (sq. ft. or acreage) 150 acres
5. Area covered by proposed and existing buildings, (sq. ft.)  
50 Acres (2,178,000 sqft)
6. Setback of building from street property line, (ft.)  
0
7. Side yard setback (ft) N/A
8. Rear yard setback (ft) N/A
9. Height of building (ft. or stories depending on zone) N/A
10. Proposed: N/A
11. Lot width at street line (ft.) N/A
12. Area of usable open space (sq. ft. and (%)) of lot N/A
13. Persons per acre ratio N/A
14. Floor area ratio N/A
15. Number of onsite parking and loading spaces N/A
16. Building setback (yards 11, W-2 only) N/A

**FOR DEPARTMENT USE ONLY**

Inspector: \_\_\_\_\_ Date: \_\_\_\_\_ Permit No. \_\_\_\_\_

**GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES  
DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DEVELOPMENT PERMIT APPLICATION**

**FORM L&WD-4  
MAJOR PROJECT SUMMARY DATA**

**Section I. Applicant**

1. Name, address and telephone number of applicant.

Jehangir Zakaria

1 Estate Anguilla, St Croix, VI 00820

(340) 643-0404

2. Name, address and telephone number of owner of Property and of developer.

Jehangir Zakaria

1 Estate Anguilla, St Croix, VI 00820

(340) 643-0404

**Section II. Summary of Proposed Development**

3. Describe the proposed development

The installation of a Sea Water Reverse Osmosis unit to produce water for off-site distribution.

Connection to existing seawater intake structures, installation of transfer pipeline on existing sleepers, pipe rack and routing to Diageo and other potential customers for purchase of potable water.

**Section III. Description of Proposed Development**

4. Name of development St. Croix Renaissance Group Sea Water Reverse Osmosis Project

5. Plot No. 2 Spanish Town, Blessing, Annaberg & Shannon Grove

6. Zoning District: Zone AE

7. PWD Map No.

8. Proposed use (residential, etc. as listed in Zoning Law): Producing potable water from seawater intake and distribution to nearby commercial partners for use in existing operations.

9. Accessory use if any \_\_\_\_\_

**FORM L&WD-4  
MAJOR PROJECT SUMMARY DATA Cont'd**

10. Area of Lot(s) (acreage) 150  
 \_\_\_\_\_  
 \_\_\_\_\_

11. Area covered by existing buildings (sq. ft.) 50 acres  
 \_\_\_\_\_

12. Area covered by proposed buildings (sq. t.) 500 sqft  
 \_\_\_\_\_

13. Floor area total 500 sqft  
 \_\_\_\_\_

14. Floor area ratio (B-1, B-2 zones only) N/A  
 \_\_\_\_\_

15. Number of buildings 3-4 Standard 40 foot shipping Containers  
 \_\_\_\_\_

16. Number of units total N/A  
 \_\_\_\_\_

	Person		Persons	
17. Schedule of units:	Efficiencies $\frac{N/A}{}$		x 1.5 Unit $\frac{N/A}{}$	= _____
	1 bedroom $\frac{N/A}{}$		x 2	= _____
	2 bedroom $\frac{N/A}{}$		x 3	= _____
	3 bedroom $\frac{N/A}{}$		x 4	= _____
	Other $\frac{N/A}{}$		x	= _____
	Total Persons $\frac{N/A}{}$			= _____

18. Number of on site parking and loading spaces N/A  
 \_\_\_\_\_

19. Maximum building height (stories/ft) N/A  
 \_\_\_\_\_

20. Adjoining property land use(s) The adjoining property land to the east is used as a refinery, oil terminal and container port. Land to the west includes the USVI WMA POTW and landfill, as well as racetrack. Land to the north include residential land to include Estate Profit, and Estate Clifton Hill.  
 \_\_\_\_\_  
 \_\_\_\_\_

21. Setback of building from street property line (ft) N/A  
 \_\_\_\_\_

22. Sideyard setback (ft) N/A  
 \_\_\_\_\_

23. Rear yard setback (ft) N/A  
 \_\_\_\_\_

24. Density (person/acre) N/A  
 \_\_\_\_\_

25. Area of usable open space (sq. ft. % of lot) N/A  
 \_\_\_\_\_

**FORM L&WD-4**  
**MAJOR PROJECT SUMMARY DATA Cont'd**

**Section IV. Comments**

26. Proposed Potable Water Supply (method & quality estimate gal/day)

N/A

27. Proposed Sewage Treatment (method & quality estimate gal/day)

N/A

28. Proposed Solid Waste Disposal (method & quality estimate lbs/day)

10lbs/day. Typical maintenance operations produce some waste for proposed SWRO system

29. Proposed Electrical Supply (method & demand estimate KWH for single & 3 phase)

SWRO will be 3-phase 480V. Power demand is anticipated to be upwards of 180-200kW when operating in full.

30. Air Conditioning (method & demand estimate (KWH)

N/A

31. Other Utilities <sup>N/A</sup>

32. Other <sup>N/A</sup>

**Section V.**

33. Will the development extend onto or adjoin any beach tidelands, submerged lands or public trustlands?

The development will not extend into any beach tidelands, submerged lands or public trustlands

34. Will the development maintain, enhance or conflict with public access to the shoreline and along the coast?

The development will maintain previous public access to the shoreline and along the coast

35. Will the development protect or provide moderate income housing opportunities?

Will it displace moderate income housing?

The development will have no effect on income housing opportunities. The development will not displace moderate income housing.

36. How will the development affect traffic on the coastal access roads?

The development will have no effect on traffic to coastal access roads

Signature of owner or authorized agent

11/3/25  
Date

GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES DEPARTMENT OF PLANNING AND NATURAL RESOURCES DEVELOPMENT PERMIT APPLICATION

FORM L&WD-5  
PROOF OF LEGAL INTEREST

AFFIDAVIT

I, St. Croix Renaissance Group, LLLP being duly sworn depose and say that:  
Applicant(s)\* (or John Doe of Entity Applicant)

1. St. Croix Renaissance Group, LLLP am/is the (check one)  
(I or Entity/Applicant)

Record title owner (fee simple)       Lessee       Other (specify)

Of the real property described as Parcel No(s) 2

Estate Spanish Town Blessing Annaberg & Sh. Quarter KING Island St. Croix

\*Applicant(s) is required to provide documentation for legal interest stated above (e.g. deed, lease, etc.)

2. I have the irrevocable approvals, permission, or power of attorney from all other persons with a legal interest in the property to undertake the work proposed in the permit application as more fully set forth in the exhibit (s) attached hereto:

Jehangir Zakaria 11/3/25  
Signature Date Signature Date

JEHANGIR ZAKARIA  
Print Print

The foregoing instrument was acknowledged before me this 3rd day of November  
20 25 by S. Fleming Notary St. Croix county  
(Name or Name/Title of Entity)

of U.S. Virgin Islands  
S Fleming August 18, 2026  
Notary Public My Commission expires

**Shelby A. Fleming**  
Notary Public  
St. Croix, U.S. Virgin Islands  
NP-563-22  
My Commission Expires: August 18, 2026

**GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES  
DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DEVELOPMENT PERMIT APPLICATION**

**PUBLIC NOTICE  
(SUPPLEMENT TO FORM L&WD-6)**

Pursuant to Act 5270, as approved by the Governor of the Virgin Islands on July 30, 1987, amending Section 910 (a) (2) and 911 (d) (2) of the Coastal Zone Management Act (Title 12, VI Code, Chapter 21), all applicants for Coastal Zone Management permits are required to present “certification from Bureau of Internal Revenue and Department of Finance” indicating “that the applicant has filed and paid all taxes, penalties and interest, and from the Office of the Lieutenant Governor that the applicants has filled its required annual report or has satisfactorily made agreement to pay the taxes or fill the required reports “12 VIC 910 (a) (2) (C), and “ (2) A coastal zone permit that includes an occupancy or development lease shall only be granted for a particular parcel of filled land for a lease period of not more than 20 years; provided that nothing in this subsection shall prohibit a lessee or permittee from executing a new lease at the end of the 20 year period. Any lease executed at the end of the lease period shall meet the requirements of this Chapter and shall be approved by the Governor and ratified by the Legislature, or in the event the Legislature is not in session, by the Committee on Planning and Environmental Protection.

For applicants not required by law to submit an annual report or to satisfactorily make an agreement to pay taxes or file the required reports, a letter from the Bureau of Internal Revenue, and/or the Department of Finance, and/or the Lieutenant Governor’s office so indicating will be required to continue further processing of the application.

Accordingly, all Coastal Zone Management permit applications (both minor and major), which are not accompanied by the certificates, as required by Act 5290, or written notification from said agencies indicating waiver or exemption of these requirements will not be accepted by the permitting office, It is the responsibility of each applicant to demonstrate compliance with the provisions of this Act.

**GOVERNMENT OF  
THE VIRGIN ISLANDS OF THE UNITED STATES  
-0-  
VIRGIN ISLANDS BUREAU OF INTERNAL REVENUE**

**(DPNR FORM L&WD-6)  
APPLICATION FOR TAX FILING AND PAYMENT STATUS REPORT\*\***

Date: \_\_\_\_\_

The applicant identified below hereby requests a letter certifying his or her tax filing and payment status for the purpose of receiving a Coastal Zone Management Permit from the Virgin Islands Department of Planning and Natural Resources pursuant to Act 5270, amending Sections 910 (a)(2) and 911 (d)(2) of the Coastal Zone Management Act (Title 12, Chapter 21, Virgin Islands Code). The applicant authorizes the Bureau of Internal Revenue to disclose any taxpayer information necessary to process this application to the Virgin Islands Department of Planning and Natural Resources, who may make such further disclosures as are necessary to carry out the requirements of the Coastal Zone Management Act, as amended.

Name: St. Croix Renaissance Group, LLLP

Business Name: St. Croix Renaissance Group, LLLP

EIN/TIN: 81-0550092

SSN: \_\_\_\_\_

Please Indicate:

\_\_\_\_\_ \*Corporation  
\_\_\_\_\_ \*Partnership  
\_\_\_\_\_ Individual  
\_\_\_\_\_ Other

Type of Business: Water Supply Services

Please circle forms that you use: 1120, 1120s,  
1065, 1040, 941 VI, 722 VI, 720, 720 VI, 720  
BVI, 50VI, other (list)

Date Business Started: June 14th, 2002

Person Representing Applicant: Jehangir Zakaria Position: President

Signature: \_\_\_\_\_

Mailing Address: PO Box 1525, Kingshill, VI 00851

Date: \_\_\_\_\_ Telephone Number: (340) 643-0404

Reply to: #1A Lockharts Garden, St. Thomas VI 00802 or 4008 Estate Diamond, St. Croix VI 00820

\* Partnerships and/or Corporations must list partners/ corporate officers, social security numbers and addresses on a separate sheet and attach it to this application.

GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES  
DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DEVELOPMENT PERMIT APPLICATION

FORM L&WD-7  
CORPORATION/ASSOCIATION APPLICATION  
(To be used when a corporation or association is making a Permit Application in Tier I)

**St. Croix Renaissance Group, LLLP**

\_\_\_\_\_  
(Corporation or Association Name)

By: \_\_\_\_\_

(Signature)  
President or Vice-President or equivalent

**President**

\_\_\_\_\_  
Title/Position (Print)

**Jehangir Zakaria**

\_\_\_\_\_  
Print

WITNESS:

\_\_\_\_\_

ATTEST: \_\_\_\_\_  
Secretary (or equivalent) Signature

\_\_\_\_\_  
Secretary (or equivalent) Print

Seal

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me the undersigned officer, personally appeared \_\_\_\_\_  
\_\_\_\_\_, who acknowledges himself to be the \_\_\_\_\_  
of \_\_\_\_\_; that he executed the foregoing instrument in the capacity above and has the  
authority to execute this application on behalf of the company.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year above written.

\_\_\_\_\_

**Include Supporting Documents:**

1. Compliance with Act No. 5270 by providing:
  - (a) Tax clearance letter from the Bureau of Internal Revenue
  - (b) Property tax clearance letter from the Lieutenant Governor's Office.
  - (c) Corporations and Associations: Certificate of Good Standing or equivalent, organizational documents & Amendments (Articles, Bylaws, Operating Agreement, Declarations)
  - (d) Corporate Resolution (or equivalent) authorizing action on behalf of the company.

### Flood Plain Determination and Permit Application

To be completed by all applicants

- Owner: Jehangir Zakaria  
 Mailing Address PO Box 1525, Kingshill, VI 00851  
 Home Tel. #: (340) 643-0404 Business Tel. #: (340) 778-2323 Cellular #: (340) 643-0404
- Designer: BCSC DOSPIVA  
 Lic. #: 1052-E Tel. #: 3407787474 Cellular #: \_\_\_\_\_
- Plot #: 2 Estate: Spanish Town Blessing Annaberg & Shannon Grove Quarter: King  
 Flood Zone Designation: Zone AE

If your flood zone designation is Zone A, AE, AO, A1-30, A99, V, VO, Ve or V1-V30 as shown on the NFIP FIRM Map, then complete this section.

\*\*\*\*\* NFIP Flood Zone Designation \*\*\*\*\*

- Type of development:
  - 1 or 2 Family dwelling  Mobile Home  Non-Structural
  - 3 Family or more, Apartment or Condo Structure  Non-Residential Structure:
  - Commercial Structure  New Construction  Non-Structural
  - Addition to Structure  50% Substantial Improvement of Existing Structure

Description of Activity Installation of Sea Water Reverse Osmosis (SWRO) Unit on Existing Concrete Slab and Infrastructure.  
Installation of new piping on existing pipe rack or sleepers.
- Base Flood Elevation at the Development Site is 11 ft. above mean sea level (msl) .
- Elevation of the First Floor, Basement or Flood proof level for proposed structure is 11 ft.
- Describe the Non-Structural Activity i.e. septic tank, waste water treatment plants etc. (including the location and development): Sea Water Reverse Osmosis Unit installed on existing development areas, located on SCRG property.
- Attach a certified copy of site plan ( 8.5" x 11" ) showing Base Flood Elevation . See sample attached.

#### FOR OFFICE USE ONLY

Is the property located in an identified Flood Hazard Area? ( ) YES ( ) NO

NFIP Zone Designation: \_\_\_\_\_ Forward to Flood Plain Manager : ( ) YES ( ) NO

Application : APPROVED ( ) DENIED ( ) RESUBMIT ( )

Plan Reviewer Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES  
DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DEVELOPMENT PERMIT APPLICATION**

**FEE SCHEDULE**

**(TIER 1 ONLY)**

As provided in Title 12, Chapter 21, Section 910(e)(4) VIC and set forth in Title 12 V.I. Rules and Regulations Subsection 910, effective September 18, 1992, a non-refundable administrative processing fee will be required to be filed with the applications for all Coastal Zone Permits in accordance with the following fee schedule:

(A) Minor Coastal Zone Permit Application

- (i) For estimated construction cost of \$10,000 or less ..... \$50.00
- (ii) For estimated construction cost greater than \$10,000 but less than \$25,000 ..... \$125.00
- (iii) For estimated construction cost of \$25,000 or greater ..... \$200.00

(B) Major Coastal Zone Permit Application

- (i) For estimated construction cost of \$250,000 or less ..... \$500.00
- (ii) For estimated construction cost of \$250,000 but less than \$500,000 ..... \$750.00
- (iii) For estimated construction cost of \$500,000 or greater ..... \$1,000.00

Whenever the Commissioner finds that the processing of a Major Coastal Zone Permit Application requires significant administrative expenditures in excess of those typically required, additional reasonable fees may be assessed to cover, for instance, the hiring of consultants when specialized expertise is needed that is not available in the Department.

3

SUPPORTING  
DOCUMENTS

NEIGHBOR  
RESIDENCE  
LIST

**GOVERNMENT OF  
THE UNITED STATES VIRGIN ISLANDS  
OFFICE OF THE LIEUTENANT GOVERNOR  
OFFICE OF THE TAX ASSESSOR – CADASTRAL SURVEYS & DEEDS**

1131 King Street, Suite 101 Christiansted, U.S. Virgin Islands 00820 Tel: 340-773-6449

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**ADJACENT OWNERSHIP CERTIFICATION  
(CZM)  
Property Ownership within 150' Radius of Parcel**

**ST. CROIX RENAISSANCE GROUP L.L.P.**

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This letter is to certify that the following list of owners and addresses are consistent with the records of the Office of the Tax Assessor of Christiansted, St. Croix U. S. Virgin Islands.

The stated ownerships are those adjacent to Parcel No. (PIN): 2-08200-0301-00

Estate Plot 2 Annaberg & Shannon Grove

Island of St. Croix, U. S. Virgin Islands.

Authorized Signature \_\_\_\_\_  
Wayne D. Callwood, Public Surveyor

Alternate Signature   
Margaret F. Acosta, Special Assistant

Fee Paid: \$30.00

Date: October 27, 2025

Property Owners within 150' Radius of Parcel / Plot No.: Plot 2

Estate: Annaberg & Shannon Grove Island: St. Croix, U.S.V.I.

	Tax I.D. Number	Parcel / Plot No.	Estate Name	Owner's Name & Mailing Address
1	2-08200-0301-00	Plot 1	Anguilla	<b>St. Croix Renaissance Group L.L.L.P.</b> P. O. Box 1525 Kingshill, VI 00851
2	2-08200-0301-00	Plot 1	Annaberg & Shannon Grove	<b>St. Croix Renaissance Group L.L.L.P.</b> P. O. Box 1525 Kingshill, VI 00851
3	2-08301-0101-00	Refinery Plot 1-A	Blessing & Hope	<b>PathFoward Consulting Inc as E. R. Trustee</b> One World Trade Center, 8 <sup>th</sup> Floor Long Beach, CA 90831
4	2-08204-0402-00	Refinery Plot 1-AB	Blessing & Hope	<b>Port Hamilton Refining and Transportation LLLP</b> C/O Rasco Klock, 2555 Ponce de Leon Blvd Suite 600 Coral Gables, FL 33134
5	2-08300-0206-00	Terminal Plot 4	Blessing, Hope, Jerusalem & Figtree Hill	<b>Limetree Bay Terminals LLC</b> 1131 King Street Suite 204 Christiansted, VI 00820
6	2-08200-0301-00	Rem. Plot 5	Blessing	<b>St. Croix Renaissance Group L.L.L.P.</b> P. O. Box 1525 Kingshill, VI 00851
7	2-08300-0302-00	Plot 3	Public Port Site	<b>Virgin Islands Water &amp; Power Authority</b> P. O. Box 1450 St. Thomas, VI 00804
8	2-08300-0302-00	Plot 3-A	Public Port Site	<b>Virgin Islands Water &amp; Power Authority</b> P. O. Box 1450 St. Thomas, VI 00804
9	2-08300-0301-00	Plot 4	Public Port Site	<b>Virgin Islands Port Authority</b> 8074 Lindberg Bay St. Thomas, VI 00802
10	2-08200-0301-00	Plot 1	Spanish Town	<b>St. Croix Renaissance Group L.L.L.P.</b> P. O. Box 1525 Kingshill, VI 00851
11				
12				

# PROPERTY TAX CLEARANCE

PLACEHOLDER FOR PROPERTY TAX CLEARANCE LETTER

# BUSINESS TAX CLEARANCE

GOVERNMENT OF THE U.S. VIRGIN ISLANDS  
BUREAU OF INTERNAL REVENUE

6115 EST. SMITH BAY-  
ST. THOMAS, VI 00802  
Tel: (340) 714-9320  
Fax: (340) 714-9341

10/24/2025

4008 ESTATE DIAMOND - PLOT 7-B  
CHRISTIANSTED, VI 00820  
Tel: (340) 773-1040  
Fax: (340) 773-1006

ST. CROIX RENAISSANCE GROUP LLLP  
TYSAM TECH LLC  
2138 COMPANY STREET  
CHRISTIANSTED, VI 00820-0000

Business EIN: 810550092  
RE: CZM

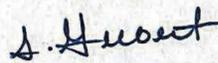
**Please Submit This Letter To Your CZM Authority**

Dear Taxpayer:

This is in response to your application of 9/29/2025 in which you requested a letter of clearance for a Costal Zone Management Permit pursuant to Title 12, V. I. Code, Section 910 (a) (c).

Based on the information in our files, we find that you are current in the filing and payment of your tax obligation. This Certification is for Costal Zone Permit purposes only and does not absolve you of any subsequent revelation of tax obligation past or future.

Sincerely,



Delinquent Accounts & Returns

# CERTIFICATE OF GOOD STANDING

1



**Government of  
The United States Virgin Islands**

-O-

*Office of the Lieutenant Governor  
Division of Corporations & Trademarks*

# CERTIFICATE OF GOOD STANDING

To Whom These Presents Shall Come:

I, the undersigned Lieutenant Governor the United States Virgin Islands, do hereby certify that **St. Croix Renaissance Group, LLLP** has filed in the Office of the Lieutenant Governor the requisite annual reports and statements as required by the Virgin Islands Code, and the Rules and Regulations of this Office. In addition, the aforementioned entity has paid all applicable taxes and fees to date, and has a legal existence not having been cancelled or dissolved as far as the records of my office show.

Wherefore, the aforementioned entity is duly formed under the laws of the Virgin Islands of the United States, is duly authorized to transact business, and, is hereby declared to be in good standing as witnessed by my seal below. This certificate is valid through June 30th, 2025.

**Entity Type:** Foreign Limited Partnership, Limited Liability Limited Partnership

**Entity Status:** In Good Standing

**Registration Date:** 06/10/2002

**Jurisdiction:** Delaware, United States

Witness my hand and the seal of the Government of the United States Virgin Islands, on this 19th day of August, 2024.



A handwritten signature in blue ink that reads "Tregenza A. Roach".

Tregenza A. Roach  
Lieutenant Governor  
United States Virgin Islands

# WARRANTY DEED

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& Dollison  
\$1,760,000.00  
(stamp)

**QUITCLAIM DEED**

THIS QUITCLAIM DEED, is made this 9<sup>th</sup> day of May, 2002, by and between **ST. CROIX ALUMINA, L.L.C. ("SCA")**, a Delaware limited liability company, whose mailing address is Alcoa Building, 201 Isabella Street, Pittsburgh, Pennsylvania 15212, and **ST. CROIX RENAISSANCE GROUP L.L.L.P. ("Buyer")**, a Delaware limited partnership registered as a limited liability partnership, whose mailing address is PMB 175 4093 Diamond Ruby, Suite 7, Christiansted, U.S. Virgin Islands 00820.

9000

**WITNESSETH:**

That SCA, for and in consideration of the sum of **EIGHT MILLION EIGHT HUNDRED THOUSAND U.S. DOLLARS (\$8,800,000.00)** and other good and valuable consideration, receipt of which is hereby acknowledged, does by these presents hereby remise, release and forever quitclaim to **Buyer**, all of SCA's right, title, interest, claim and demand in that certain real property situated in St. Croix, U.S. Virgin Islands, as described in Exhibit I, attached hereto and made a part hereof by reference;

9000

**TOGETHER** with all of SCA's interest in the improvements, tenements, hereditaments and appurtenances thereunto belonging;

**TO HAVE AND TO HOLD** said rights, title, interest, claim, and demand of SCA unto **Buyer** and to its successors and assigns, forever.

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IN WITNESS WHEREOF, SCA has duly executed this deed the day and year first above

written.

WITNESSES:

[Signature]

ST. CROIX ALUMINA, L.L.C.

By:

[Signature]  
Name: JOHN M SIBLY  
Title: B. D. President AWA Atlantic  
and as Alternate Member Representative

Carol Dafferty

STATE OF Pennsylvania )  
COUNTY OF Allegheny ) ss:

The foregoing instrument was acknowledged before me this 16<sup>th</sup> day of MAY, 2002 by John M. Sibly as ALTERNATE MEMBER REPRESENTATIVE of ST. CROIX ALUMINA, L.L.C., a Delaware limited liability company, on behalf of said limited liability company.

[Signature]  
Notary Public

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Page: 489  
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ALTHEA PLEDING  
RECORDER OF DEEDS  
ST CROIX  
RECORDING FEE \$ 6,812.00  
PER PAGE FEE \$ 2.00  
DEED DOC STAMP \$ 176,000.00  
ATTACHMENT FEE \$ 3.50  
PENALTY FEE \$ 100.00  
Althea Ledo  
Recorder

Notarial Seal  
Colleen D. Hunter, Notary Public  
Pittsburgh, Allegheny County  
My Commission Expires Apr. 14, 2003

"CERTIFICATE OF PUBLIC SURVEYOR - IT IS HEREBY CERTIFIED that, according to the records of the office of the Public Surveyor, the property described in the foregoing Warranty Deed has undergone no changes with respect to boundary and area."

Dated: MAY 10 2002

FEE: \$ 355.00

[Signature]  
Supervisor Survey & Deeds Section  
for: Bernadette C. Williams  
Assistant Tax Assessor

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Exhibit I

Territory of the Virgin Islands - District of St. Croix

1. Parcel No. 12-A of V.I. Corp. Lands, King's Quarter, St. Croix, U.S. Virgin Islands, containing 35.245 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541-B and as detailed on D.P.N.R. Drawing No. 4541-E, both dated April 27, 1989.
2. Remainder of Parcel No. 12-D of V.I. Corp. Lands, King's Quarter, St. Croix, U.S. Virgin Islands, containing 0.868 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541-E, dated April 27, 1989.
3. Remainder of Parcel No. 12-E of V.I. Corp. Lands, King's Quarter, St. Croix, U.S. Virgin Islands, containing 0.358 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541-E, dated April 27, 1989.
4. Plot No. 1 Estate Anguilla, King's Quarter, St. Croix, U.S. Virgin Islands, containing 443.242 U.S. acres, more or less, as shown on D.P.N.R. Drawing Nos. 4541 and 4541-A and as detailed on D.P.N.R. Drawing Nos. 4541-F, 4541-G and 4541-H, all dated April 27, 1989, portions of which are filled land and formerly comprised a portion of Krause Lagoon together with its surrounding lands, marshes, islets, swampland and adjacent tidal flats (collectively, "Krause Lagoon"), the southerly coastal boundary of said Plot being the low water mark of the Caribbean Sea as it existed on May 16, 1962.
5. Plot No. 1 Estate Annaberg and Shannon Grove, King's Quarter, St. Croix, U.S. Virgin Islands, containing 123.990 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541 and as detailed on D.P.N.R. Drawing No. 4541-E, both dated April 27, 1989.
6. Plot No. 2 Estate Annaberg and Shannon Grove, King's Quarter, St. Croix, U.S. Virgin Islands, containing 357.342 U.S. acres, more or less, as shown on D.P.N.R. Drawing Nos. 4541 and 4541-A and as detailed on D.P.N.R. Drawing No. 4541-H, all dated April 27, 1989, portions of which are filled land and formerly comprised a portion of Krause Lagoon, the southerly coastal boundary of said Plot being the low water mark of the Caribbean Sea as it existed on May 16, 1962.
7. Plot No. 1 Estate Spanish Town, King's Quarter, St. Croix, U.S. Virgin Islands, containing 118.904 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541 and as detailed on D.P.N.R. Drawing Nos. 4541-D, 4541-E and 4541-J, all dated April 27, 1989.
8. Remainder Plot No. 5 Estate Blessing, King's Quarter, St. Croix, U.S. Virgin Islands, containing 67.837 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541-A, dated April 27, 1989, as revised May 30, 1999 and December 28, 1999, portions of which are filled land and formerly comprised a portion of Krause Lagoon, the southerly coastal boundary of said Plot being the low water mark of the Caribbean Sea as it existed on May 16, 1962.
9. All of the Seller's rights of reentry as set forth in that certain Quitclaim Deed dated August 31, 1999, recorded with the Office of the Recorder of Deeds for the District of St. Croix on January 24, 2000 in P.C. 711, Page 348, Document No. 213/2000 relating to the Plot No. 6 Estate Blessing, King's Quarter, St. Croix, U.S. Virgin Islands, containing 17.0098 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541-C, and as detailed D.P.N.R. Drawing No. 4541-I, both dated April 27, 1989, portions of which are filled land and formerly comprised a portion of Krause

Lagoon, the southerly coastal boundary of said Plot being the low water mark of the Caribbean Sea as it existed on May 16, 1962.

- 10. Road Plot No. 7 Estate Blessing, King's Quarter, St. Croix, U.S. Virgin Islands, containing 2.875 U.S. acres, more or less, as shown on D.P.N.R. Drawing No. 4541-C and as detailed on D.P.N.R. Drawing Nos. 4541-J and 4541-K, all dated April 27, 1989.
- 11. A twenty-five foot (25') wide retained easement over the Port Authority Land for an access road to the end of a dike as described in a Quitclaim Deed and Access Road Easement dated January 10, 1967, recorded with the Office of the Recorder of Deeds for the District of St. Croix on January 25, 1967 in P.C. 46, page 112, as Document No. 359 and as shown on D.P.N.R. Drawing Nos. 4541-A and 4542-C, both dated April 27, 1989.
- 12. A twenty-five foot (25") wide retained easement over the Port Authority Land for a salt water intake channel as described in a Quitclaim Deed and Access Road Easement dated January 10, 1967, recorded with the Office of the Recorder of Deeds for the District of St. Croix on January 25, 1967 in P.C. 46, page 112, as Document No. 359 and as shown on D.P.N.R. Drawing Nos. 4541-A and 4541-C, both dated April 27, 1989.
- 13. A perpetual right-of-way easement from Plot No. 1 Estate Spanish Town, Plot No. 1. Estate Annaberg and Shannon Grove and Parcel 12-A VI Corps Land across the property conveyed pursuant to the Deed of Gift (as defined below) to the Melvin H. Evans Highway (the "Highway") or such other public or other road as may hereafter supercede the Highway, as set forth in Deed of Gift from Virgin Islands Alumina Corporation, a U.S. Virgin Islands corporation, to the Government of the United States Virgin Islands dated September 13, 1990, recorded February 4, 1992 in Photocopy 417, page 441, Document No. 475 (the "Deed of Gift").
- 14. Plot No. 10 Estate Blessing, King's Quarter, St. Croix, U.S. Virgin Islands, containing 34.5116 U.S. acres, more or less, as shown on D.P.N.R. No. 4541-A dated April 27, 1989, revised March 30, 1999 and December 28, 1999.
- 15. Plot No. 11 Estate Blessing, King's Quarter, St. Croix, U.S. Virgin Islands, containing 67.979 U.S. acres, more or less, as shown on D.P.N.R. No. 4541-A dated April 27, 1989, revised March 30, 1999 and December 28, 1999.

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ALTHEA KENKO  
RECORDER OF DEEDS  
ST. CROIX

RECORDING FEE	\$ 0,012.00
PER PAGE FEE	\$ 2.00
DEED DUC STAMP	\$ 176,000.00
ATTACHMENT FEE	\$ 3.50
PENALTY FEE	\$ 100.00

*Althea Kenko*  
Recorder

**GOVERNMENT OF  
THE VIRGIN ISLANDS OF THE UNITED STATES  
CHARLOTTE AMALIE, ST. THOMAS, V.I. 00801**

—0—

**DEPARTMENT OF FINANCE  
TREASURY DIVISION**

TO: THE RECORDER OF DEEDS

FROM: THE TREASURY DIVISION

IN ACCORDANCE WITH Title 28, SECTION 121 AS AMEMDED, THIS IS

CERTIFICATION THAT THERE ARE NO REAL PROPERTY TAXES

OUTSTANDING FOR ST. CROIX ALUMINA, L. L. C.

#12-A, 12C, 12D & 12E,  
V.I. Corp Land (PARCEL NO) 2-08100-0210-00

TAXES RESEARCHED UP TO AND INCLUDING 2000.

RESEARCHED BY:

  
Conchita Benjamin

TITLE:

Chief, Enforcement

DATE:

April 30, 2002

VERIFIED BY:

  
Ianthe M. de Alomal

TITLE:

Teller II

DATE:

April 30 2002

COLLECTOR NO.

8501

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GOVERNMENT OF  
THE VIRGIN ISLANDS OF THE UNITED STATES  
CHARLOTTE AMALIE, ST. THOMAS, V.I. 00801

—0—

DEPARTMENT OF FINANCE  
TREASURY DIVISION

TO: THE RECORDER OF DEEDS

FROM: THE TREASURY DIVISION

IN ACCORDANCE WITH Title 28, SECTION 121 AS AMEMDED, THIS IS

CERTIFICATION THAT THERE ARE NO REAL PROPERTY TAXES

OUTSTANDING FOR ST. CROIX ALUMINA, LLC.  
Anguilla, Spanish Town,  
Annaberg & Shannon  
Grove (PARCEL NO) 2-08200-0301-00

TAXES RESEARCHED UP TO AND INCLUDING 2000.

RESEARCHED BY:

  
Conchita Benjamin

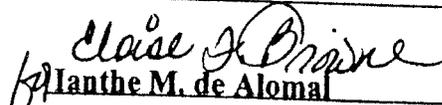
TITLE:

Chief, Enforcement

DATE:

March 26, 2002

VERIFIED BY:

  
Ianthe M. de Alomal

TITLE:

Teller II

DATE:

March 26, 2002

COLLECTOR NO.

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**ENVIRONMENTAL  
ASSESSMENT  
REPORT**



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## 1.00 Name and Address of Applicant

### **ST. CROIX RENAISSANCE GROUP, LLLP**

#### **Mailing Address:**

PO Box 1525, Kingshill, VI 00851

#### **Physical Address:**

1 Estate Anguilla, St Croix, VI 00820

## 2.00 Location of Project

The project is located at the following physical address:

### **Plot #1 Estate Spanish Town Blessing Annaberg & Shannon Grove**

#### **St. Croix, USVI**

**Property ID: 208200030100**

St. Croix Renaissance Group is located on the south coast of St. Croix, United States Virgin Islands (USVI) at Plot #1 Estate Spanish Town Blessing Annaberg & Shannon Grove. The property is located to the west of Limetree Bay Terminals and east of the Henry E. Rohlsen Airport at 17.709640 N, -64.770370 W, as illustrated in Figures 2.01.1 and 2.01.2.

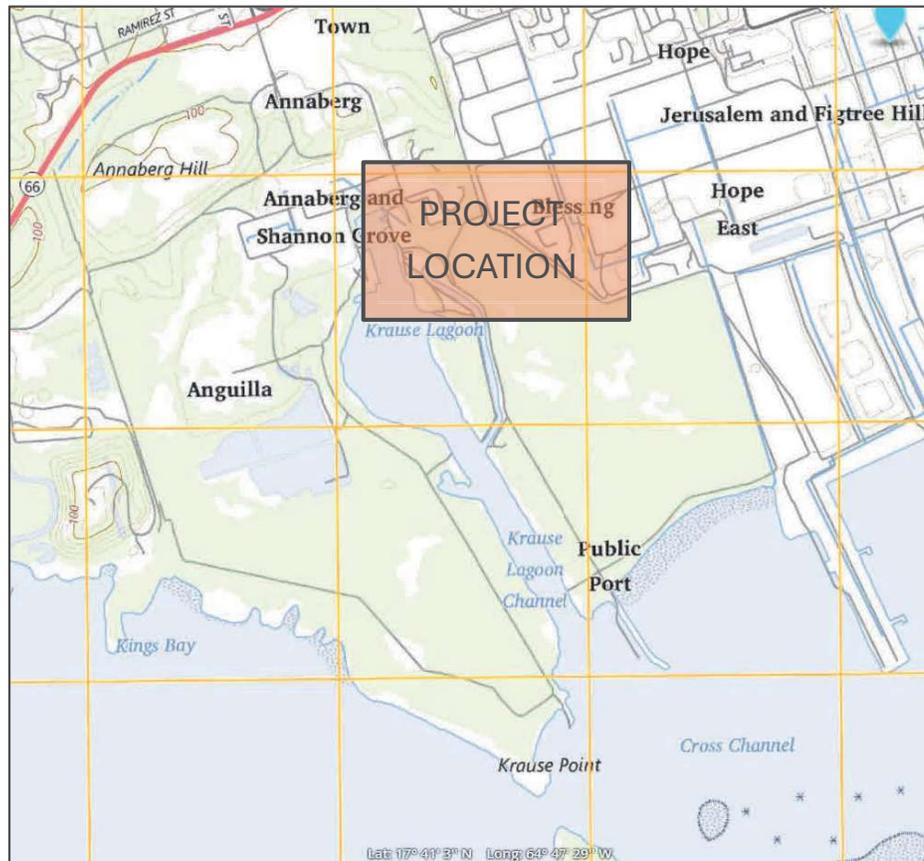


Figure 2.01.1 – Location and Agency Review Map (USGS Quadrangle Map, Christiansted St. Croix, VI, 1958, 1982 ed.)



Figure 2.01.2 – Illustration of the proposed SWRO location adjacent to Krause Lagoon, St. Croix (Earth, 2025).

### 3.00 Abstract

St. Croix Renaissance Group, LLLP (SCRG) is a limited liability limited partnership organized as a real estate and redevelopment vehicle operating from the former alumina/refinery complex on the south coast of St. Croix, USVI. SCRG is permitted as a Power & Water Supply facility under SIC Codes 4911 (Electric Services) & 4941 (Desalinized Water Supply) through its currently issued environmental and operational permits.

The facility is a large industrial/port complex and mixed industrial park (often referred to as St. Croix Renaissance Park). The site plan reflects the facility’s resources, including hundreds of acres of industrial/commercial-zoned land, deep-water port access, dock space, and existing industrial infrastructure.

The scope of this proposed project is to reinstall and upgrade a seawater reverse osmosis (SWRO) system to supply potable and industrial-quality water for the SCRG facility and distribution to the Diageo USVI distillery and other potential customers. The project will utilize existing infrastructure at the seawater intake station on the east side of the Krause Lagoon Channel, with modular SWRO units installed within 40-foot shipping containers

and mounted on an existing concrete slab adjacent to electrical connections and the already installed and permitted seawater intake structure.

The replacement SWRO system will now operate as a double-pass configuration designed to produce ultra-pure water, with a maximum capacity of 350 gallons per minute (GPM) and an average of 180 GPM. Water drawn from the intake station under existing Territorial Pollutant Discharge Elimination System (TPDES) Permit No. VI0050024 will be treated and transferred to an existing 2.6-million-gallon potable water storage tank (T-205-2) before distribution. Brine will be discharged via Outfall 004 through existing pipe sleeves and mounted to a mooring dolphin structure in compliance with permit requirements.

Installation will involve slab-anchoring modular SWRO units, mounting new piping to existing racks and concrete sleeper supports, and completing three short below-ground piping segments. Where digging is not practicable, SCRG will substitute with a surface mounted segment with a steel road-crossing ramp. Electrical connections will be tied into the existing substation and motor control centers, but with updated wiring for SWRO needs. Only minor earth disturbance, expansion, or modification to the site footprint will be required, ensuring minimal environmental impact.

The project is anticipated to be completed within 60 days, providing a fast and efficient return to operation of a critical water treatment system for SCRG permitted use. The long-term operation of the SWRO plant will address rising demand for potable and industrial water, support regional commerce, and ensure reliable supply while reusing and modernizing existing infrastructure to maintain environmental compliance.

#### 4.00 Statement of Objectives Sought by the Proposed Project

The overall project objective is to reinstall and upgrade the seawater reverse osmosis (SWRO) system at the St. Croix Renaissance Group (SCRG) facility, ensuring a reliable source of potable and industrial-quality water while utilizing existing infrastructure and maintaining environmental compliance. The following summarizes several primary objectives to be accomplished upon completion of the SWRO reinstallation project:

- Provide a consistent supply of ultra-pure water for both on-site facility operations and off-site distribution, including potable and industrial uses.
- Reuse and modernize existing infrastructure, including intake structures, pipe racks, and storage tanks, to minimize environmental disturbance and avoid expansion of the facility footprint.

- Ensure environmentally responsible operation through compliance with TPDES Permit No. VI0050024, including regulated seawater intake and controlled brine discharge via Outfall 004.
- Support regional commerce and industrial operations, including the Diageo USVI distillery, by delivering reliable water volumes up to 350 GPM peak production.
- Minimize construction impacts through modular installation methods, minimizing earth disturbance and ensuring a short installation timeframe of approximately 60 days.

## 5.00 Description of Project

### 5.01 Summary of Proposed Activity

#### Purpose of Project

The overall project objective is to reinstall and upgrade the seawater reverse osmosis (SWRO) system at the St. Croix Renaissance Group (SCRG) facility at Plot #1 Estate Spanish Town Blessing Annaberg & Shannon Grove, St. Croix. The project is intended to provide a reliable source of potable and industrial-quality water for on-site use and distribution to nearby commercial partners, including the Diageo USVI distillery. The replacement SWRO will operate as a double-pass modular system, capable of producing up to 350 gallons per minute (GPM), with an average production of 180 GPM, while minimizing environmental impact by using existing infrastructure and adhering to TPDES Permit No. VI0050024.

#### Presence and Location of any Critical Area(s) and Possible Trouble Spots

The project will be located entirely within the footprint of the existing St. Croix Renaissance Group (SCRG) industrial facility and will not involve vegetation removal, excavation in previously undisturbed areas, grading, or shoreline expansion, thereby mitigating any direct disturbance of terrestrial or aquatic habitats. The project is situated adjacent to the marine waters of the Krause Lagoon Channel, which falls under regulatory oversight for listed species and critical habitats.

Based on the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool, the following federally listed species are known to occur in or near this location and may potentially be affected by project activities:

- Mammals: West Indian Manatee (*Trichechus manatus*, Threatened)
- Birds: Roseate Tern (*Sterna dougallii dougallii*, Threatened)

- Reptiles: Green Sea Turtle (*Chelonia mydas*, Threatened); Hawksbill Sea Turtle (*Eretmochelys imbricata*, Endangered); Leatherback Sea Turtle (*Dermochelys coriacea*, Endangered); St. Croix Ground Lizard (*Ameiva polops*, Endangered)

While these species are documented in the region in previous environmental surveys, no designated critical habitats exist within the project area, and project activities will occur solely within previously disturbed areas and existing infrastructure, minimizing potential interaction with these species. Possible trouble spots include construction-related activity during installation of the discharge line at the mooring dolphin and temporary noise or turbidity that could affect sea turtle or manatee presence in nearshore waters. No in-water work is proposed, and all heavy machinery used for pipeline installation will be land-based with no need for in-water vessels or work.

The project area is within plots abutting the South shore of St. Croix and directly adjacent to the shoreline and Caribbean Sea. The closest receiving water body associated with this project is Assessment Unit AU-STC-63, the Krause Lagoon Channel (formerly Martin-Marietta Alumina Harbor), a Class C water as defined by 12 V.I. Rules & Regs. §186. This waterbody has two ambient sampling locations sampled quarterly by VIDPNR, sample stations STC-19 and STC-20. The waterbody is currently considered impaired for Dissolved Oxygen.

SCRG does not anticipate causing any negative impact to this waterbody, as the proposed project will entail very little digging, vegetation removal or construction.

Protective measures, including short digging timelines, good housekeeping and a staged approach to installation will be implemented to minimize potential impacts on listed species.

## Proposed Method of Construction

The SWRO system will be constructed in modular 40-foot containerized units, which will be delivered to the site and anchored to an existing concrete slab at the seawater intake station. Installation will involve the placement of containerized treatment modules and intake skids at the intake structure, as well as the mounting of intake, product, and brine piping to existing pipe racks, supports, and sleeper mounts. Three piping segments where they cross an existing road will be installed underground, encompassing the only earth moving activity planned for the project. Where digging may not be feasible or more difficult, surface-mounted segments will instead be installed across the road surface and secured with ground anchors to include a steel road-crossing ramp to protect the line from vehicle traffic. Electrical tie-ins will connect to the existing substation and MCC units, and the system will be finalized with connections to the potable water storage tank (T-205-2) and the Diageo USVI distribution network. All construction activities will remain within the footprint of existing facilities, eliminating the need for excavation or site expansion.

## Provisions to Limit Site Disturbance

Given that the project involves work both in and adjacent to the waterline, site disturbance from construction will be carefully minimized to reduce the potential for runoff. To achieve this, the proposed work timeline will be structured to allocate the minimum time required for each step. To further reduce building footprint, presence and time of construction, the project has been designed to limit disturbance by reusing existing slabs, pipe racks, and intake/discharge structures while avoiding any excavation or alteration of undeveloped land. The only excavation done will be on previously developed land at three specific road crossing sections, and the trench will be no wider than 2 feet to accommodate the new piping and electrical conduit. Construction activities will be limited to modular installation and pipe and supporting equipment anchoring or installation only, with all traffic restricted to existing access roads and designated laydown areas.

Water activities such as installing brine discharge piping mounts and restoring the sea water intake station and piping will be executed on ground and above water in a manner that minimizes the potential for sediment or sand plumes in the water. No in-water work is proposed for this project.

## Erosion and Sedimentation Control Methods to be Implemented

Sediment and erosion control measures will be installed, as appropriate, adjacent to all areas where site disturbance will occur. Standards and best management practices will be employed in accordance with the US Virgin Islands Environmental Protection Handbook (USVI EPH 2022 Update).

As the only earth disturbance planned is for 3 short road crossings (trench excavations of 2x20 foot areas each), the risk of erosion or sedimentation is considered low, precautionary measures will still be implemented. Silt fencing installed by hand and in accordance with the USVI EPH 2022 will be installed along downstream sections of the road crossings where the trenching is done, and temporary ground stabilization and anchoring will be used to prevent soil displacement.

The site will focus on non-structural Best Management Practices (BMPs) to manage runoff and safeguard natural resources, including minimizing stockpiling at the site.

Upon final completion of installation of any part of the project that is on land, stabilization techniques may be employed to cover exposed soils with either vegetation, gravel, mulch or other materials used to combat erosion and sediment loss.

#### Schedule for Construction Activities and Implementation of Sediment Control Measures

The construction period is anticipated to last approximately 60 days from mobilization to commissioning. The schedule will begin with installation of structural BMPs and the delivery and placement of modular SWRO units during Weeks 1–2, followed by the mounting of intake, product, and brine piping in Weeks 2–4. Electrical and substation connections will occur during Weeks 3–5, and testing, commissioning, and final tie-in to the existing storage and distribution system will take place during Weeks 6–8. All sediment and erosion control measures, including silt fencing and turbidity curtains, will be installed prior to construction and will remain in place until the project is complete.

If final stabilization is necessary, it will be implemented concurrently with completion in Weeks 6-8 during commissioning of the SWRO unit.

#### Maintenance of Sediment and Siltation Control Measures

Erosion and sediment control measures will be inspected regularly and maintained throughout construction. Silt fencing will be checked weekly and after rain events, repaired as necessary, and removed only after stabilization is achieved. Furthermore, the site will be maintained free of litter, debris, and materials such as paper, wood, and concrete to prevent trash or construction materials from entering the water.

#### Method of Stormwater Management

The proposed project will not introduce new impervious surfaces or expand the existing site footprint, as all construction will be confined to previously developed industrial infrastructure, including existing slabs, pipe racks, and access roads. Consequently, stormwater impacts are expected to be minimal. During construction, best management

practices will be employed to control stormwater runoff, including the use of silt fencing along the three road crossing trenches to minimize erosion.

In post-construction conditions, stormwater management will rely on the existing topography and infrastructure, which are already designed to handle runoff from industrial operations. Overall, stormwater will continue to flow in accordance with existing drainage patterns without creating additional impacts to the site or adjacent shoreline.

#### Maintenance Schedule for Stormwater Facilities

No new stormwater facilities will be constructed or modified as part of this project. Stormwater controls will be limited to temporary measures implemented during construction, such as silt fencing and ground stabilization. These measures will be inspected on a weekly basis and following significant rainfall events to ensure effectiveness. Any damaged or ineffective controls will be repaired or replaced immediately. Once construction is complete and the site is stabilized, temporary measures will be removed. Long-term stormwater management will rely on existing drainage systems and natural sheet flow around the facility, requiring no additional maintenance beyond routine inspection of stabilized areas to ensure that erosion or sedimentation does not occur.

### 5.02 Site Plans (Attached Drawings)

*5.02.01 Lot Layout (See Attached: Engineer/Surveyor drawings)*

*5.02.02 Road Layouts (See Attached: Engineer/Surveyor drawings)*

*5.02.03 Position of Structures (See Attached: Engineer/Surveyor drawings)*

*5.02.04 Stormwater Drainage (See Attached: Engineer/Surveyor drawings)*

*5.02.07 Erosion and Sediment Control Plan (See Attached: Detail Sheets)*

*5.02.09 Other Required Drawings (See Attached: Engineer/Surveyor drawings)*

*5.02.10 Required Maps (See Attached: Official Zoning Map, Parcel Map, FIRM)*

### 5.03 Project Workplan

Proposed construction activities will be conducted upon receipt of all required permits and are anticipated to take approximately 60 days for installation and commissioning of the seawater reverse osmosis (SWRO) system. Because the project reuses existing slabs, pipe

racks, and infrastructure and no clearing, grubbing, or excavation is required except for three road crossings, site disturbance will be minimal.

The installation of structural best management practices (BMPs), such as silt fencing along road shoulders will occur during the first 0–5 days prior to mobilization of equipment. The placement of containerized SWRO units, intake skids, and anchoring to the existing concrete slab at the seawater intake structure will follow. Mounting of intake, product, and brine piping to existing pipe racks and sleeper mounts will be completed concurrently, along with trenching for three road crossings. Electrical connections to the existing substation and MCC units will occur simultaneously with piping activities.

Final phases of construction will include connection of the SWRO plant to the existing potable water storage tank (T-205-2) and the Diageo USVI distribution system, followed by testing, commissioning, and water quality verification. All disturbed areas will be stabilized immediately upon completion of installation, and temporary BMPs will be removed after site stabilization has been confirmed.

The overall schedule of activities is anticipated to begin in January 2026 and be completed by April 2026, with the following phases:

### **Pre-Construction**

January 2026 (0–5 days): Scheduling of material delivery, contractor coordination, and mobilization. Installation of BMPs including silt fencing and turbidity controls at work areas.

### **Construction**

January 2026 – February 2026 (Days 5–30): Delivery and placement of modular SWRO units and intake skids. Mounting of intake, product, and brine piping to pipe racks, sleeper supports, and surface-mounted segments. Installation of road trenches and initiation of electrical tie-ins.

March 2026 (Days 30–45): Completion of electrical connections, continuation of piping tie-ins, and stabilization of ground-disturbed areas with gravel or compacted fill.

### **Post-Construction**

Late March 2026 – April 2026 (Days 45–60): Final tie-in to potable water storage tank and Diageo USVI distribution line. Testing, commissioning, and performance verification of the SWRO system. Removal of temporary BMPs and final inspection of stabilized areas.

The phased approach ensures that stormwater, erosion, and sedimentation control measures remain active throughout construction, with stabilization and protection measures implemented immediately following each stage of disturbance.

## 6.00 Ecological Setting & Probable Impact on the Natural Environment

### 6.01 Climate & Weather

#### Climate

The climate of St. Croix, and the broader Virgin Islands territory, is typified by generally fair, tropical weather. This tropical climate is characterized by two key features – Consistent wind speed and direction, and Narrow temperature swings. The USVI experiences usually consistent trade winds, primarily from the northeast and east, contributing to steady and predictable wind patterns throughout the year. Both seasonal and diurnal temperature variations are minimal resulting in a stable and warm climate with temperatures that do not fluctuate significantly, ensuring a relatively constant warm weather pattern year-round. These climatic conditions create an environment that is typically warm, with gentle breezes and a stable temperature, contributing to the appealing tropical climate of St. Croix and the Virgin Islands.

## Monthly Climate Normals (1991–2020) – HENRY E. ROHLSSEN AIRPORT, VI

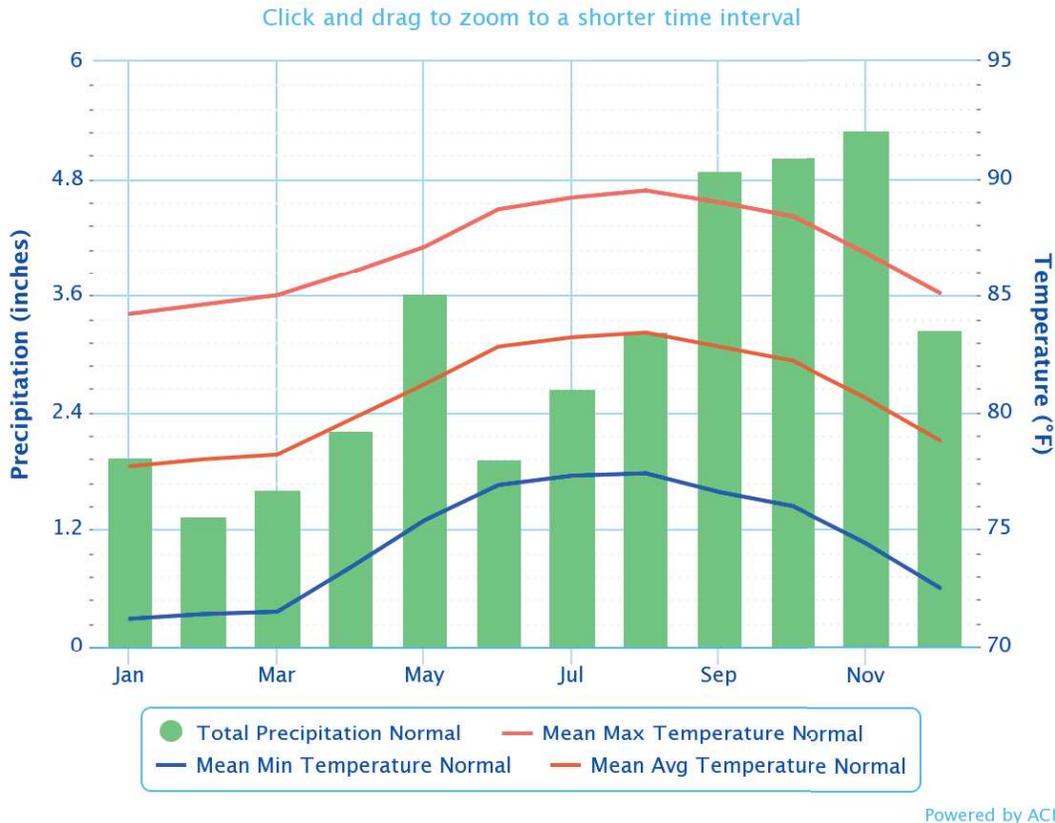


Figure 6.01.1 – Summary of Monthly Climate Normals from 1991-2020 at HER Airport, St. Croix, VI ([https://www.weather.gov/sju/climo\\_pr\\_usvi\\_normals](https://www.weather.gov/sju/climo_pr_usvi_normals))

Rainfall in St. Croix, US Virgin Islands, varies throughout the year. According to NOAA, the rainy season from May to October sees an average of 3-4 inches of rain per month, while the drier season from November to April averages 2-3 inches per month. The island's average annual temperature is a moderate 80.7°F. During the warmest months (May to October), temperatures average around 81-84°F (27-29°C), and during the cooler months, they average around 71-81°F.

The closest NOAA National Ocean Service Weather Station is situated in Christiansted AP, St. Croix, with the Meteorological Station ID VQW00011624 and can be found below in Figures 6.01.2 and 6.01.3.

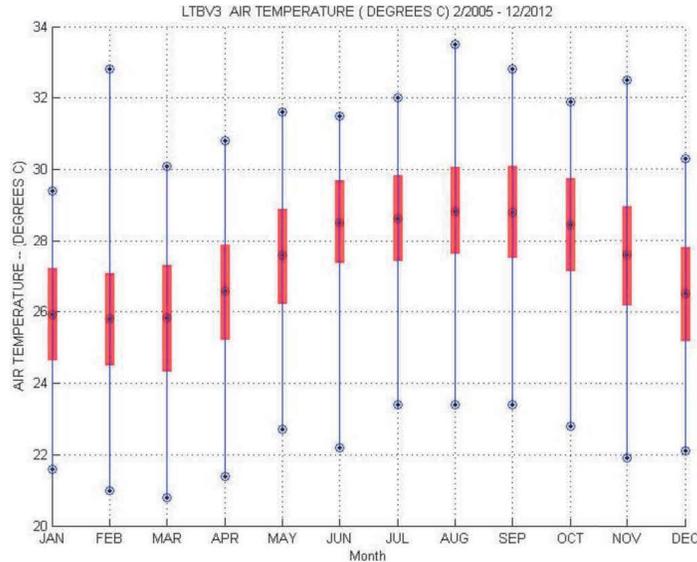


Figure 6.01.2 – Average Air Temperature – Limetree Bay, St. Croix, VI (NOAA)

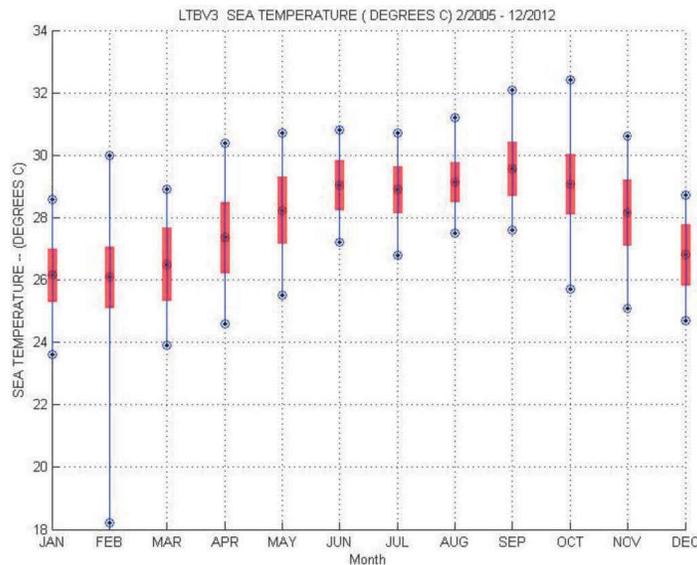


Figure 6.01.3 – Water Temperature – Limetree Bay, St. Croix, VI (NOAA)

### Impact on the Proposed Project

The project and proposed SWRO will be minimally affected by the general climate, made of materials appropriate for the marine environment, temperature scales and rainfall typical of the area.

### Storm and Hurricanes

Each year, the region experiences a variety of storm events, including squalls, thunderstorms, and hurricanes. Standard rain events are most frequent in the summer, usually lasting only a few hours and not significantly altering the trade winds. A tropical





South American continents, which are part of the American Plate. The Lesser Antilles arc is a volcanic arc formed above a subduction zone where the Atlantic oceanic crust of the American Plate is being pushed down beneath the Caribbean Plate. The Caribbean Plate is sliding past North and South American plates along east-west trending northern and southern boundaries. The western boundary features a subduction zone where the Cocos Plate is being pushed northeastward and underneath the Caribbean Plate, situated to the west of Central America (Rogers, 1988).

St. Croix lies on a somewhat isolated, submerged ridge separated from the Puerto Rico Bank by the Virgin Islands Basin. Geologically it is related to the islands of the Puerto Rico Bank. If St. Croix was ever connected to the northern Virgins, it may have been separated from that group by either block (Meyerhoff 1927, Whetten 1966) or shear faulting (Adey 1977, Turner 1971).

The oldest rocks exposed on St. Croix are epiclastic volcanic sandstone and mudstone of the Caledonia Formation (Whetten 1966). These weakly metamorphosed, uplifted, folded and faulted rocks were derived from volcanic and other narrow-trench sediments originally deposited by turbidity currents on the deep ocean floor about 70 to 80 million years ago (Adey 1977). Buck Island is an emergent part of the St. Croix shelf.

Somewhat later in the Cretaceous, one or more volcanoes formed on the sea floor to the south or southeast of St. Croix. Volcanic debris was shed northward to form the Judith Fancy formation, composed of tuffaceous sedimentary rocks, which occur on St. Croix but not on Buck Island.

St. Croix was uplifted above sea level in the Oligocene (Whetten 1974), originally as two islands. The East End Range (including proto-Buck Island) and the Northside Range were separated by a trough several miles wide. The trough was subsequently filled in by the deposition of the Kingshill marl formation. There then followed a period of mild deformation, post-Miocene uplift, and erosion to form the present-day topographic features (Rogers and Teytaud, 1988). Therefore, the island of St. Croix consists geologically of two predominant mountainous areas (the North side and the East End ranges), with a central sediment filled valley in between.

The limestone and marls that overlay the Jealousy formation are known as the Kingshill formation. After these formations were deposited, the area underwent another period of uplifting, the two islands became connected by the newly emergent filled-in area, and the island of St. Croix was formed. Since that time, geologic activity has been limited primarily to the erosion of sediments and the formation of ponds, beaches, reefs, and beach rock coast.

Two large basins, the Virgin Islands Basin and the St. Croix Basin, separate St. Croix from the other Virgin Islands. Within the distance between St. Croix and St. Thomas, about 40 nautical miles, hydrographic charts show that the ascent from the sea floor north of St. Croix is as much as 70°. Frassetto and Northrop (1057) indicate that this northern topographic slope extends downward to the Virgin Islands Basin at a gradient up to 43°. There is an ascent of 13,656 feet within a horizontal distance of 25,800 feet, terminating with the steep north coast in the vicinity of Hams Bluff. The area has been described as the south side of the Anegada Trough and its related fault scarp (Taber 1922). Meyerhoff (1927) suggested that this block faulting took place during the late Pliocene or early Pleistocene, prior to which St. Croix was physically attached to the northern Virgin Islands.

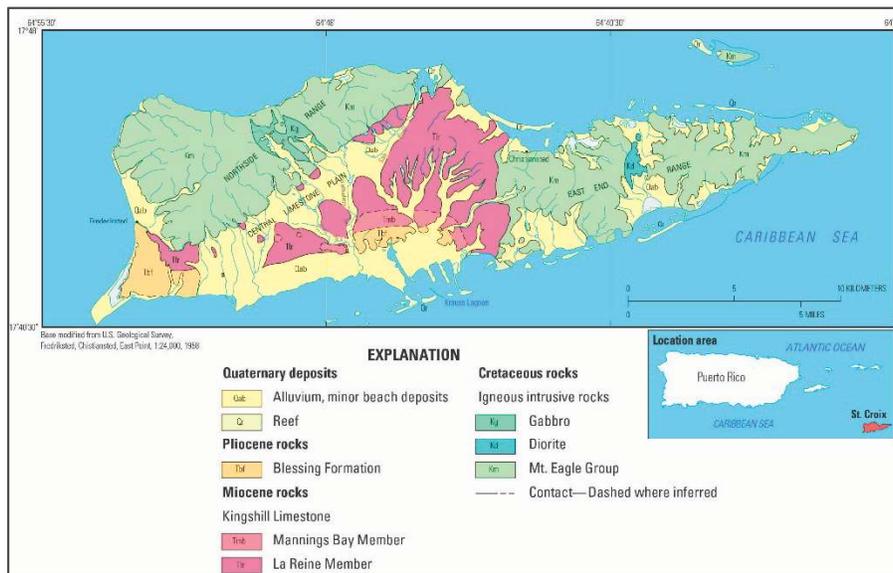
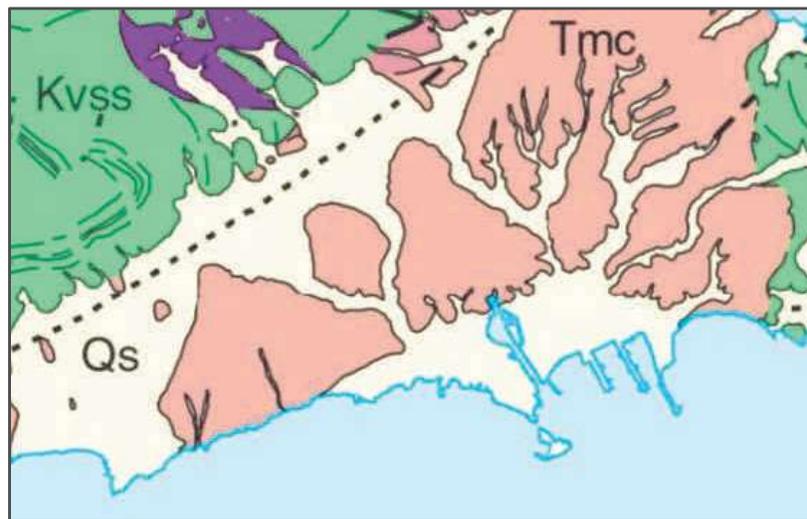


Figure 6.02.2 – Frederiksted, Christiansted, East Point 1:24,000, 1958 (U.S. Geological Survey)



*Figure 6.02.3 – Preliminary geologic map of the Greater Antilles and the Virgin Islands in vicinity of project site, St. Croix (Wilson, F.H., Orris, Gretta, and Gray, Floyd, 2020)*

### Geology of the Project Location

The proposed project lies at 17°44'41.76" N, 64°42'16.23" W along Melvin H Evans Highway West in Estate Anguilla, St Croix. The Custom Soil Survey by the National Resource Conservation Service (NRCS) identifies the main soil type for the project area as Aquents (AqA). However, the area to the southeast and northeast are classified as Urban land (UbD).

Aquents are widely distributed, poorly drained soils commonly found on tidal flats, or along Atlantic and gulf coasts. They have a variable soil profile from 0 to 60 inches, after which it turns to bedrock. AqA soils are often ponded, and slopes vary from 0 to 2 percent.

Urban land soils are found in developed areas, including residential, commercial, and industrial areas. They can have impervious or pervious surfaces, and do not have a classified hydrologic rating. UbD slopes vary from 20 to 40 percent.

Elevation at the project site varies from 0 to approximately 30 feet above sea level.

### Impact on the Proposed Project

The proposed project will be minimally affected by the soil type as the majority of the project is above-ground. Only three trenches approximately 2 feet wide by 20-30 feet in length will be excavated for road crossings, with no other earth change proposed.

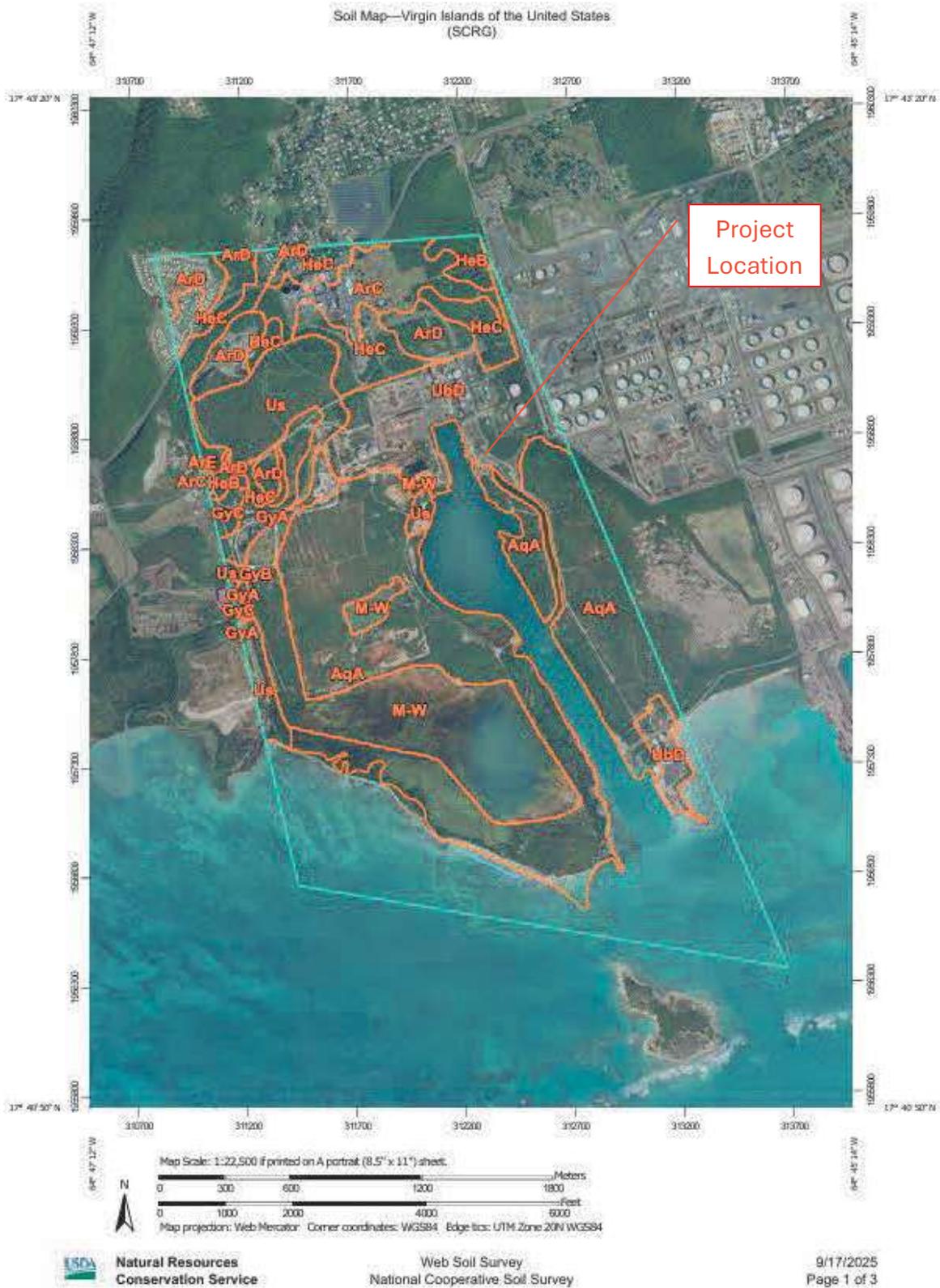


Figure 6.02.4 – Soil Map of Project Area (USDA/NRCS)

## Historic Use

The St. Croix Renaissance Group property has a rich history of development. The property was originally developed in 1962 by Harvey Aluminum Corporation in collaboration with the Government of the U.S. Virgin Islands for alumina refining. This process involved extracting alumina from imported bauxite. Along with the industrial complex, Harvey constructed Port St. Croix by blasting a channel through the coastal caliche. Extending more than a mile offshore, the port became one of the most protected deep-water harbors in the Caribbean.

The land within the project footprint has been used as an alumina refinery, once capable of producing approximately 600,000 tons of aluminum product from bauxite annually at its peak. Harvey Aluminum, Inc. (HAI) purchased the property from the GVI in 1962 and constructed the refinery in the same year. The refinery was then sold to Martin Marietta Alumina (MMA) in 1968, and continued alumina production at the Site until 1985 (Weston, 2012).

Refining operations were discontinued from 1985 to 1989. Virgin Islands Aluminum Company (VIALCO) purchased the property from MMA in 1989 and resumed refining operations from 1989 until 1995. St. Croix Alumina, LLC (SCA), a subsidiary of Aluminum Company of America (ALCOA), purchased the property from VIALCO in 1995, though refining operations were suspended from 1995 to 1998. ALCOA resumed refining operations in 1998, which continued through December 2000. In June 2002, SCRG purchased the property from Alcoa with the goal of environmental remediation and repositioning the site for new commercial and industrial opportunities, both locally and regionally.

## **Pre-Industrial Uses**

Prior to the development of the alumina refinery, this area was a natural lagoon, called the Krause Lagoon, home to a significant ecosystem comprised of a saltwater lagoon, mangrove network and shoreline tidal flats.

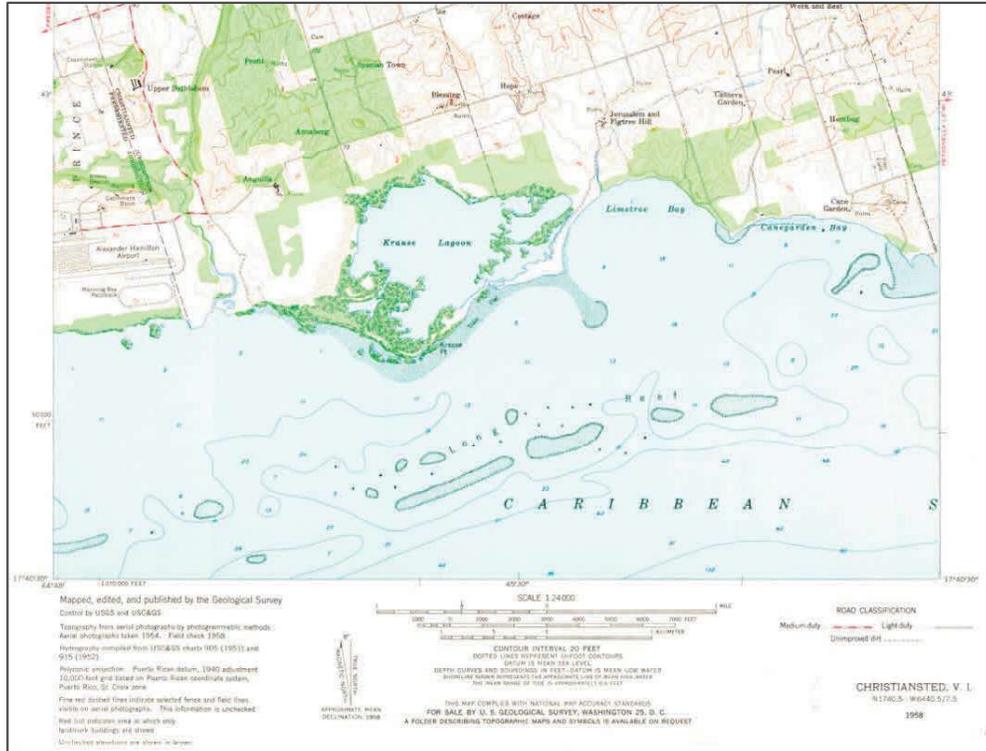


Figure 6.02.5 – 1958 Historical Map, South Shore, (USGS Quadrangle Map, Frederiksted, VI, 1958, 1966 ed.)



Figure 6.02.6 – 1954 Historical Photo, South Shore, (USGS 1954)

### **Colonial and Pre-Colonial Uses and Significance**

Due to the presence of the Lagoon, and water resources in the area, this region was heavily colonized in pre-colonial and colonial periods.

Historically, portions of the Site were used for sugar cane production, as evidenced by pre-1900 ruins in the western and northeastern portions of the property, and the subject property had various owners prior to construction of the alumina refinery. In 1937, the property was transferred from West Indian Sugar Factory, Inc. to private ownership. The U.S government took over the property in 1942, and subsequently transferred it to the GVI in 1949 (Weston, 2012).

Documented historical resources on and near the property include the Fairplain Archaeological District and a Colonial Period site in the Borrow Area 1 location (West of Area A Red Mud Pile), the Annaberg Cemetery north of Area A adjacent to Borrow Area 2 which contained pre-colonial pottery shards and shells, and the Spanish Town Plantation Settlement site, which is in close proximity to Borrow Area 6 along the Eastern border of the SCRG property.

In addition to the four areas of concern identified in Borrow Areas 1, 2, and 6, ruins and a grave site between Area A and the Upper Cooling Pond were previously mapped and identified in past reports. Locations of the existing ruins and existing grave site will be avoided during the course of the project but will be fenced off with orange construction fence if activity gets within 50 feet of the ruins edge, to protect them from construction activity.

No historical resources or findings are recorded as being in the UCP area, or along the pathway for construction of the pipeline. Borrow Area 4 was surveyed as part of the remediation efforts by Alcoa in 2013, and SHPO found no objection to use of the site based on the Phase IA&B Archaeological Surveys.

### **6.03 Drainage, Flooding & Erosion Control**

Drainage of the project area will not change as a result of the project. The existing Seawater Pumping Station with water intake structure has all existing infrastructure needed to retrofit a modular intake pumping skid or container and be able to draw seawater for use as feedstock for the SWRO plant. The intake piping will connect to the existing seawater station and modular pumping unit and run above ground to the SWRO Plant for a very short distance

of approximately 100 feet. The first 220 feet of the product line route will be surface-mounted until it reaches an existing pipe rack except for a road crossing where it will be buried for approximately 30 feet. An additional 2 locations will need pipeline trenching for road crossings, but these are the only parts of the project with potential for changes to land cover for this project, but as the pipeline will be very narrow, the total acreage is extremely small compared to the project scale. Stormwater runoff can be controlled by Installation of BMPs including silt fencing at earthwork areas.

Stormwater flow runs to the west and southwest, with mostly sheet flow and shallow concentrated flow characteristics. As the stormwater flows downgradient of the site, it concentrates more and channels to the shoreline via manmade impervious swales.

*b. Relationship of the Project to the Coastal Flood Plain*

Review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for U.S. Virgin Islands Index indicate that the project area is within flood Zone AE. See below in Figure 6.03.1 which is a portion of FIRM Panel 0080G, depicting site location relative to flood zones. Project location rated Zone AE is known as a high risk coastal flood zone with velocity hazard (wave action) and a base flood (100-year flood) elevation of 11 feet.

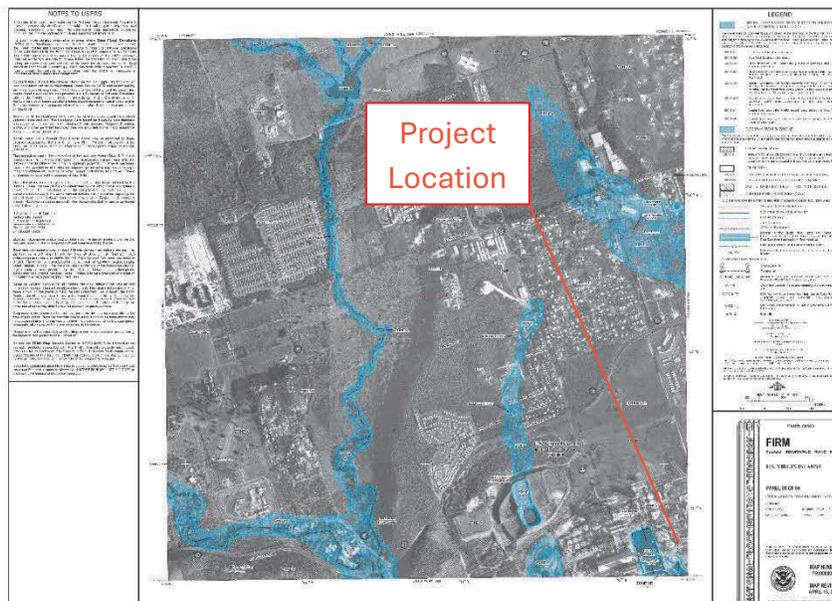


Figure 6.03.1 - Flood Insurance Rate Map (FIRM) Panel 0080G, 80 of 94. April 16, 2007.

US Virgin Islands - Advisory Flood Hazard Resources Map

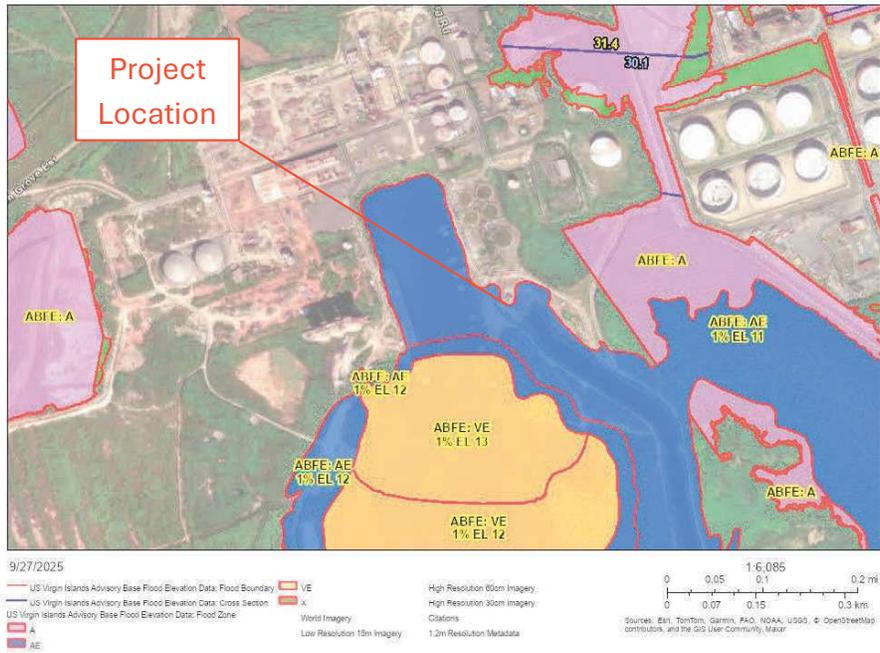


Figure 6.03.2 – Flood Zones at Project Area, 2018.

Impact on the Proposed Project

There are no anticipated changes to water runoff that would cause any noticeable change to flood conditions for the area, either upstream or downstream of the project site. The SWRO unit is containerized and will be bolted down and made storm surge ready for any storms or flooding.

6.04 Fresh Water Resources

The proposed location for the SWRO lacks water sources such as wells, freshwater basins, and underground springs. Some areas are marked as freshwater ponds based on the National Wetland Inventory database as can be seen in Figure 6.08.1 below, but these are either ephemeral or unusable as freshwater sources due to the industrial nature of their construction.

Freshwater is not anticipated to be used in any significant amount for the construction of the system, or the operation of the any units, and the project will not hinder access to any freshwater sources. The presence of the structures will not produce contaminants that could leach into the water table under normal conditions. There is no intended use of freshwater resources in the area for the construction or operation of this project.

## 6.05 Oceanography

### Seabed Alteration

The construction of the SWRO will have no impact on the seabed and its contours. The brine discharge route will route due west through an existing pipe sleeve and mount to the existing mooring dolphin that is adjacent to the TPDES permit proposed Outfall 004. There will be no direct excavation or dredging of seafloor material.

### Tides and Current

The Caribbean Current moves westward through the Caribbean Sea. This current is primarily driven by the North Equatorial Current. The warm Caribbean Current flows at an average speed of 38 to 43 centimeters (15 to 17 inches) per second and carries about 27.5 million cubic meters (approximately 1 billion cubic feet) of water per second (Britannica, 2007).

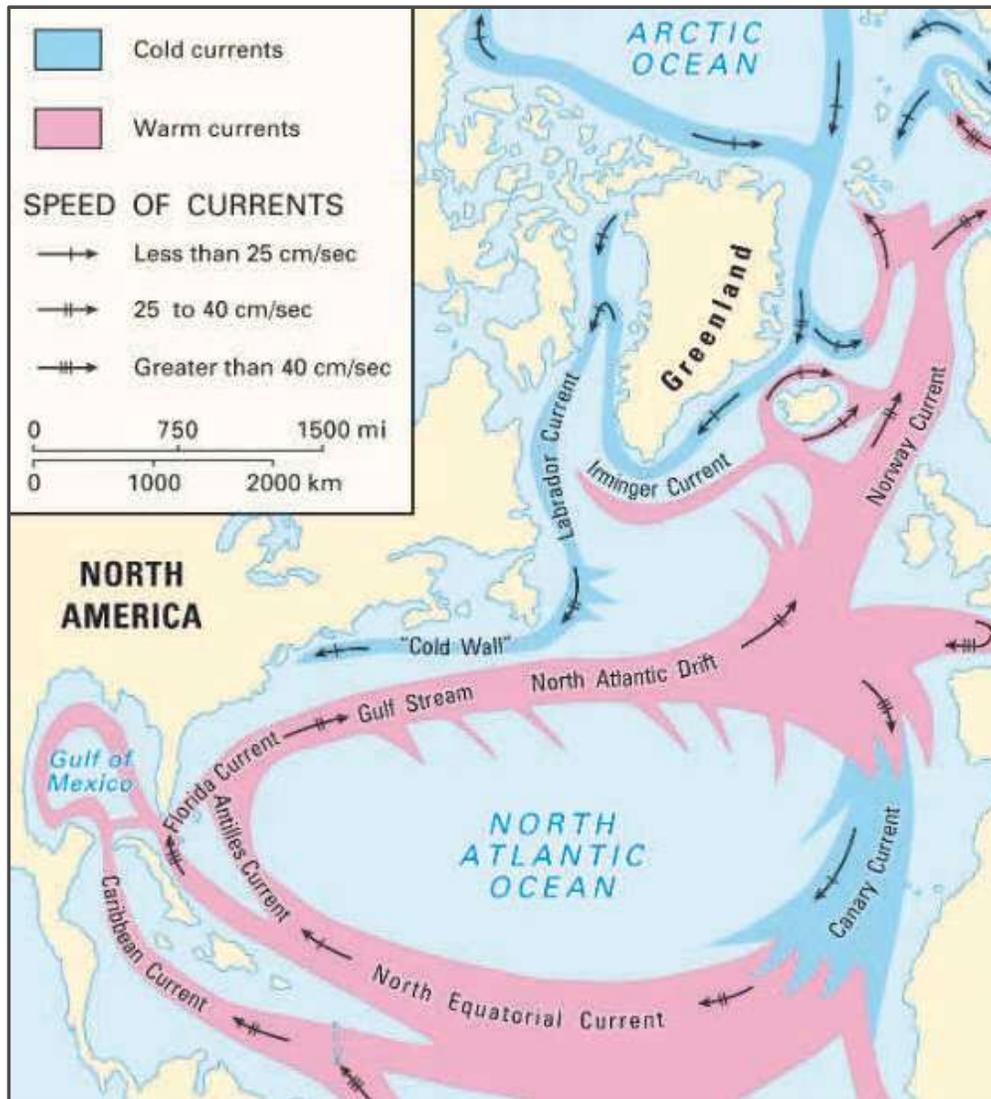


Figure 6.05.1 – Major currents, North Atlantic Ocean (LaMourie, 2021)

These currents change very little from season to season with the currents coming more from the south during the summer months (Figure 6.05.2). As the figure illustrates, there is usually a westerly current observed between St. Croix Island and St. Thomas Island (NOAA – BookletChart).

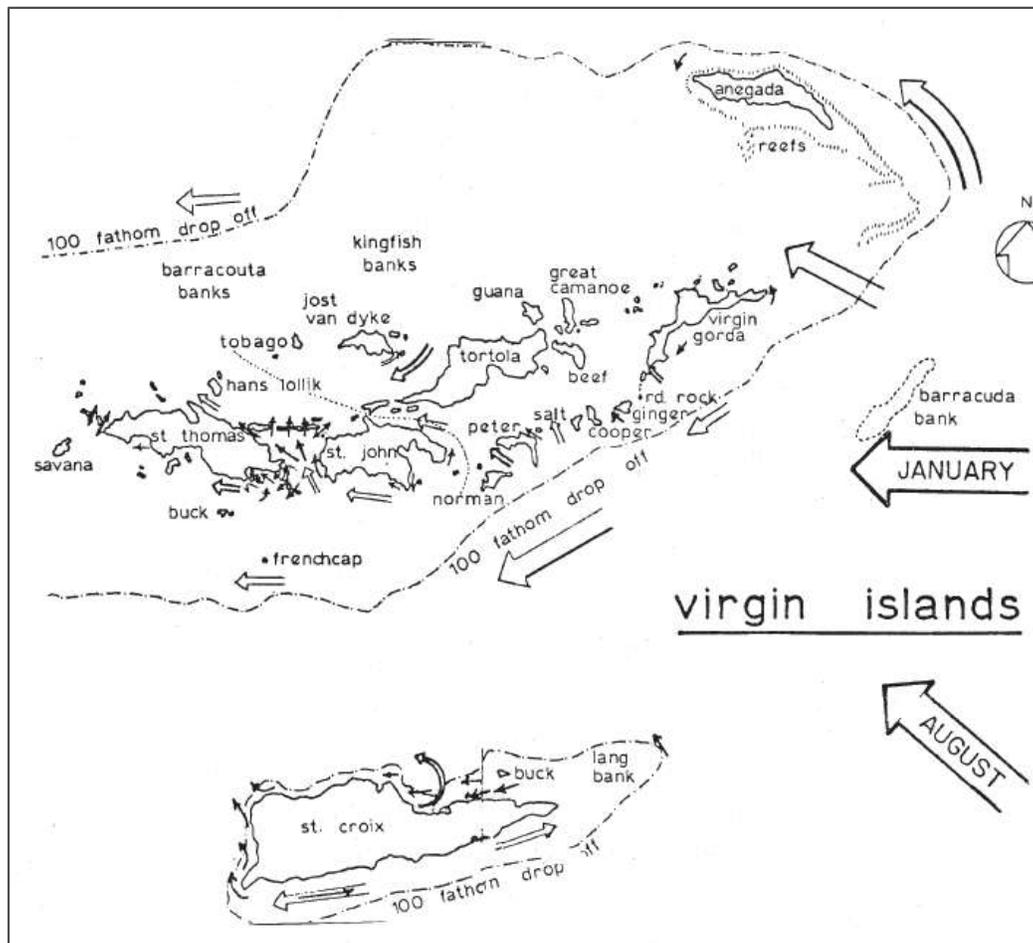


Figure 6.05.2 – General current patterns on the island platforms (Dammann, 1969)

Because of different exposures to open ocean water on one side and modified circulation of Caribbean water on the other, the north and south coasts of St. Thomas and St. John experience different tidal activities. On the north, tides are similar to the north coast of Puerto Rico, being semidiurnal (two cycles of high and low water per 24 hours). The time of tide stages in the Virgin Islands are earlier than in Puerto Rico, however. On the south coasts of St. Thomas and St. John, tides typically exhibit two (bi-modal) ‘peaks’ during the diurnal period (24-hour day), with the second (lesser) ‘peak’ having relatively small ebbs and flows. The mean tides range from 0.8 feet to 1.0 feet, and the spring tidal ranges reach up to 1.3 feet (IRF 1977).

In the Virgin Islands, tidal ranges and tidal currents, except in some inshore localities, are not significant. The small islands, lacking complex shoreline physiography, do not restrict changes in water level. The sea flows around the islands relatively unimpeded, resulting in tidal fluctuations of only a few inches to a foot. Furthermore, the steep slopes of the islands rising out of the water means that the intertidal zone, the part of the shoreline regularly

covered and uncovered by the tides, is very narrow. Therefore, there are no large areas of tidal flats uncovered at low tides as in other places in the world, especially along continental coastal zones.

One of the consequences of this small tidal action is that water exchange in bays due to tidal action is usually very small. For example, it is estimated that 24 to 40 tidal cycles alone would be necessary to exchange all the water in the main part of St. Thomas harbor. Fortunately, waves, swells and oceanic currents are generally successful at flushing most bays. However, these forces are considerably reduced by the time they reach the heads of deep embayments.

As a result, circulation may be poor in the inner reaches of some larger embayments. The innermost portions of the mangrove lagoon on St. Thomas, Salt River of St. Croix and Coral Bay of St. John are examples of this. To a lesser extent, similar conditions have been observed at the head of Vessup Bay (Redhook), St. Thomas and Cruz Bay, St. John, and most likely occur in other similar locations (IRF, 1977).

The closest NOAA tidal station is located in Limetree Bay, St. Croix, VI and is Station ID: 9751401. The NOAA tidal station is located at Latitude: 17° 41.7' N and Longitude: 64° 45.2' W. The mean range is 0.69 ft and the diurnal range is 0.71 ft. A snapshot of tidal data from the station is shown below.

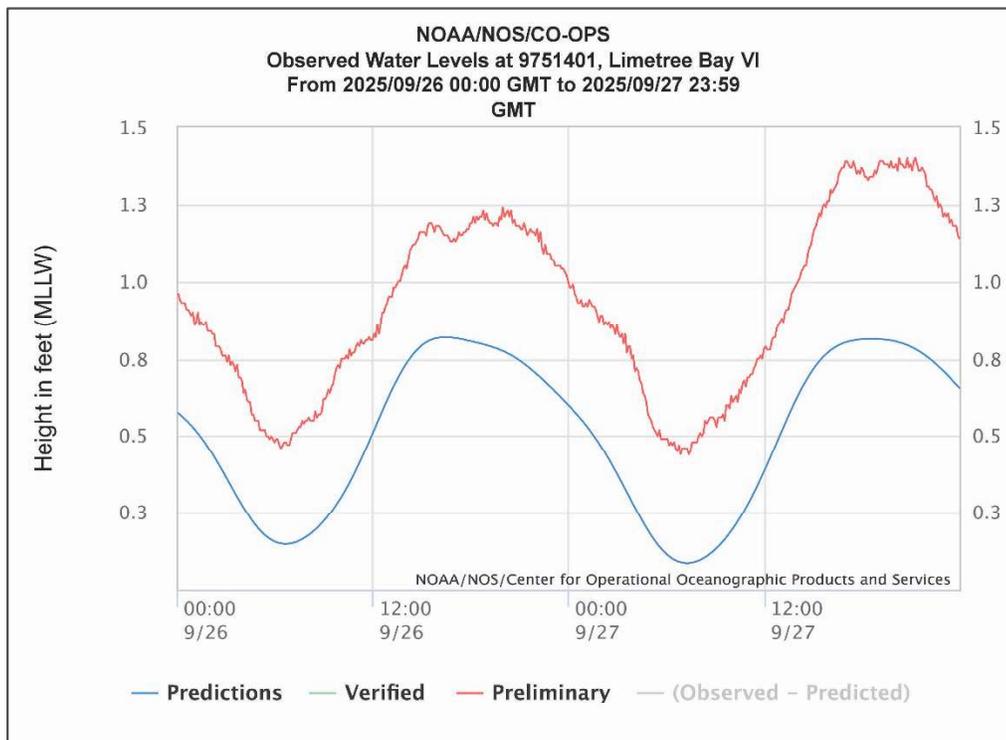


Figure 6.05.3 – Observed Water Levels in Limetree Bay, St. Croix (NOAA)

### Waves and Wind Impacts

The Virgin Islands are situated within the "Easterlies" or "Trade Winds" that move across the southern section of the "Bermuda High" pressure area. As a result, the predominant winds in this region are typically from the east-northeast and east, as documented by the Island Resources Foundation in 1977.

These trade winds exhibit seasonal variations, which can be categorized into four distinct time periods:

December to February, has generally consistent and strong trade winds, influenced by the stronger pressure gradient associated with the Bermuda High.

March to May marks the transition phase where the winds weaken slightly as the pressure gradient starts to drop.

June to August, the summer months, where trade winds are increasingly weaker and less predictable due to the movement and strength of the Bermuda High, leading to varying wind patterns.

September to November completes the cycle where the trade winds strengthen as the Bermuda High re-establishes, allowing more consistent easterly winds like those of December to February. The location of the proposed dock relative to the wind patterns experienced in the USVI would be advantageous as the frequency of wind influence on both water surface and floating dock conditions would be minimal.

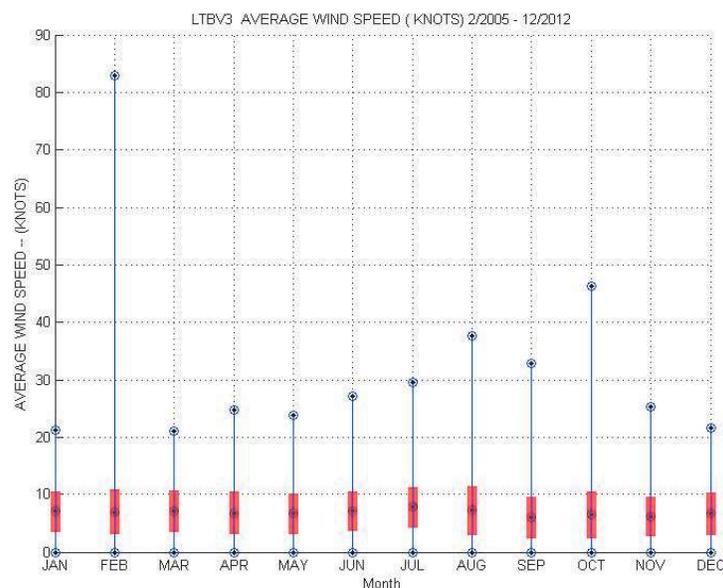


Figure 6.05.4 – Wind Speed, Limetree Bay, St. Croix, VI (NOAA)

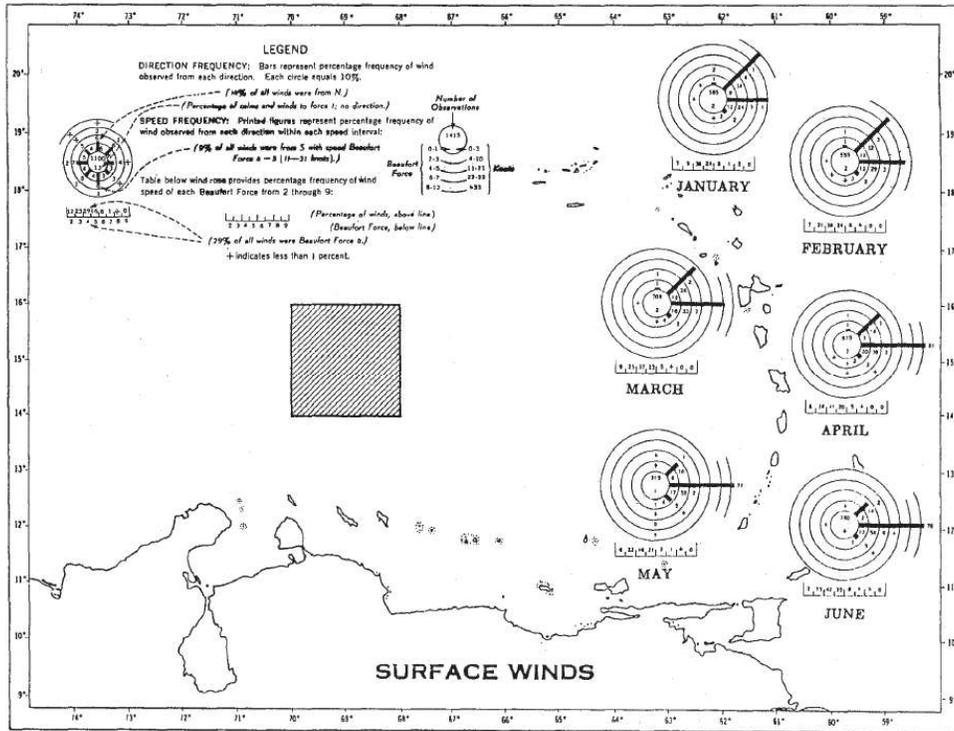


Figure 6.05.5 – Wind Direction and Speed Frequency, Central Caribbean, January - June. (IRF, 1977)

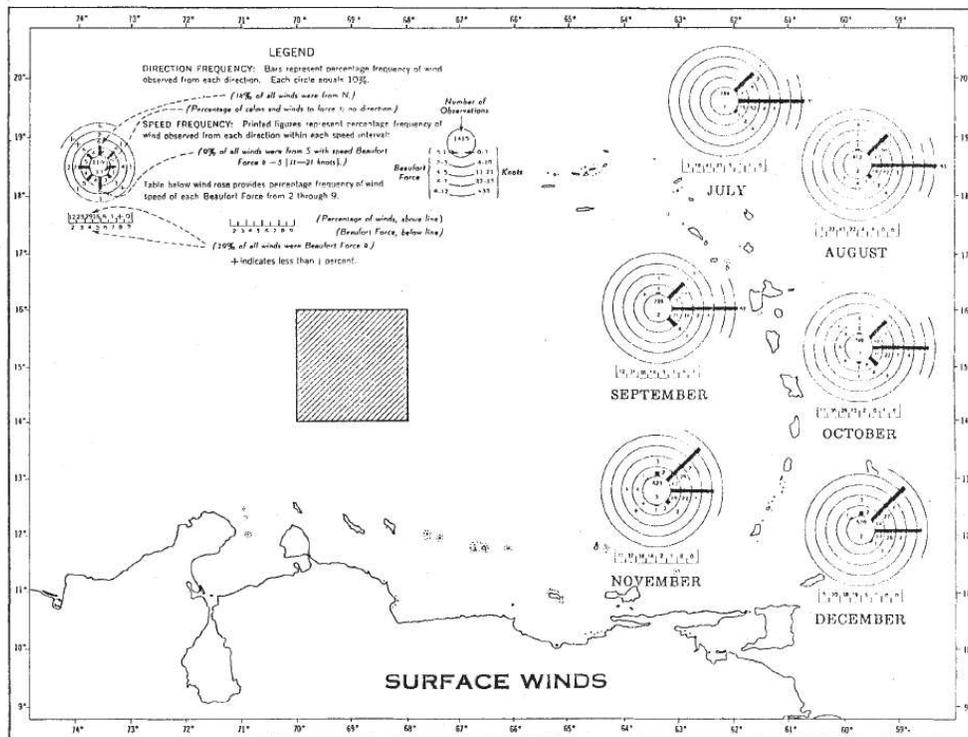


Figure 6.05.6 – Wind Direction and Speed Frequency, Central Caribbean, July - December. (IRF, 1977)

### Marine Water Quality

The water surrounding the site is classified as Class C as specified in the Amended V.I. Water Quality Standards of 12VIRR186. Class C waters have a designated use of Maintenance and propagation of desirable species of wildlife and aquatic life (including any threatened or endangered species), primary contact recreation, industrial water supplies, shipping, navigation and for use as potable water sources for those waters being used currently or that could be used in the future as potable water sources.

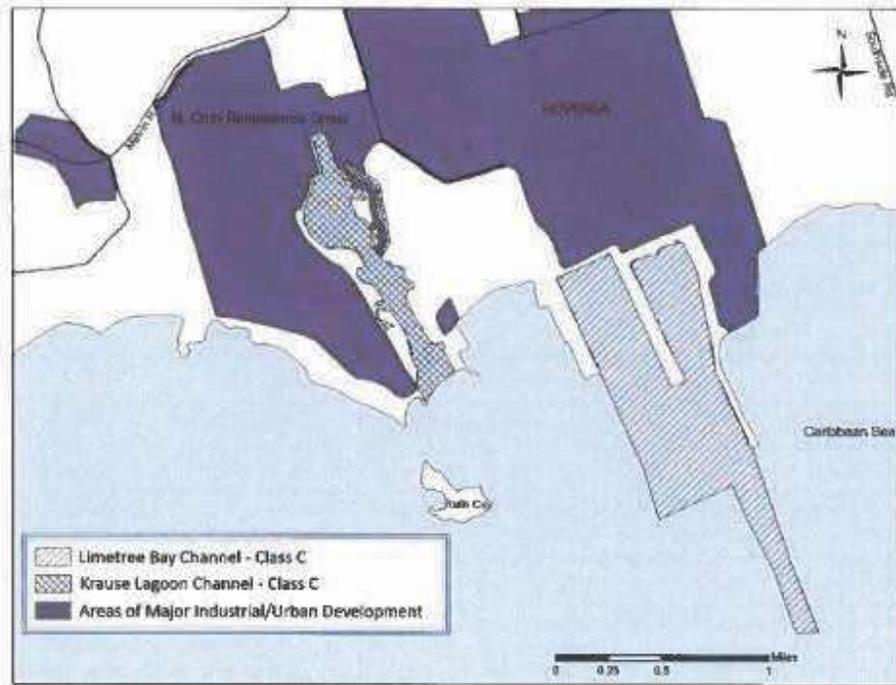


Figure 6.05.7 – Designated Class C waters around South Shore of St. Croix, USVI (12 V.I. Rules & Regs. §186)

Water quality criteria include dissolved oxygen not less than 5.0 mg/l, exception if cause is natural forces. The pH must not be extended at any location by more than plus or minus 0.1 pH unit, and at no time may the pH be less than 6.7 or greater than 8.5. Temperature not to exceed 32°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural conditions. Areas where coral reef ecosystems are located shall not exceed 25-29°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural conditions. Bacteria (enterococci) cannot exceed 30 CFU/100ml (30-day geometric mean), Phosphorus as total P shall not exceed 50 µg/L in marine and coastal waters, Nitrogen as total N shall not exceed 207 µg/L in more than 10 percent of samples over a three-year period in estuarine, marine and coastal waters. Radioactivity gross beta is limited to 1000 picocuries per liter, in the absence of Sr 90 and alpha emitters, Radium-226 is limited to 3

picocuries per liter, and Strontium-90 is limited to 10 picocuries per liter. Turbidity readings cannot exceed 3 NTUs, and in coral reef ecosystems areas, a maximum nephelometric turbidity unit reading of one (1) shall be permissible. Clarity may not exceed a level where a Secchi disc cannot be visible at a minimum depth of one meter, and in coral reef ecosystems areas, a secchi disc shall be visible at a minimum depth of fifteen (15) meters.

VI DPNR performs routine water quality measurements at select locations around the USVI as part of a comprehensive Ambient Water Quality Monitoring Program. The subject waterbody has five associated Water Quality Monitoring Stations as noted below:

<b>Waterbody</b>	<b>Location</b>	<b>Sample Station Number</b>
VI-STC-63	Krause Lagoon Channel	STC-19 Krause Lagoon Channel, STC-20 Alumina Plant Dock

According to VI DPNR’s 2020 Integrated Report (IR), which entails CWA Section 305(b) water status report and the CWA 303(d) list, the VI-STC-63 waterbody, Krause Lagoon Channel, is established as being impaired for Dissolved Oxygen, pH and Turbidity since 2008, 2020, and 2020, respectively. In the most recent draft 2022 CWA 303(d) these impairments are still present.

As of 2022, Krause Lagoon Channel is a low priority target for addressing these pollutants, and EPA in conjunction with DPNR intends to establish a Total Maximum Daily Load (TMDL) for this waterbody, indicated to be completed by 2033.

## 6.06 Marine Resources and Habitat Assessment

Existing shoreline near the site is mostly composed of shipping and port facilities with large areas of impervious land cover. The project site is located on the south-southwest quadrant of the island of St. Croix. The area is primarily commercial, light and heavy industrial zoning and the majority of water quality is Class C waters.

The area was designated as the Southshore Area of Particular Concern (APC) and designated for management intervention in the 2014 United States Virgin Islands’ Coral Reef Management Priorities document. The Southshore Industrial APC was established to reduce the negative impact that industrial pollution has on the marine environment. Figure 6.06.1 below indicates the locations of the APCs on St. Croix.

According to the most recent USVI Coral Reef Management Priorities document for 2020-2025, the Southshore Industrial APC has fallen to a lower ranking for management

intervention needs, though does remain a part of the priority list. This project is anticipated to create no negative effects of soil erosion and sedimentation with the proposed improvements to the site, and the applicant anticipates no negative effect from the project activities or long-term design.

During construction, SCRG will mitigate the effects of soil erosion, sedimentation and trash by following an Erosion & Sediment Control Plan addressing those issues and will ensure no negative effect during the work schedule.

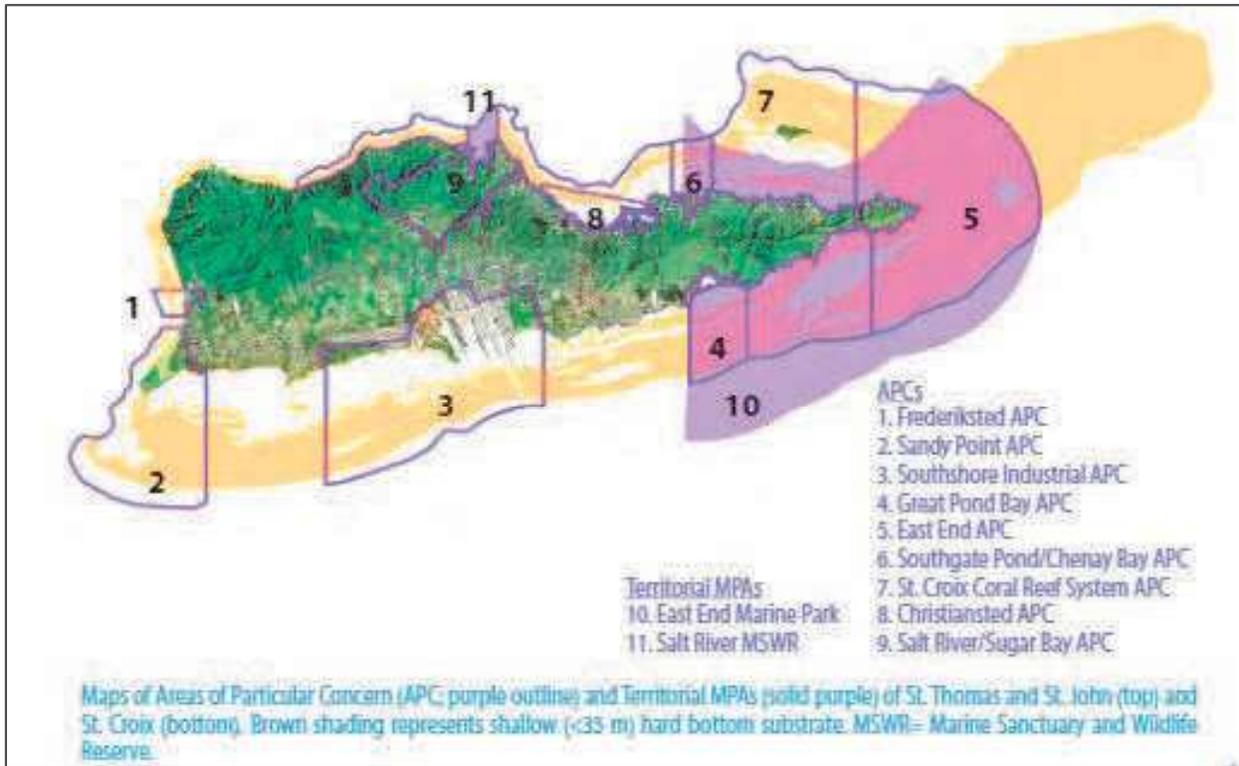


Figure 6.06.1 Map of Areas of Particular Concern – Marine Protected Areas of the United States Virgin Islands, 2014

A review of the 2002 NOAA Benthic Habitat Maps shows the majority of the surrounding habitat is a majority of seagrass (70-90% coverage) and a sliver of Reef/Colonized Bedrock. No negative impact to either of these types of marine habitat are anticipated as part of this project.

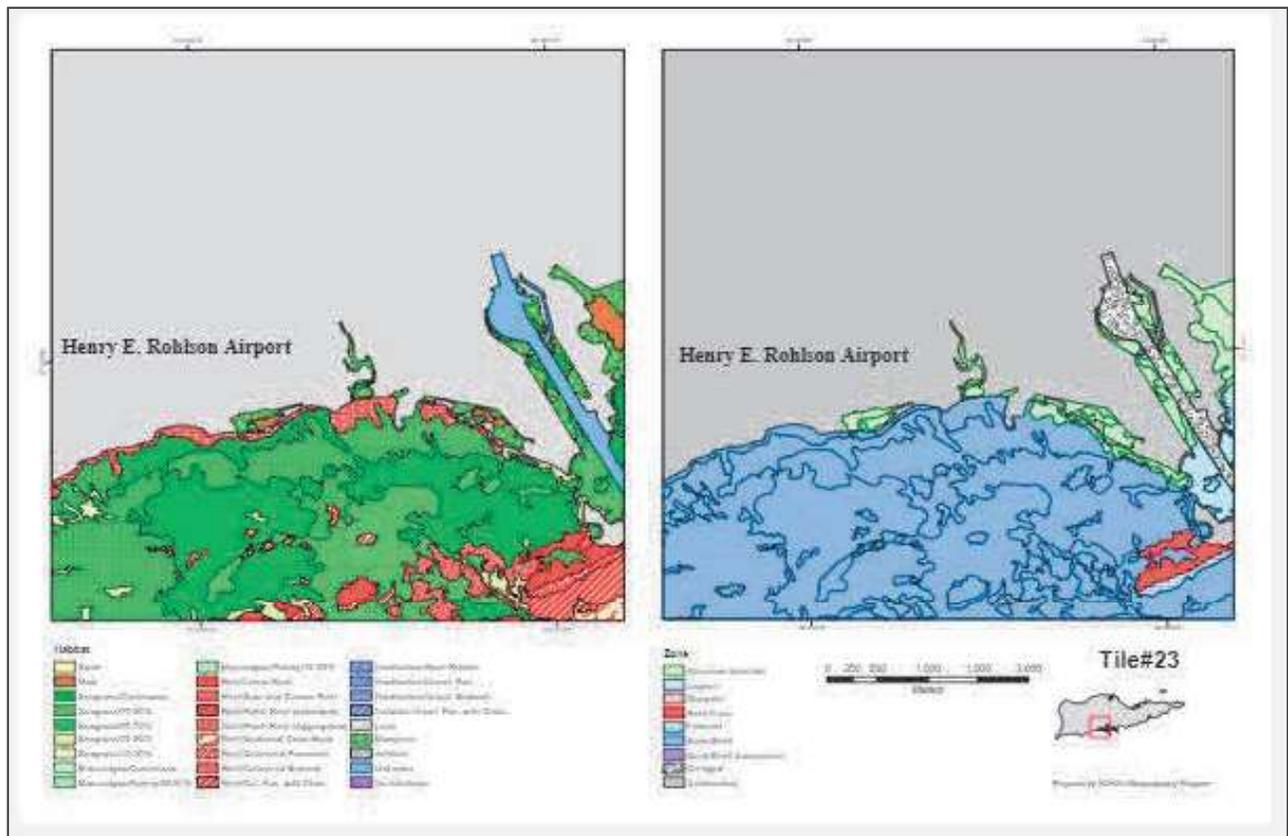


Figure 6.06.2 – 2002 NOAA Benthic Habitat Maps, South Shore St. Croix, USVI.

A review of Endangered Species in the area, through the IPaC Tool, indicates there are no endangered marine species within the proposed project site but identifies two federal endangered sea turtle species that are known to swim in the offshore waters, less than one hundred feet north of the project area. These include:

- Mammals: West Indian Manatee (*Trichechus manatus*, Threatened)
- Birds: Roseate Tern (*Sterna dougallii dougallii*, Threatened)
- Reptiles: Green Sea Turtle (*Chelonia mydas*, Threatened); Hawksbill Sea Turtle (*Eretmochelys imbricata*, Endangered); Leatherback Sea Turtle (*Dermochelys coriacea*, Endangered)

No negative impacts to these noted threatened or endangered species or to the marine environment in which they can be found is anticipated as a result of the proposed project.

## 6.07 Terrestrial Resources

Previous assessments within the property and facility areas showed no specific terrestrial species or habitat of particular concern, though a review of Endangered Species in the area, through the IPaC Tool, indicates that some of the SCRG property is known to be home to the St. Croix Ground Lizard (*Ameiva polops*). A preliminary site assessment did not reveal the project location to be current habitat by the St. Croix Ground Lizard, due mostly to the existing industrial infrastructure and lack of vegetation through the intended pathways for the new equipment and piping.

Any issues concerning presence of species that arise during the project will be brought to the attention of VIDPNR Fish & Wildlife Division as well as USFWS.

The Environmental Sensitivity Index (ESI) Map for the St. Croix island notes no specific habitat of particular sensitivity in the specific project area. However, there is indication that the LCP, particularly the southeastern side of the LCP, is used as habitat for certain bird species such as the Brown Pelican, Laughing gull, Least tern, Osprey and other shorebirds and wading birds, as show in Figure 6.07.1 below.

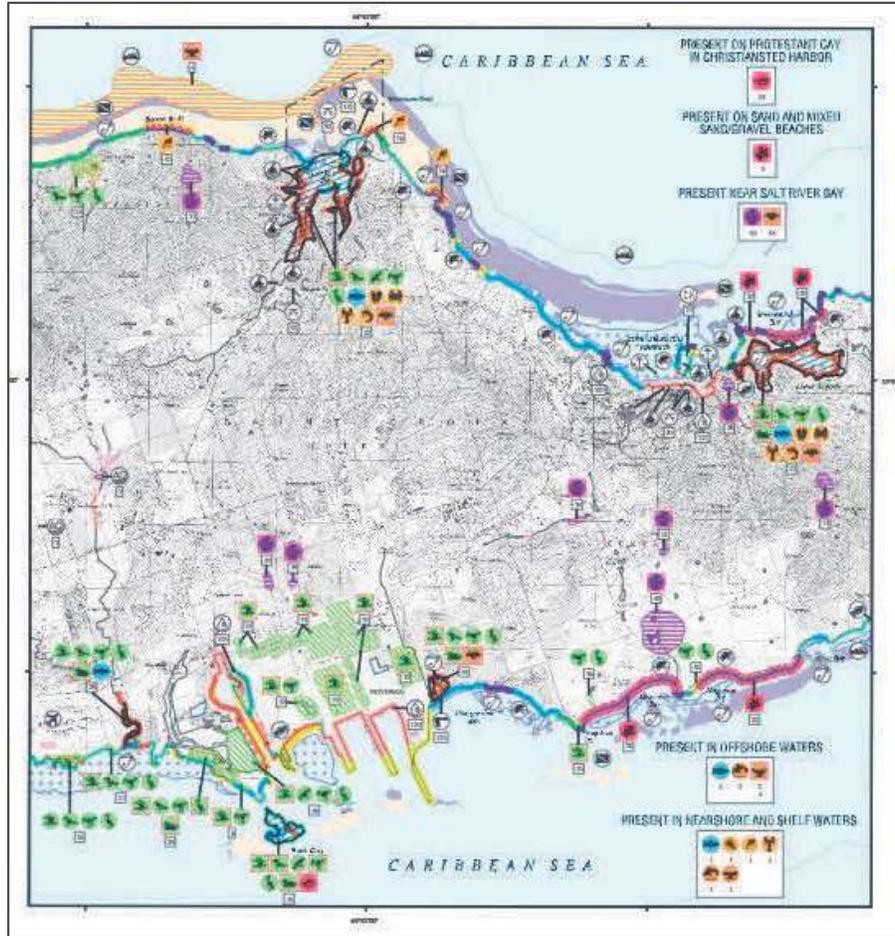


Figure 6.07.1 – Environmental Sensitivity Index Map, St. Croix, USVI.

Several species of birds were noted during the site survey, and the existing LCP has been a perpetual source of habitat to various migratory birds as noted in the ESI Map in Figure 6.07.1. As the project site is located to the north east of the LCP, there is some potential for these species of birds to be present near the project area.

Through the project scope, long term design and use, and perpetual site maintenance, SCRG will minimize the likelihood of any interaction with bird species.

### Impact of the Proposed Project

SCRG will minimize the footprint of work to the greatest extent possible.

Relating to stormwater, the site will see very little impact beyond the initial trench work required. As compliance with both stormwater and process water (i.e. RO brine) will be ensured under the issued TPDES permit throughout the life of the project, there are no

anticipated negative impacts to these species or their habitat, neither in the nearshore waters nor on land.

## 6.08 Wetlands and Freshwater Resources

The U.S. Army Corps of Engineers defines wetlands as "those areas that are periodically inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, marshes and similar areas." (U.S. Army Corps of Engineers, 1986).

Per the USFWS National Wetlands Inventory, illustrated in Figure 6.08.1 below, much of the southern portion of the SCRG property is designated as Estuarine and Marine Deepwater habitat (E1UBL) within the channel itself. It is encircled by Estuarine and Marine Deepwater habitat (E1AB3L) and includes Estuarine and Marine Wetland habitat (E2SS3N3).

A large section of freshwater wetland (PSS1C) is noted to the east of the project area in property also owned by SCRG. However, this wetland area and border is highly influenced by rainfall and season, with a significant area being ephemeral. Additionally, this area is part of a different drainage pathway, and the proposed project will not influence any stormwater that drains through this area.

There are mangroves within the Estuarine and Marine Wetland area at the channel edge, and some were documented close to the location for Outfall 004. However, all proposed piping installation or improvements will be on existing man-made structures only, and not expand the footprint of development into the mangrove area. No impacts are anticipated to any wetlands or mangrove plants.



## 6.10 Air Quality

No effects on air quality are anticipated because of the proposed project. The extent of equipment installation will not create noticeable fugitive dust, and use of large equipment or machinery will be minimal during installation. Additionally, there are no permanent air pollutant emitting units proposed for this project.

## 7.00 Impact of the Proposed Project on the Human Environment

### 7.01 Land and Water use Plans

Using the existing site infrastructure reduces the need for making large-scale alterations to area. This allows for a reduction in the ecological footprint from inhibiting loss of natural habitats and biodiversity than when earth-change and heavy construction is needed.

SCRG is zoned as an industrial site and major port, and the operation proposed for this project are in line with anticipated uses for the property. SCRG has industrial boat traffic, moorings, and shoreline access for vessels doing business within the St. Croix Renaissance Park. Allocating existing infrastructure to purify water will allow this project to provide a service for tenants and site users without affecting other activities in the area or neighboring properties.

### 7.02 Visual Impacts

This project will provide a clean and simple layout for the SWRO system, aligning with the existing development in the St. Croix Renaissance Park. Existing infrastructure will be either used or followed when installing new components and not change the existing landscape of the facility or shoreline.

### 7.03 Impacts on Public Services and Utilities

#### *Water*

The project will not utilize or impact substantial quantities of water, whether from public sources or otherwise, and it will not adversely affect the availability of freshwater resources. This project has the opposite effect, providing an opportunity to increase water availability to potential customers.

As Diageo USVI, the largest potential customer for this project, uses a significant amount of potable water, the shift to water being provided by the SWRO unit will reduce the burden on the municipal WAPA water distribution system.

#### *Sewage Treatment and Disposal*

There will be no flow to the municipal sewerage system or required sewer disposal resulting from this project's implementation.

#### *Solid Waste Disposal*

During construction of the project, domestic solid waste will be managed with onsite waste bins. It will be trucked out by a licensed waste hauler as necessary and disposed of in accordance with solid waste requirements.

During operation of the SWRO system, there will be expected maintenance and consumable part replacements. Disposal will be in line with solid waste disposal requirements.

#### *Roads, Traffic, and Parking*

There are no anticipated adverse effects on public roads, traffic, and parking, either during construction or for long-term operations.

#### *Electricity*

The SWRO system will be installed adjacent to existing electrical infrastructure on-site (Facility substation). Installation will require a new service meter and connection near the SWRO installation location. The system will require 3-phase 460V power from the municipal service as prime power, though existing generators owned by SCRG will be used as backup power only.

Power demand from the grid will increase as a result of this project, but not significantly enough to be a burden to the power grid.

#### *Schools*

There are no anticipated adverse effects on the local educational system during project implementation or in the long term.

#### *Fire and Police Protection*

Charles A. Seales Fire Station is located in Grove Place, approximately 4.9 miles from the St. Croix Renaissance Park using the main roads. The Ann Schrader Command Police Station is located in Estate La Reine, 1.1 miles north on the main roads. There are very little anticipated scenarios where fire or police services will be required. The St. Croix Renaissance Group has its own fire protection system on-site and SWRO operation does

not require flammable material or fuels in operations so poses very little risk for fire. The SCRG facility is a designated major port facility, and as such is required to maintain 24-hour security and a full fenced and gated property. This requirement means the facility will be covered under security monitoring and therefore police support for the operations is minimized.

#### *Public Health*

The project is not expected to cause any documented negative impact on public health or result in increased utilization of public health services.

### 7.04 Social Impacts

There are no anticipated social impacts, either positive or negative, as a result of this project.

### 7.05 Economic impacts

The presence of an on-site SWRO system provides economic benefits for the St. Croix Renaissance Group. A similar system was once active on the property, and now the demand for on-site water sources has increased. The increased reliability will be attractive to property tenants, and surrounding businesses.

### 7.06 Impacts on Historical and Archaeological Resources

The project will be limited to areas that have been previously assessed and determined to lack significant archaeological resources or findings, thus minimizing any potential negative impact on the historical or archaeological resources of the US Virgin Islands (USVI). Further, construction will be solely in previously disturbed areas, and the only trenching required will be for three road crossings in already disturbed soils.

In the event that suspected or known resources or artifacts are uncovered during site development, developers will promptly notify the State Historical Preservation Offices for further evaluation.

## 7.08 Waste Disposal

### *Sewage Treatment and Disposal*

The project will have no impact on the volume of sewage generated in the vicinity, neither during construction nor in the long-term operations.

### *Solid Waste Disposal*

Domestic solid waste will be handled through onsite waste bins and will be transported as needed by the landowner for proper disposal in accordance with solid waste regulations.

## 7.09 Accidental Spills

Given the nature of the project, spill incidents are possible but not anticipated during construction of the SWRO system. Major equipment or machinery may be used for unit installation, however no need for chemicals, paints, solvents or other liquids will be onsite during. The concrete slab for the containerized SWRO is already in place. During operation, use of anti-scalants and other chemicals will be common, but any container used to store these chemicals will be placed either indoors or within secondary containment and will be inspected routinely by SWRO unit operators.

## 7.10 Potential Adverse Effects Which Cannot be Avoided

In a natural setting, a containerized SWRO unit can disrupt the natural beauty of their surroundings, leading to both visual and ecological consequences. However, this typical focus on aesthetics is not relevant, as the site is within an already developed industrial park and will use existing infrastructure.

Discharge from a SWRO will always be required to separate the salts, minerals and other contaminants from the seawater source and product stream. However, to ensure no negative effects to the environment, waterbody or the persons or marine life that use it, SCRG will follow the requirements set forth in the current and future issued TPDES permits.

## 8.00 Mitigation Plans

An Operations and Maintenance plan will be developed to help mitigate effects that arise from material delivery and placement. Maintenance of the facility will be required to ensure no buildup of waste, spills, or damage occurs to the immediate environment.

## 9.00 Alternatives to Proposed Action

There are several alternatives to the proposed project to install, operate and maintain a SWRO system in SCRG. However, each alternative has been evaluated and determined to be less desirable for SCRG and potential clients.

### **Alternative 1. Demand Management & Conservation**

The most cost-effective “new water source” is reducing existing demand. By implementing water conservation and efficiency measures, the total community demand can be lowered. Demand reduction can be achieved through retrofits such as low-flow fixtures, leak detection programs, and process optimization in industrial facilities. These actions directly reduce both potable water consumption and strain on sewer systems.

However, the primary client for the SWRO is Diageo USVI, which already has demand reduction programs in place, does water audits at least yearly, and has a continuous improvement approach to further reductions. The nature of the rum distillery requires water and is already at optimized levels, so current demand is in line with operational needs and cannot be further reduced by any significant margin.

### **Alternative 2. Brackish Groundwater Reverse Osmosis (RO)**

If available, brackish groundwater represents a far more energy-efficient and cost-effective feed source than seawater. Total dissolved solids (TDS) in brackish aquifers typically range from 1,000–10,000 mg/L, compared to ~35,000 mg/L for seawater. This lower salinity translates to lower RO pressures, higher recoveries, and reduced energy consumption, often making brackish RO a fraction of the cost of seawater RO per gallon produced.

However, the existing facility is currently under a USVI consent decree to remediate the site through evaluation and control of pollutants in existing groundwater, thereby making the use of groundwater in the area as a source of freshwater a significant liability for any company or organization.

### **Alternative 3. Rainwater Harvesting & Storage**

In an island environment with high annual rainfall, rainwater harvesting is a natural complement to other supply solutions. Rooftop catchments, paved surfaces, and purpose-built collection areas can feed cisterns or reservoirs, providing significant volumes of water during the wet season. When combined with first-flush systems and basic treatment (filtration, disinfection), harvested rainwater can supply potable or non-potable needs, depending on end use.

The primary challenge lies in variability and storage. To sustain a continuous 350 gpm demand, very large storage volumes would be required to buffer dry periods. Capital costs would be higher than those for the primary option, a SWRO, and would take years if not decades to have realized Return on Investment (ROI). Additionally, rainwater, especially an amount that must be kept in reserve to meet demand, will require its own treatment that will have high cost and result in similar challenges as a SWRO.

Rainwater harvesting can be designed as a supplemental source, in tandem with another alternative or SWRO operation, by offsetting peak demand, reducing dependence on desalination, and improving overall resilience. However, the degree it can supplement is not commensurate of the large capital investment required.

### **Alternative 4. Water Reuse (Advanced Reclamation)**

Water reuse, or advanced treated wastewater, offers a highly reliable alternative when consistent wastewater flows are available. Using treatment trains such as microfiltration, reverse osmosis, and advanced oxidation/UV disinfection, wastewater effluent can be purified to meet or exceed drinking water standards.

However, the largest potential client, Diageo USVI, already recycles all its wastewater by these technologies, and any water that Diageo USVI must dispose of is a byproduct of the wastewater treatment for reuse, so no further improvements to this approach are feasible.

### **Alternative 5. Bulk Water Importation (Barging)**

Importing freshwater by barge is a rapid, flexible way to meet short-term or emergency needs. Many Caribbean islands have relied on this option in the past during droughts or infrastructure outages, with tankers delivering freshwater from nearby islands or mainland sources. This approach avoids the large capital investment of new treatment facilities and can be mobilized quickly, making it valuable as an interim solution.

However, barge deliveries come with high and unpredictable operating costs, as they depend on vessel availability, fuel prices, and weather conditions. Logistics must also ensure port access, pumping, and distribution connections. For continuous high-volume needs, barging becomes economically unsustainable and is not a feasible alternative for any anticipated long-term operation.

### **Alternative 6. Other Desalination Techniques (MSF, MED, or MD)**

Thermal desalination processes such as Multi-Stage Flash (MSF), Multi-Effect Distillation (MED), or Membrane Distillation (MD) are robust and proven methods for producing potable water from seawater. They are particularly effective when low-cost or waste heat is available, as in power-plant cogeneration settings. Thermal systems handle high salinity and fouling better than membranes, offering high reliability and long operational lifespans in harsh marine environments.

However, thermal desalination requires significant capital outlay and is highly energy-intensive when operated independently. For island communities without cheap fuel or integrated power plants, this approach is generally less attractive than RO, as it is the case for St. Croix at this time.

In consideration of these 6 alternatives, SCRG has determined that the current proposed SWRO system project will be the most effective from a cost and operational perspective. It will allow the cost per gallon product to remain within market value, will be reliable with easily operated and maintained components, and can be serviced by both on-island and mainland specialists. SWRO technology is robust enough to be very reliable when properly maintained, and the existing TPDES permit is set up and established to ensure any discharges from the RO operation meet quality to be protective of the environment, marine life, and human health.

## 10.00 Relationship Between Short- & Long-Term Uses of Man's Environment

The containerized SWRO unit and system is unlikely to have any impact on marine life, environmental resources, and recreational activities. Most of the impacts are expected to be temporary and short-term during the line placement and installation process, including delivery of equipment.

Once installed, the system will require minimal maintenance and is not expected to have any effect on existing or future marine or terrestrial habitats in the project area due to the technology's predictable discharge streams. This project will lead to a substantial enhancement of existing infrastructure while imposing minimal impact on the island's existing natural, cultural, or functional resources.

## 11.00 References

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NOAA – Environmental Sensitivity Index Maps, Office of Response and Restoration, Hazardous Materials Response Division, July 2000

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[https://www.ndbc.noaa.gov/station\\_page.php?station=ltbv3](https://www.ndbc.noaa.gov/station_page.php?station=ltbv3)

<https://tidesandcurrents.noaa.gov/met.html?id=9751364>

NOAA USVI Active COOP Stations, 1991-2020 Normals for Puerto Rico and the U.S. Virgin Islands <https://www.arcgis.com/home/webmap/viewer.html?webmap=bebcdebdc654474faca21a9a0d4446b4&extent=-68.1149,17.0491,-64.0582,19.2906>

[NRCS Web Soil Survey](#)

US Fish and Wildlife. National Wetlands Inventory. [National Wetlands Inventory \(usgs.gov\)](#)

[USACE Field Manual \(FM\) 5-134](#)

[US Virgin Islands TCRMP Annual Report 2020](#)

Weston Solutions, Inc., *Expanded Site Inspection and Removal Assessment Report St. Croix Alumina (Renaissance Park) Site St. Croix, U.S. Virgin Islands*. Document Control No. 1455-2A-ATIW. May 2012

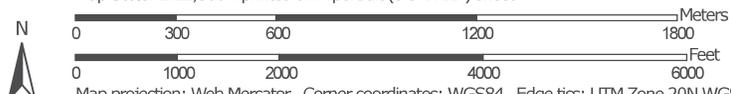
5

# SOIL SURVEY REPORT

Soil Map—Virgin Islands of the United States  
(SCRG)



Map Scale: 1:22,500 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 20N WGS84

### 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.

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 6, Sep 10, 2024

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

Date(s) aerial images were photographed: Jan 7, 2024—Jan 29, 2024

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.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AqA	Aquents, 0 to 2 percent slopes, ponded	390.3	27.9%
ArC	Arawak gravelly loam, 5 to 12 percent slopes, very stony	54.9	3.9%
ArD	Arawak gravelly loam, 12 to 20 percent slopes, very stony	56.6	4.0%
ArE	Arawak gravelly loam, 20 to 40 percent slopes, very stony	0.2	0.0%
GyA	Glynn gravelly loam, 0 to 2 percent slopes	21.5	1.5%
GyB	Glynn gravelly loam, 2 to 5 percent slopes	1.8	0.1%
GyC	Glynn gravelly loam, 5 to 12 percent slopes	8.1	0.6%
HeB	Hesselberg clay, 2 to 5 percent slopes	32.6	2.3%
HeC	Hesselberg clay, 5 to 12 percent slopes	87.5	6.3%
M-W	Miscellaneous water	164.3	11.7%
UbD	Urban land	127.0	9.1%
Us	Ustorthents	81.5	5.8%
<b>Totals for Area of Interest</b>		<b>1,398.9</b>	<b>100.0%</b>

6

QUALIFICATIONS  
& BACKGROUND



# TRINITY AUSTRIE

## DIRECTOR OF ENVIRONMENTAL SERVICES

### EDUCATION & TRAINING

#### UNIVERSITY OF FLORIDA

- B.S. Environmental Engineering

#### UNIVERSITY OF THE VIRGIN ISLANDS

- B.S. Applied Mathematics
- A.S Physics

### CERTIFICATIONS

- Certified Engineer In-Training
- Certified in Management of Change
- Certified Process Hazard Analysis Team Leader
- Certified ISO 9001:2015 Lead Auditor
- Diageo USVI 2017 Sensory Panel Accreditation
- 40-Hour HAZWOPER Certified
- IMDG/CFR-49 Transportation of HAZMAT Compliance Safety and Security Certified
- Candidate, Certified Energy Manager
- Candidate, Professional Engineering License

### AWARDS

- **2021 Special Project Champion Award**
  - Company Award for saving Diageo over 2 million dollars resulting from Tysam Tech's environmental innovation
- **2016 Excellence in Safety Award**
  - Team Award for Successful Behavioral Safety Program Deployment.
- **2015 Brilliant Execution Award**
  - Team Award for contributing to the Environmental, Health, Safety Team on an internal/external regulatory/corporate records audit with no major findings.

### SUMMARY

Challenge-driven professional with 10+ years of experience launching and strengthening environmental programs. Specializes in providing Caribbean island businesses and industrial facilities with tailored environmental services, addressing issues from waste disposal to pollution discharge compliance.

### RELEVANT EXPERIENCE

- **Tysam Tech, LLC** *St. Croix, USVI*  
*Director of Environmental Services* *Dec. 2017 - Present*  
Direct all environmental projects for the firm, assisting businesses and government agencies with permitting (CZM, Air Permits, NPDES/TPDES), water resource management, environmental compliance, and energy optimization.  
**Primary Duties:**  
Manage project timelines and deliverables  
Coordinate with local agencies (e.g., DPNR) and clients  
Ensure project compliance with local regulations  
**Major Clients:** Diageo USVI, Cruzan Rum, Limetree Bay Refinery, St. Croix Renaissance Park, Asphalt Plants, Concrete Batch Plant, VI Housing Authority, and VI Housing Finance Authority.
- **DIAGEO USVI, Captain Morgan Plant** *St. Croix, USVI*  
*Risk Manager* *August 2017 - March 2019*  
*Risk Team Lead & Environmental Compliance Specialist* *January 2011 - October 2013*  
Led the Environmental Management Program for the Captain Morgan North America plant, covering Coastal Zone Management, air permits, TPDES alignment, and Environmental Assessments. Achieved a 30% improvement in water use efficiency and a 28% boost in energy efficiency. Managed the site to achieve top water efficiency in the region and created a Best-in-Class Contractor EHS Training Program. Supervised 12 EHS personnel.
- **University of the Virgin Islands** *St. Croix, USVI*  
*Adjunct Professor of EHS Course & Process* *Dec. 2012 - Present*  
*Equipment Course*
- **University of Florida** *Gainesville, Florida*  
**Environmental Engineering Research Lab Tech.** *Sept 2009-Decem 2010*
- **HOVENSA (Hess Oil Joint Venture Refinery)** *St. Croix, USVI*  
*Industrial Hygiene Technician* *May 2008-Sept 2008*
- **Department of Energy** *Richland, Washington*  
*Nuclear Research Technician* *May 2007-Sept 2007*



# BENJAMIN KEULARTS

## ENVIRONMENTAL ENGINEER II

### EDUCATION & TRAINING

#### LEHIGH UNIVERSITY

- B.S. Chemical Engineering

#### UNIVERSITY OF DORTMUND

- Summer Chemical Engineering Technical Electives Program

### CERTIFICATIONS

- NPDES Permit Writer's Training Certified
- NPDES Stormwater Permit Writer and Inspector Certified
- BEACH Sampler's Training Certified
- Divemaster Certified
- EPA Certified Scientific Diver
- Transportation Worker Identification Credential (TWIC)

### SKILLS

- Project Management
- Strategic Consulting
- SME in CWA Compliance
- Software Proficiencies
  - ArcView GIS
  - R Programming
  - Bentley CivilStorm
  - Storm Water Management Model (SWMM)
  - WinTR-55 Hydrology
  - CorelCAD
  - Microsoft Office Suite
  - Adobe Acrobat Pro
- Lab Background
  - 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

Senior Environmental Professional with 20+ years of experience in environmental engineering, specializing in NEPA documentation, cultural-historic analysis, terrestrial ecosystems, and environmental compliance (air, water, solid waste, coastal zone management). With expertise in technical and regulatory aspects at federal and local levels, Benjamin has worked across public and private sectors in roles ranging from field reconnaissance and technical review to project lead and program management, offering a versatile skill set suited for the Virgin Islands.

### RELEVANT EXPERIENCE

#### Tysam Tech, LLC

*St. Croix, USVI*

#### *Environmental Engineer II*

*December 2019 - Present*

Provides project and environmental site reviews, permit development, and Environmental Assessment Reviews (EAR). Advises on federal and local regulations (CWA, CAA), stormwater BMP design, hydrology reports, and LID compliance. Ensures industrial and construction compliance with NEPA, USACE 404, NHPA Section 106, and biological opinion requirements.

#### Major Project(s):

- Limetree Bay Facility: Heaters & process boilers energy assessment.
- Diageo USVI: Air permit development for four units (2020).
- VI Racetrack Upgrades (\$20M): CZM, rezoning, H&H study, site inspections.
- VI Roads & Bridges Upgrades (\$10M): CZM oversight for storm damage repairs.
- Concrete Batch Plant: EAR, flood, air, stormwater permits, site inspections.
- USVI Refinery & Terminal: Contingency plan updates (RCRA, CERCLA, AST, HAZMAT, SPCC).
- Trans-Caribbean Fiber System: Environmental support for 4,400 km telecom project (USACE 404, CZM, FEMA).
- Cruzan Rum Microgrid: 2MW solar grid environmental support (FEMA, CWA).
- Great Pond Restoration: Fishery habitat restoration project support.

#### Virgin Islands Dept. of Planning & Natural Resources

*St. Croix, USVI*

#### *Environmental Program Manager*

*October 2015 - December 2019*

Managed Water Pollution Control and Clean Water Act programs, overseeing program activities, grants, work plan commitments, SOP and policy development, EAR reviews, project permitting, and water quality sampling. Provided support in permit writing, stormwater TPDES inspections, field water sampling, and regulatory review.



# BENJAMIN KEULARTS

## ENVIRONMENTAL ENGINEER II

---

### Major Project(s):

- Veteran's Drive Major Road Improvement (St. Thomas): EAR, CWA 401/404 review, H&H study, stormwater design review, and site compliance inspections.
- Turpentine Run Bridge Approaches (St. Thomas): EAR, CWA 401/404 review, H&H study, stormwater design review, and site compliance inspections.
- Henry E. Rohlsen Airport Apron Rehab (St. Croix): H&H study, stormwater design review, and site compliance inspections.
- WAPA 24" Water Line Upgrade (St. Croix): H&H study, stormwater design review, and site compliance inspections.
- Louise E. Brown VIHA Housing Projects Phases 1-3 (St. Croix): H&H study, stormwater design review, and site compliance 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.



# KATIE LUCE

ENVIRONMENTAL ENGINEER – ST. THOMAS, USVI

## SUMMARY

Civil and Environmental Engineer with project experience in New England and the U.S. Virgin Islands, specializing in environmental permitting, regulatory compliance, and sustainable infrastructure. Skilled in QA/QC review, technical documentation, and stakeholder coordination under CAA, CWA, and RCRA. Experience spans geotechnical and water resources projects, NSF-funded research, and current environmental assessment and permitting work in the USVI.

## EDUCATION

**B.S. Civil and Environmental Engineering**  
University of Maine

## CERTIFICATIONS AND LICENSES

American Society of Civil Engineers Member  
Unmanned Aircraft General Small Remote  
Pilot Certificate

## PROFESSIONAL EXPERIENCE

### **Tysam Tech, Christiansted, St. Croix, USVI**

*Environmental Engineer I | August 2025 –Present*

Assists with environmental permitting, compliance reviews, and testimony preparation under the Clean Air Act and Clean Water Act. Conducts QA/QC of technical reports, site visits, and coordination with local agencies. Supports regulatory documentation, research, and submissions.

- Key Projects: Diageo USVI Environmental Support (CAA, CWA, RCRA), Cowpet Bay East RO System Replacement, SCRG Environmental Support, Lovango TPDES Revision.
- Drafting of technical deliverables and proposals and ensured compliance with federal and territorial requirements.
- Engaged in client coordination and preparation of testimony for regulatory hearings.

### **Summit Geoengineering Services, INC., Maine**

*Geoengineering Technician/Intern | 05/2023 - 08/2024*

Gained practical geotechnical engineering experience through field investigations, laboratory testing, and data analysis across multiple project sites. Performed ASTM-standard soil testing and contributed to preparation of geotechnical reports and client deliverables.

### **National Science Foundation (NSF), University of Maine**

*Undergraduate Student Researcher | 06/2022 - 08/2022*

Conducted NSF-funded research (Project #1757529) on the mechanical effects and dispersion of cellulose nanofibrils (CNF) in cement-based materials under the mentorship of Dr. Eric Landis.

### **Innovate for Maine, Exploring Ventures**

*Student Fellow | 05/2021 - 08/2021*

Research fellowship with Exploring Ventures focused on an America's State Parks project.

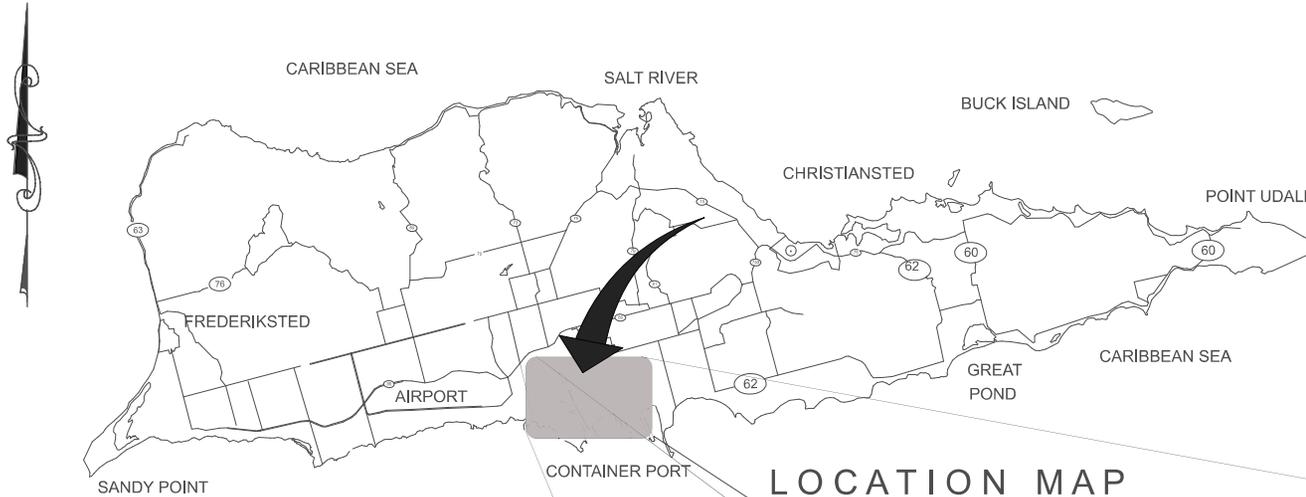
7

# DRAWINGS

# ST. CROIX RENAISSANCE GROUP, LLLP

## SEAWATER REVERSE OSMOSIS SYSTEM PROJECT

### NO. 1 ESTATE ANNABERG & SHANNON GROVE, ST. CROIX, USVI



LOCATION MAP



AREA MAP



LOCATION MAP

**OWNER:**  
 ST. CROIX RENAISSANCE GROUP  
 LLLP (SCRG)  
 Jehangir Zakaria  
 No. 1 Estate Annaberg &  
 Shannon Grove  
 Christiansted, VI 00820  
 Phone: (340) 643-0404  
 email: zakaria@stxrenaissance.com

**CONSULTANT:**  
 TYSAM TECH, LLC  
 9139 Castle Coakley  
 Bay 7, Suite 1  
 Christiansted, VI 00820  
 Phone: 340-514-1888  
 email: info@tysamtech.com



**Tysam Tech, LLC**

9139 CASTLE COAKLEY  
 BAY 7, SUITE 1  
 CHRISTIANSTED, VI 00820

SHEET

**C-1**

GOOGLE EARTH



	BY	DATE
DESIGNED	B. KEULARTS	09/30/2025
DRAWN	B. KEULARTS	09/30/2025
CHECKED		
REVISED		

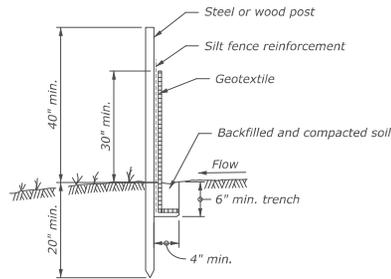
PROJECT NO.  
**20250829-01**

SCALE: AS NOTED

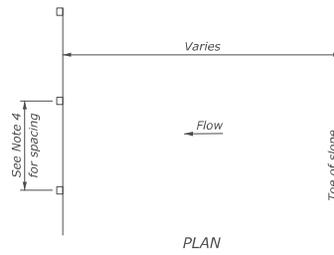
STAMP

NOTE:  
1. Alternate preassembled silt fence options will be allowed as long as specified dimensions are satisfied. Follow manufacturer's recommendations for installation procedures. All types must ensure silt fence remains attached to, and does not slide down, supporting posts.  
2. Install silt fence to follow the ground contours as closely as possible.  
3. Curve ends of silt fence upgrade to prevent water from running around the ends.  
4. 10-foot (max.) spacing with silt fence reinforcement. 6-foot (max.) spacing without silt fence reinforcement.

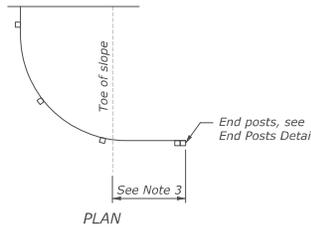
STATE	PROJECT	SHEET NUMBER



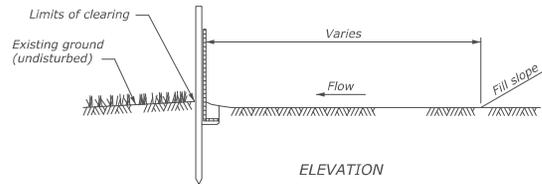
**POST AND GEOTEXTILE INSTALLATION DETAIL**



PLAN

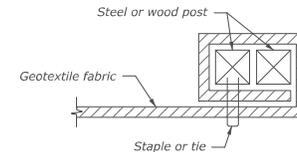


PLAN



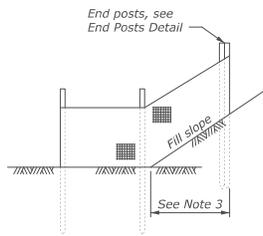
ELEVATION

**SILT FENCE INSTALLATION AT TOE OF FILL**



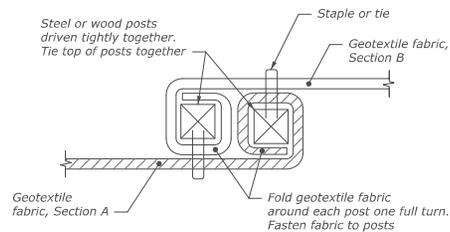
PLAN

**END POSTS DETAIL**



ELEVATION

**END DETAIL**



PLAN

**POSTS AT JOINTS**

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
U.S. CUSTOMARY DETAIL	
<b>SILT FENCE</b>	
DETAIL APPROVED FOR USE: ---	DETAIL
REVISED: 10/2016	W157-1

PROJECT:

SCRG  
SEAWATER RO  
PROJECT

EROSION  
&  
SEDIMENT  
CONTROL  
PLAN



**Tysam Tech, LLC**

50AB COMPANY STREET  
CHRISTIANSTED, VI 00820

SHEET

**S-1**

**BEST MANAGEMENT PRACTICES (BMPs):**

THE PLAN ADDRESSES THE FOLLOWING:

1. PREVENTION OF SOIL LOSS DURING CONSTRUCTION BY STORMWATER RUNOFF AND/OR WIND EROSION,
2. SEDIMENTATION PROTECTION OF STORM SEWER OR RECEIVING STREAM.
3. PREVENT POLLUTING THE AIR WITH DUST AND PARTICULATE MATTER. THE VARIOUS TECHNIQUES OR ACTIONS IDENTIFIED UNDER EACH SECTION INDICATE THE APPROPRIATE SITUATION WHEN THE TECHNIQUES SHOULD BE EMPLOYED. ALSO IDENTIFIED IS A CROSS-REFERENCE TO A DIAGRAM OR FIGURE REPRESENTING THE TECHNIQUE. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BMPs. THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS SPECIFIED IN ACCORDANCE WITH THE CURRENT REGULATORY REQUIREMENTS.

**GENERAL EROSION CONTROL NOTES:**

1. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THIS DRAWING AND OTHER DETAIL DRAWINGS AND BECOME FAMILIAR WITH THEIR CONTENTS.
2. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP) IN ALL CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- A. FUEL SPILLS AND LEAKS PREVENTION
- B. PREVENT/REDUCE VEHICLE AND EQUIPMENT WASHING AND STEAM CLEANING
- C. VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR
- D. PROPER OUTDOOR LOADING/UNLOADING OF MATERIALS
- E. PREVENT/REDUCE OUTDOOR STORAGE OF RAW MATERIALS, PRODUCTS, AND BY-PRODUCTS
- F. SOLID WASTE MANAGEMENT
- G. HAZARDOUS WASTE MANAGEMENT
- H. CONCRETE WASTE MANAGEMENT
- I. SANDBLASTING WASTE MANAGEMENT
- J. STRUCTURE CONSTRUCTION AND PAINTING
- K. SPILL PREVENTION AND CONTROL
- L. CONTAMINATED SOIL MANAGEMENT
- M. SANITARY/SEPTIC WASTE MANAGEMENT
- N. SOIL EROSION CONTROL
- O. STORM WATER TURBIDITY MANAGEMENT

4. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

A. BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

B. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. CONTRACTOR MUST MAINTAIN ALL PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS ON SITE AT ALL TIMES.

C. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL.

D. CONTRACTOR SHALL BEGIN CLEARING AND GRUBBING THOSE PORTIONS OF THE SITE NECESSARY TO IMPLEMENT PERIMETER CONTROL MEASURES, CLEARING AND GRUBBING FOR THE REMAINING PORTIONS OF THE PROPOSED SITE SHALL COMMENCE ONCE PERIMETER CONTROLS ARE IN PLACE. PERIMETER CONTROLS SHALL BE ACTIVELY MAINTAINED UNTIL SAID AREAS HAVE BEEN STABILIZED AND SHALL BE REMOVED ONCE FINAL STABILIZATION IS COMPLETE.

E. GENERAL EROSION CONTROL BMPs SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION, WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED AS SOON AS POSSIBLE DURING CONSTRUCTION.

F. SURFACE WATER QUALITY SHALL BE MAINTAINED BY EMPLOYING THE FOLLOWING BMPs IN THE CONSTRUCTION PLANNING AND CONSTRUCTION OF ALL IMPROVEMENTS.

**STORMWATER EROSION CONTROL NOTES:**

1. EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:

A. IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.

B. STORMWATER INLETS SHALL BE PROTECTED DURING CONSTRUCTION, PROTECTION MEASURES SHALL BE EMPLOYED AS SOON AS PRACTICAL DURING THE VARIOUS STAGES OF INLET CONSTRUCTION. SILT BARRIERS SHALL REMAIN IN PLACE UNTIL SODDING AROUND INLETS IS COMPLETE.

C. WHEN NEEDED A TEMPORARY SEDIMENT TRAP SHOULD BE CONSTRUCTION TO DETAIN SEDIMENT-LOADED RUNOFF FROM DISTURBED AREAS.

6. SILT BARRIERS, ANY SILT WHICH ACCUMULATES BEHIND THE BARRIERS, AND ANY FILL USED TO ANCHOR THE BARRIERS SHALL BE REMOVED PROMPTLY AFTER THE END OF THE MAINTENANCE PERIOD SPECIFIED FOR THE BARRIERS.
7. WHERE REQUIRED TO PREVENT EROSION FROM SHEET FLOW ACROSS BARE GROUND FROM ENTERING A SWALE, A TEMPORARY SEDIMENT SUMP SHALL BE CONSTRUCTED.

**WASTE DISPOSAL NOTES:**

1. WASTE MATERIALS - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER WITH A SECURE LID IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE SUPERINTENDENT SHALL COORDINATE WITH THE WASTE MANAGEMENT AUTHORITY TO HAVE THE DUMPSTER EMPTIED AT LEAST TWICE A WEEK AND THE WASTE TAKEN TO AN APPROPRIATE LANDFILL. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE. THE SUPERINTENDENT SHALL ORGANIZE TRAINING FOR THE EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH WASTE MATERIALS. THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR POSTING AND ENFORCING WASTE MATERIAL PROCEDURES.
2. HAZARDOUS WASTE - HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS OR AS DIRECTED BY THE MANUFACTURER. THE SUPERINTENDENT SHALL ORGANIZE THE PROPER TRAINING FOR EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH HAZARDOUS WASTE MATERIALS. THESE PROCEDURES SHALL BE POSTED ON THE SITE. THE PERSON WHO MANAGES THE SITE SHALL BE RESPONSIBLE FOR ENFORCING THE PROCEDURES.
3. SANITARY WASTE - SANITARY WASTE SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITY FOR COLLECTION OF THE SANITARY WASTE AT LEAST THREE TIMES A WEEK TO PREVENT SPILLAGE ONTO THE SITE.
4. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

**MAINTENANCE NOTES:**

ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF ANY 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEED AS NEEDED.
3. ALL COMPOST SOCK FILTRATION DEVICES SHALL BE INSPECTED PERIODICALLY FOR HEIGHT OF SEDIMENT AND CONDITION OF DEVICE. COMPOST SOCK SHALL BE REPAIRED TO ITS ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE COMPOST SOCK WHEN IT REACHES ONE-THIRD THE HEIGHT OF THE COMPOST SOCK.
4. ANY CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
6. ANY OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. THE SEDIMENT BASIN/DITCHES SHALL BE CHECKED MONTHLY FOR DEPTH OF SEDIMENT. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 10% AND AFTER CONSTRUCTION IS COMPLETE.
7. ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN SEVEN DAYS FOLLOWING THE INSPECTION. DIVERSION DIKES SHALL BE INSPECTED MONTHLY. ANY BREACHES SHALL BE PROMPTLY REPAIRED.
8. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.

**OFFSITE TRACKING:**

1. STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED TO REDUCE SEDIMENT TRACKING OFFSITE. THE MAJOR ROAD CONNECTED TO THE PROJECT SHALL BE CLEANED ONCE A DAY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK RESULTING FROM CONSTRUCTION TRAFFIC. ALL TRUCKS HAULING MATERIALS OFFSITE SHALL BE COVERED WITH A TARP/AULIN.
2. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATION PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES, HAY BALES OR SILT SCREENS AROUND, AND SEDIMENT SUMPS WITHIN, SUCH AREAS AS REQUIRED TO CONTAIN SPILLS OF OIL, GREASE OR LUBRICANTS. CONTRACTORS SHALL HAVE AVAILABLE, AND SHALL USE, ABSORBENT FILTER PADS TO CLEAN UP SPILLS AS SOON AS POSSIBLE AFTER OCCURRENCE.
3. ALL WASH WATER FROM CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC. SHALL BE DETAINED ON SITE AND SHALL BE PROPERLY TREATED OR DISPOSED.
4. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD. IF WASHING IS USED, PRISONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
5. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

**SPILL PREVENTION AND CONTROL:**

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF:

1. GOOD HOUSEKEEPING
  - A. SUPERINTENDENT SHALL INSPECT PROJECT AREA DAILY FOR PROPER STORAGE, USE, AND DISPOSAL OF CONSTRUCTION MATERIALS.
  - B. STORE ONLY ENOUGH MATERIAL ON SITE FOR PROJECT COMPLETION.
  - C. ALL SUBSTANCES SHOULD BE USED BEFORE DISPOSAL OF CONTAINER.
  - D. ALL CONSTRUCTION MATERIALS STORED SHALL BE ORGANIZED AND IN THE PROPER CONTAINER AND IF POSSIBLE, STORED UNDER A ROOF OR PROTECTIVE COVER.
  - E. PRODUCTS SHALL NOT BE MIXED UNLESS DIRECTED BY THE MANUFACTURER.
  - F. ALL PRODUCTS SHALL BE USED AND DISPOSED OF ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

**2. HAZARDOUS PRODUCTS**

A. MATERIALS SHOULD BE KEPT IN ORIGINAL CONTAINER WITH LABELS UNLESS THE ORIGINAL CONTAINERS CANNOT BE RESEALED. IF ORIGINAL CONTAINERS CANNOT BE USED, LABELS AND PRODUCT INFORMATION SHALL BE SAVED.

B. PROPER DISPOSAL PRACTICES SHALL ALWAYS BE FOLLOWED IN ACCORDANCE WITH MANUFACTURER AND LOCAL/STATE REGULATIONS.

**3. PRODUCT SPECIFIC PRACTICES**

A. PETROLEUM PRODUCTS MUST BE STORED IN PROPER CONTAINERS AND CLEARLY LABELED. VEHICLES CONTAINING PETROLEUM PRODUCTS SHALL BE PERIODICALLY INSPECTED FOR LEAKS. PRECAUTIONS SHALL BE TAKEN TO AVOID LEAKAGE OF PETROLEUM PRODUCTS ON SITE.

B. THE MINIMUM AMOUNT OF FERTILIZER SHALL BE USED AND MIXED INTO THE SOIL IN ORDER TO LIMIT EXPOSURE TO STORM WATER. FERTILIZERS SHALL BE STORED IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

C. PAINT CONTAINERS SHALL BE SEALED AND STORED WHEN NOT IN USE. EXCESS PAINT MUST BE DISPOSED OF IN AN APPROVED MANNER.

D. CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

**SPILL CLEANUP:**

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED ABOVE, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. SPILL CLEANUP INFORMATION SHALL BE POSTED ON SITE TO INFORM EMPLOYEES ABOUT CLEANUP PROCEDURES AND RESOURCES.
2. THE FOLLOWING CLEAN-UP EQUIPMENT MUST BE KEPT ON-SITE NEAR THE MATERIAL STORAGE AREA: GLOVES, MOPS, RAGS, BROOMS, DUST PANS, SAND, SAWDUST, LIQUID ABSORBER, GOGGLES, AND TRASH CONTAINERS.
3. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLotation BOOMS SHALL BE MAINTAINED ONSITE AND READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
4. ALL SPILLS SHALL BE CLEANED UP AS SOON AS POSSIBLE.
5. WHEN CLEANING A SPILL, THE AREA SHOULD BE WELL VENTILATED AND THE EMPLOYEE SHALL WEAR PROPER PROTECTIVE COVERING TO PREVENT INJURY.
6. TOXIC SPILLS MUST BE REPORTED TO THE PROPER AUTHORITY REGARDLESS OF THE SIZE OF THE SPILL.
- 7.

**WIND EROSION CONTROL NOTES:**

1. WIND EROSION SHALL BE CONTROLLED BY EMPLOYING THE FOLLOWING METHODS AS NECESSARY AND APPROPRIATE:

A. BARE EARTH AREAS SHALL BE WATERED DURING CONSTRUCTION AS NECESSARY TO MINIMIZE THE TRANSPORT OF FLUGITIVE DUST. IT MAY BE NECESSARY TO LIMIT CONSTRUCTION VEHICLE SPEED IF BARE EARTH HAS NOT BEEN EFFECTIVELY WATERED. IN NO CASE SHALL FLUGITIVE DUST BE ALLOWED TO LEAVE THE SITE UNDER CONSTRUCTION.

B. DISTURBED PORTIONS OF THE SITE WHILE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED (SEE PERMANENT STABILIZATION PRACTICES FOR DETAILS). THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN. CLEARED SITE DEVELOPMENT AREAS NOT CONTINUALLY SCHEDULED FOR CONSTRUCTION ACTIVITIES SHALL BE COVERED WITH HAY OR OVERSEEDED AND PERIODICALLY WATERED SUFFICIENTLY TO STABILIZE THE TEMPORARY GROUND COVER (SEE TEMPORARY STABILIZATION PRACTICES FOR DETAILS).

C. AT ANY TIME BOTH DURING AND AFTER SITE CONSTRUCTION THAT WATERING AND/OR VEGETATION ARE NOT EFFECTIVE IN CONTROLLING WIND EROSION AND/OR TRANSPORT OF FLUGITIVE DUST, OTHER METHODS ARE NECESSARY FOR SUCH CONTROL SHALL BE EMPLOYED. THESE METHODS SHOULD INCLUDE ERECTION OF DUST CONTROL FENCES, A 6-FT GEOTEXTILE FILTER FABRIC SHOULD BE HANGING AGAINST THE EXISTING CHAIN LINK FENCE AND GATE.

2. ALL DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

**SEQUENCE OF CONSTRUCTION:**

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAYDOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.

**PHASE 1:**

1. INSTALL SILT FENCE AND STAGING AREAS.
2. INSTALL TRAILERS AND RO EQUIPMENT IN FINAL LOCATIONS.

**PHASE 2:**

1. CONDUCT TRENCHING AND PIPE RACK PREPARATION.
2. STOCKPILE MATERIAL AND STABILIZE.
3. INSTALL PIPING IN TRENCH, ON SLEEPERS AND PIPE RACKS.
4. BACKFILL TRENCHES.
5. COMPLETE FINAL GRADING AND FINAL STABILIZATION.
6. REMOVE TEMPORARY EROSION CONTROL MEASURES.

	BY	DATE
DESIGNED	B. KEULARTS	09/30/2025
DRAWN	B. KEULARTS	09/30/2025
CHECKED		
REVISED		

**PROJECT NO.**

20250829-01

SCALE: AS NOTED

STAMP

**PROJECT:**

SCRG SEAWATER RO PROJECT

EROSION & SEDIMENT CONTROL PLAN



**Tysam Tech, LLC**

50AB COMPANY STREET  
CHRISTIANSTED, VI 00820

**SHEET**

S-2

**NOTES TO USERS**

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of local tidal datum defined by the National Ocean Service (NOS) and determined by the Army Corps of Engineers (ACE). Users of this FIRM should be aware that coastal base flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for the jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Puerto Rico / U.S. Virgin Islands State Plane FIPS/ZONE 5200. The horizontal datum was NAD 83. GRS80 spheroid. Differences in datum, spheroid projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood Elevations on this map are referenced to local tidal datum defined by the National Ocean Service (NOS) and determined by the Army Corps of Engineers (ACE). These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding the calculation of local tidal datum, contact the Army Corps of Engineers, Jacksonville District, <http://www.usace.army.mil>. The Jacksonville District can be contacted at the following address:

U.S. Army Corps of Engineers  
Jacksonville District  
701 San Marco Boulevard  
Jacksonville, FL 32207-4175  
Phone: 904-252-2254  
or 1-800-251-8405

Elevation, description, and/or location information for **bench marks** shown on this map are located in the accompanying Flood Insurance Study Report.

**Base map** information shown on this FIRM was derived from multiple sources. For the three major U.S. Virgin Islands (St. Croix, St. John, and St. Thomas), digital orthophotography was provided by the U.S. Army Corps of Engineers, Jacksonville District. These data were produced for use at a scale of 1:2,400 from photography dated February 6, 1994. For the small islands offshore of the three main islands, digital imagery was provided by the National Oceanic and Atmospheric Administration's Coastal Services Center. These data were produced at a scale of 1:48,000 from aerial photography dated 1989.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the relationship to floodplains for unregulated streams may differ from what is shown on previous maps.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

Contact the **FEMA Map Service Center** at 1-800-353-9016 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-353-9000 and its website at <http://www.msc.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



**LEGEND**

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- ZONE A** No Base Flood Elevations determined.
- ZONE AH** Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AR** Flood depths of 1 to 3 feet (usually shear flow on sloping terrain); average depths determined. For areas of at-risk fan flooding, velocities also determined.
- ZONE AP** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that has subsequently been closed. Zone AR indicates that the former flood control system is being increased to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a flood proofing prevention system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood areas of 1% annual chance flood with average depths of less than 1 foot with drainage areas less than 1 square mile, and areas protected by levees from the 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplains.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet
- \* Referenced to the Local Tidal Datum
- Cross section line
- Transect line
- 87°07'45", 32°22'20"
- 76°N
- 60000 FT
- DXS510
- N11.5
- MAP REPOSITORY  
Office of the Tax Assessor and the Colonial Section  
1219 Street  
Charlotte, Virgin Islands 00802  
NOTES: NFP MAP DATE  
February 25, 1977
- FLOOD HAZARD BOUNDARY MAP REVISIONS  
None
- FLOOD INSURANCE RATE MAP REVISIONS  
None
- April 16, 2007 - to change flood hazard and hazard areas, to update map format, and to incorporate previously issued letters of map revisions.
- See the **NOTES TO FLOOD INSURANCE STUDY USERS** pages of the Flood Insurance report for the map region dates prior to April 16, 2007.
- To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-353-9016.

**NFIP** PANEL 0080G

**FIRM**  
FLOOD INSURANCE RATE MAP

U.S. VIRGIN ISLANDS

PANEL 80 OF 94  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTRACT:	NUMBER:	PANEL:	SUFFIX:
U.S. VIRGIN ISLANDS	78000	8000	G

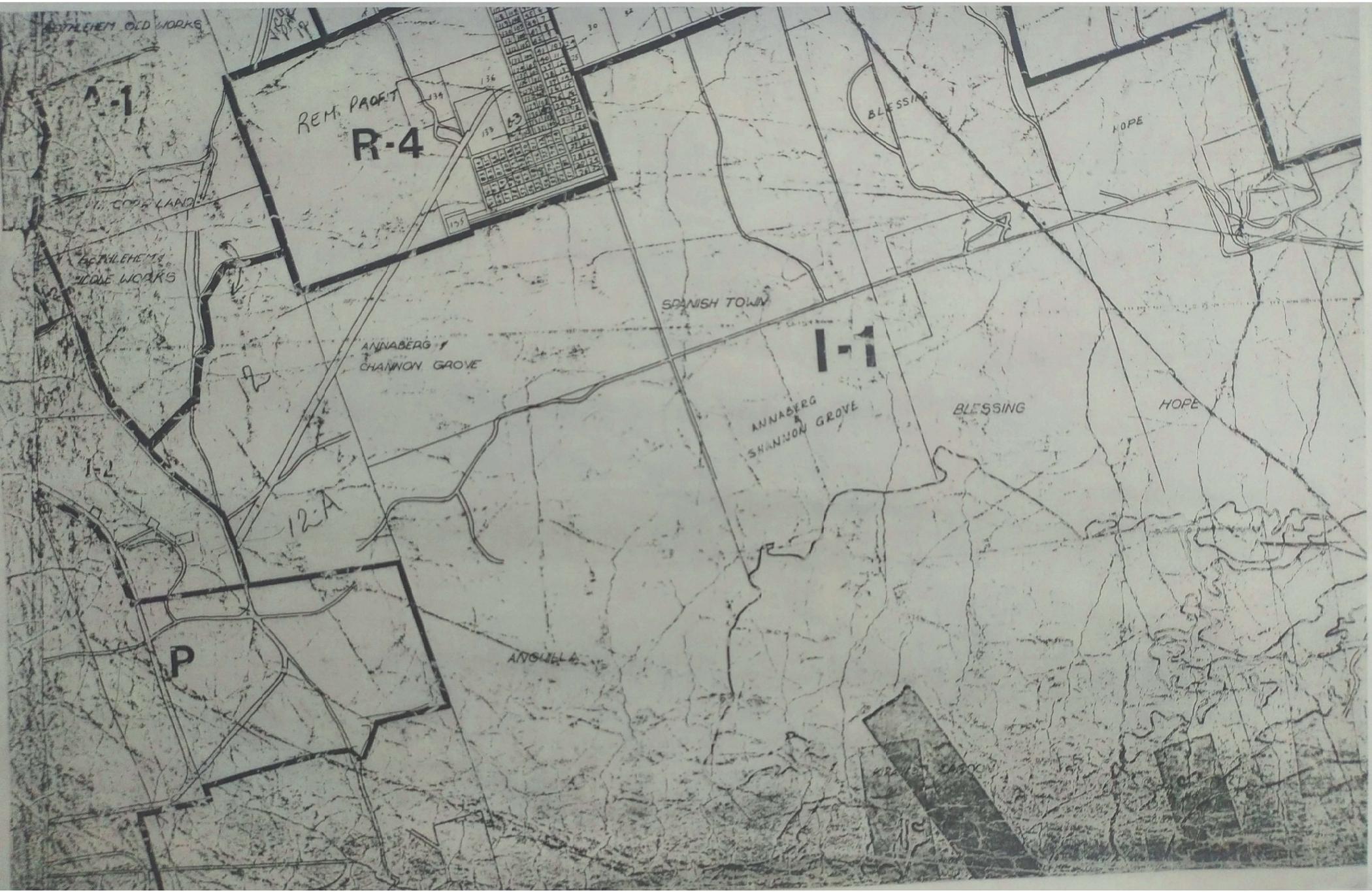
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
780000080G

**MAP REVISED**  
APRIL 16, 2007

Federal Emergency Management Agency





REM. PLOT  
**R-4**

**A-1**

SPANISH TOWN

**1-1**

ANNABERG  
SHANNON GROVE

BLESSING

HOPE

12-A

**P**

ANGUELLA

