
**ENVIRONMENTAL ASSESSMENT REPORT
FOR THE DEVELOPMENT OF
HAIRON AVIATION SERVICES, INC
FUEL FARM OPERATION AT
CYRIL E. KING AIRPORT
ST. THOMAS, US VIRGIN ISLANDS**



SUBMITTED TO

THE DIVISION OF COASTAL ZONE MANAGEMENT

PREPARED FOR

VIRGIN ISLANDS PORT AUTHORITY

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JULY 2026

**ENVIRONMENTAL ASSESSMENT REPORT
A MAJOR LAND PERMIT MODIFICATION**

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1.00 NAME AND ADDRESS OF APPLICANT

Applicant

Hairoun Aviation Services, Inc.
Cyril E. King Airport (STT/TIST)
8013 Lindbergh Bay
St. Thomas, VI 00802
340-715-3821

Property Owner

Virgin Islands Port Authority
P.O. Box 301707
St. Thomas, Virgin Islands 00803
Tel. (340) 774-1629

2.00 LOCATION OF PROJECT

The Cyril E. King Airport (CEKA) is located on the south shore of St. Thomas to the west of the town of Charlotte Amalie. The Virgin Islands Port Authority's property encompasses Plots 68 through 72, 70-AA, 70-AB, 70-AC, 70-X, 70-CA, 70-B, Unsurveyed Portion of Plot 70, 70-V, 70-X, 70-W, 70-T, 70-T-1, 70-U, 70-D1, and REM 57-59 Estate Lindbergh Bay, No. 4A Southside Quarter, St. Thomas, U.S. Virgin Islands. CEKA is located on Plot 70 Estate Lindbergh Bay. The new Hairoun Aviation Services, Inc. Fuel Farm Operation (FBO) will be located on to the north of Parcel 70-AA Estate Lindberg Bay – Southside on a lease parcel 6,356.93sq.ft.

The following location map and agency review map depicts the projects in reference to adjacent zoning and jurisdiction line of the Department of Planning and Natural Resources, Division of Coastal Zone Management. The vicinity map also follows showing the regional context and vicinity in the U.S. Virgin Islands.

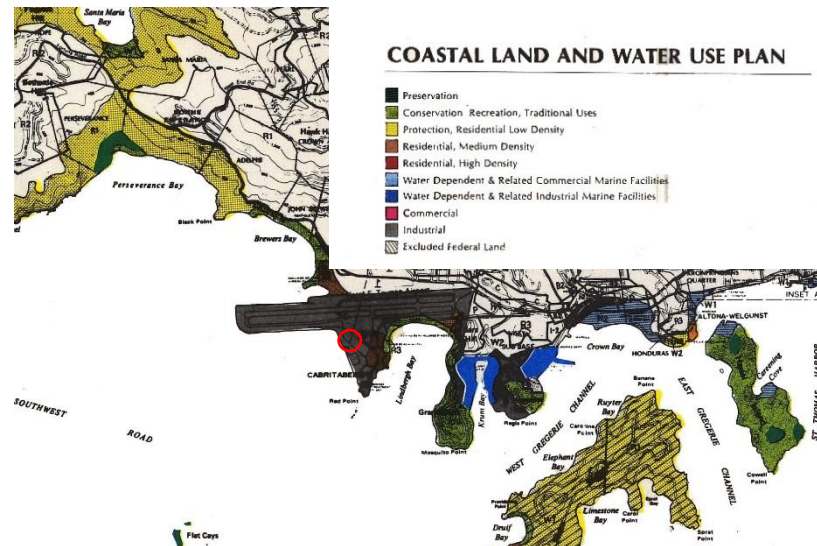


Figure 1. Property location in relationship to the CZM first tier jurisdictional Area



Figure 2. Vicinity Map showing the proposed FBO in relationship with surrounding features.

3.00 ABSTRACT

The Cyril E. King International Airport (CEKA) is the St. Thomas public airport located on the southwestern side of St. Thomas, U.S. Virgin Islands approximately four miles east of the Charlotte Amalie. CEKA is one of the busiest airports in the eastern Caribbean. Private air carriers, flight services, fuel services and charter services lie to the north of Taxiway B and the General Aviation Apron.

Hairoun Aviation Services, Inc. proposed to create a new fuel bunkering operation on the western side of the terminal building to the north of the Total Petroleum Facility and Standard Aviation's Fuel Farm. The bunkering operation will include 5 fixed tanks, two 20,000-gallon tanks, and three 12,000-gallon tanks and an area for the placement of ISO tanks. The facility will have the appropriate fuel spill protection designed to contain 110% of the capacity of the storage tanks and curbing to prevent the release of spills. The site will have a 10ft chain-link fence with a solar powered gate and a generator so fuel operations will not be interrupted by power outages.

4.00 STATEMENT OF OBJECTIVES SOUGHT BY THE PROPOSED PROJECT

Purpose of this application is to develop a new FBO – owned Fuel Farm within the CEKA to service commercial and private aircraft.

5.00 DESCRIPTION OF PROJECT

5.01 Summary of Proposed Activity

The project will create a new FBO fuel farm on 6356.93 sq.ft. of leased land within CEKA. The facility will include foundation pads for tanks, two 20,000 gallon tanks and three 12,000 gallon tanks and a concrete paved area for ISO tank parking with an 8" perimeter curb, as well as an 8ft security fence and a diesel generator to power the facility.

5.01a Purpose of Project

The purpose of the application is to create a new Fuel Farm to supply fuel to both commercial and private aircraft.

5.01b Presence and Location of Critical Areas

The proposed Fuel Farm property has been significantly altered and consists of large areas of fill. The area slated for the new Fuel Farm is an area of fallow land which was once a part of the old Red Point WWTP which is now overgrown with opportunistic herbaceous species. The property is on the coastline but separated by the riprap which protects this western face of the airport facility. The property also slopes towards the airfield rather than towards the sea.

The nearshore environment is colonized by both Endangered Species Act (ESA) listed corals and non-ESA listed coral it is imperative that runoff during construction be prevented from discharging sediment laden runoff into the sea. A stringent sedimentation and erosion control plan has been developed and will

be implemented, and a stringent Spill Prevention and Counter Measure Control Plan be developed and implemented. Spill containment has been developed for the site.

5.01c Method of Land Clearing

Bush on the site will be cleared and debris currently on the site will be removed. Any old infrastructure on these site will be removed, and old manholes and sumps fill as necessary.

5.01d Provisions Preserve Topsoil and to Limit site Disturbance

There is limited topsoil on the property, all work will occur within silt fencing and a construction entrance.

5.01e Erosion and Sedimentation Control Devices to be Implemented

A Sedimentation and Erosion Control Plan has been developed to be implemented during the proposed construction. The plan includes perimeter silt fencing, and stabilized construction entrance. Construction will not interfere with airport operations.

5.01f Schedule for Earth Change Activities and Implementation of Erosion and Sediment Control Measures

Phase 1:

1. Construct stabilized construction entrance and install silt fence.
2. Perform clearing and grubbing and demolition.

Phase 2:

- 1 Perform grading, rough grade to establish proposed pad elevations.
2. Construct proposed slabs
3. Install tanks, generator and fencing.
5. Complete final site stabilization and construction and remove all temporary erosion control measures.

5.01g Maintenance of Erosion and Sediment Control Measures

All measures included in the Erosion and Sediment Control plan will be maintained in fully functional condition until no longer required for construction work and final stabilization of the site. All erosion and sediment control measures shall be checked by a qualified person at least once every seven calendar days and within 24 hours of the end of a 0.5" rainfall event and cleaned and repaired if required. The construction entrances shall be maintained in a condition which will prevent tracking or flow of dirt on to the tarmac. This may require periodic top dressing of the construction entrances as conditions demand. Silt fencing will be repaired or replaced as necessary to ensure full functionality. Sediment shall be removed when it reaches $\frac{1}{4}$ the height of the fencing. All repairs must be made within 24 hours of reporting.

5.01h Method of Stormwater Management

The disturbed site area is less than 6,000 sf, well below the 1-acre threshold. Any increase in stormwater runoff is negligible and will be absorbed into the overall stormwater management system for the airfield. The site is graded to sheet flow runoff positively away from the proposed improvements. All necessary BMPs such as gravel construction entrance and silt fencing around the entire work site will be implemented prior to commencement of construction activities.

5.01i Maintenance Schedule for Stormwater Facilities

Stormwater facilities are inspected after all stormwater events in excess of 0.5" and all debris or sediment is removed to maintain the system in full capacity.

5.01j Method of Sewerage Disposal

There will be no sewage created at the proposed facility. Workers will be stationed at the Executive Offices on the north side of the airport.

5.02 REQUIRED DRAWINGS AND PLANS

Drawings

Cover Sheet, Location Map and Index

Site and Geometry Plan

Section Profiles and Details

Fence Details

Site Plan

Site Layout

Lighting and Grounding Plan

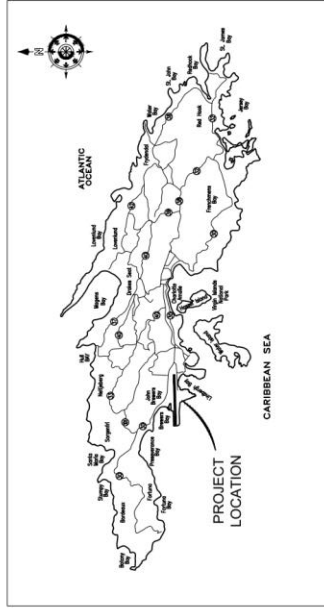
Hazardous Area Layout

EXECUJET STORAGE TANKS FOUNDATION

CYRIL E. KING AIRPORT
AIRPORT ROAD
CHARLOTTE AMALIE WEST, ST. THOMAS, USVI 00802

DRAWING INDEX

- C001 COVER SHEET, LOCATION MAP AND INDEX
- C002 SITE AND GEOMETRY PLAN
- C003 SECTION PROFILES AND DETAILS
- C004 PAVEMENT DETAILS
- C005 FENCE DETAILS
- S001 FOUNDATION NOTES
- S002 FOUNDATION PLAN, SECTIONS & DETAILS
- G0-01 COVER SHEET
- E0-01 GENERAL NOTES
- E0-02 GENERAL NOTES
- E0-03 LABELS
- E1-00 SITE PLAN
- E1-01 SITE LAYOUT
- E1-02 EXISTING AND PROPOSED GROUNDING PLAN
- E1-03 HAZARDOUS AREA LAYOUT
- E5-01 SCHEDULES
- E5-02 PANEL SCHEDULES
- E6 WIRING DIAGRAM
- E7-01 TRENCH DETAILS
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- E7-03 EQUIPMENT SPECS
- E7-04 LIGHTING DETAILS
- E7-05 LIGHTING PROTECTION
- E7-06 CLASS 1 - DIV 2 DETAIL

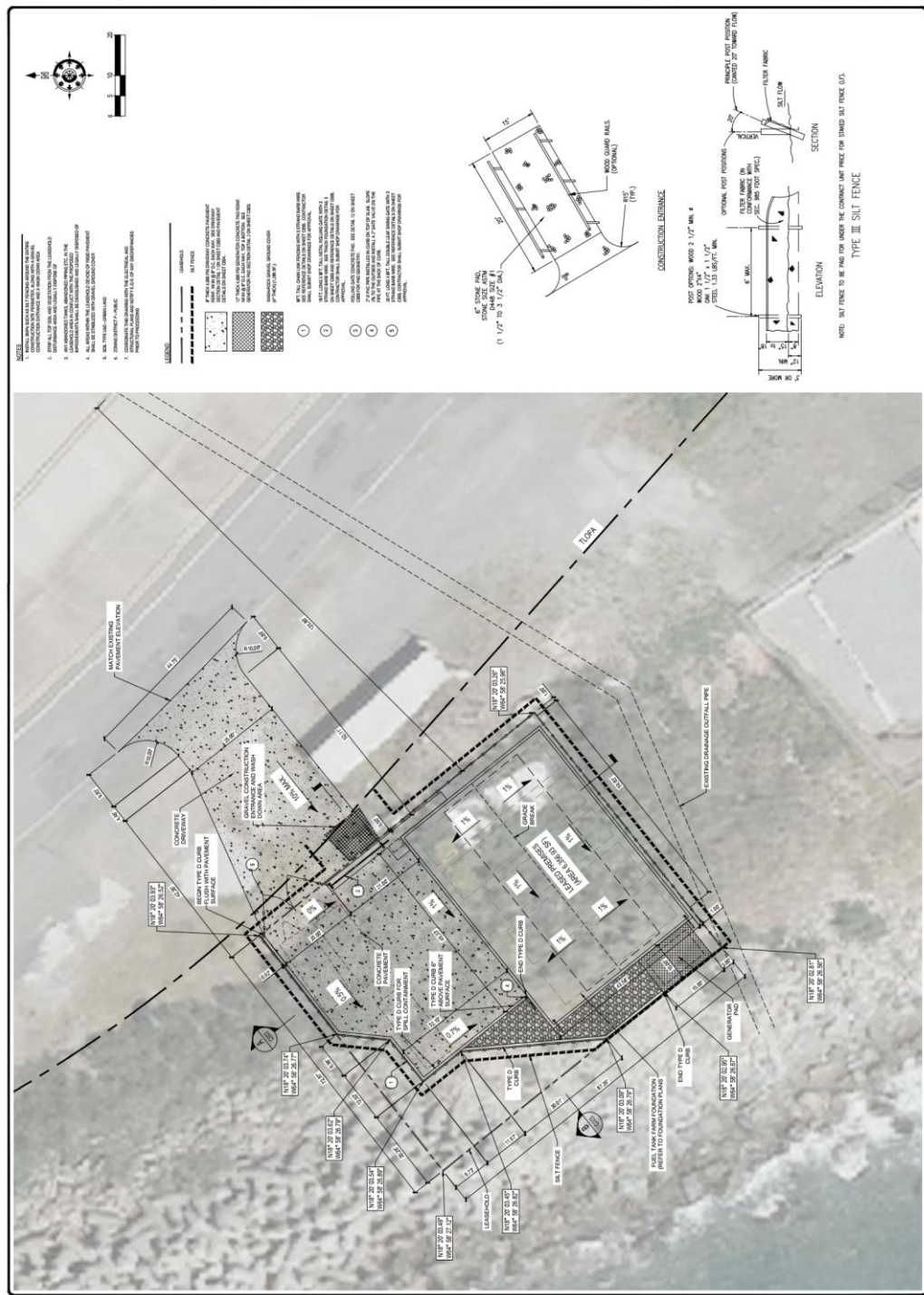


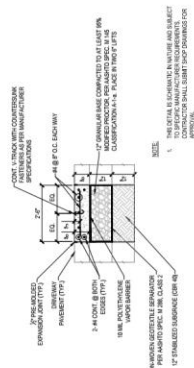
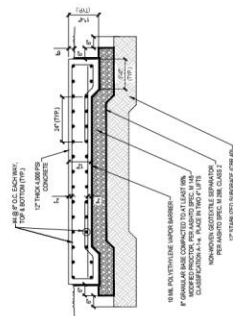
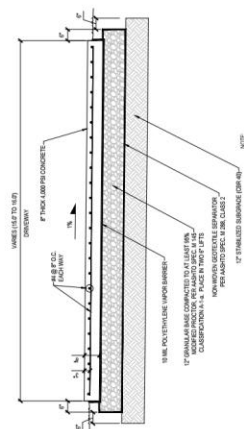
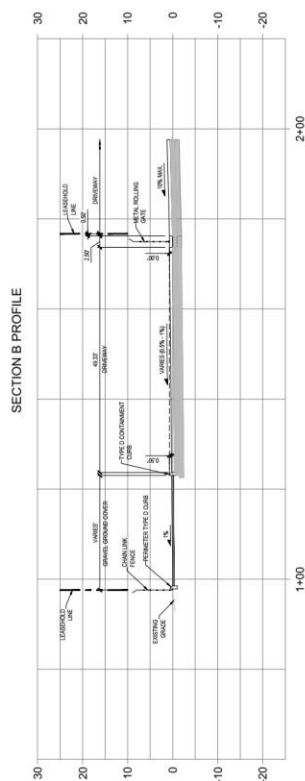
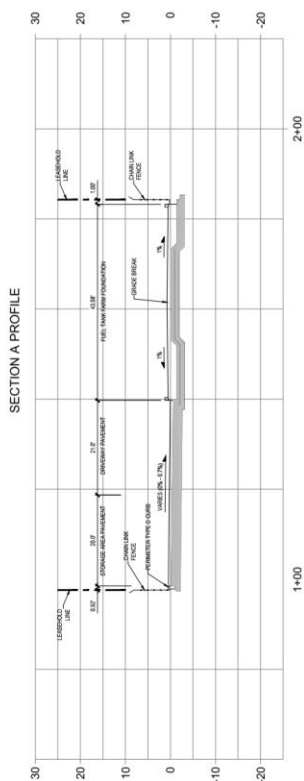
VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

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COVER SHEET, LOCATION MAP, & INDEX		EXECUJET FUEL TERMINAL TANKS FOUNDATION CHARLOTTE AMALIE ST. THOMAS, USVI 00801		Buildtec, LLC #1-1 BOUND EXTERIOR 1000 BOUND EXTERIOR, ST. THOMAS, USVI 00801 Email: info@buildtec.com Phone: 340-340-1234		PERMIT SET	
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SECTION PROFILES
AND DETAILS

EXECUTIVE FUEL TERMINAL
TANKS FOUNDATION
CYRIL E. KING AIRPORT
CHARLOTTE AMALIE,
ST. THOMAS, USVI 00801

Buildtec, LLC
#7-1 BONE ESPRANCE
18269, CHRISTIANSTEDT, U.S.V.I. 00802
Email: donor@buildtec.com
PERMIT SET

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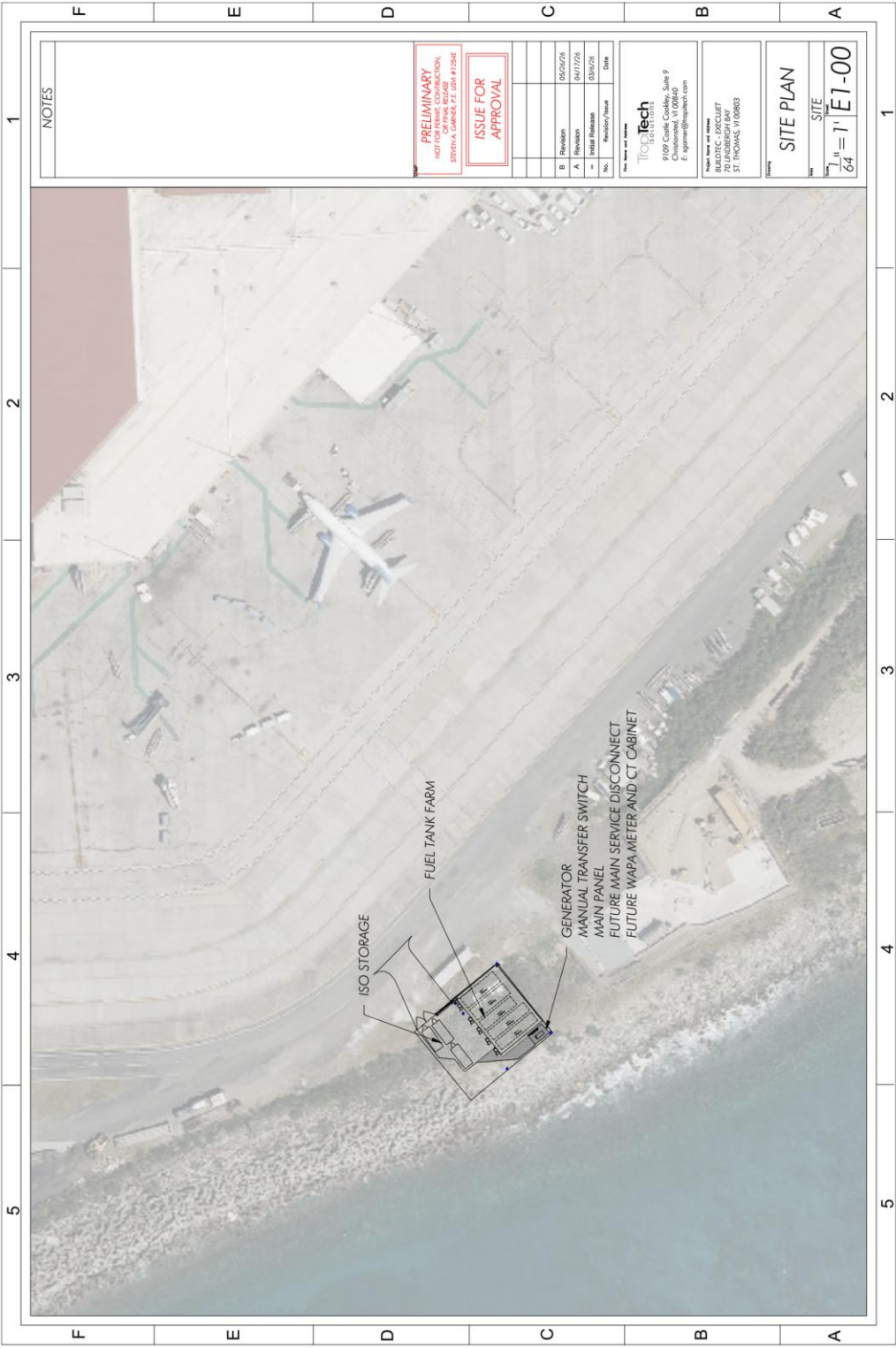
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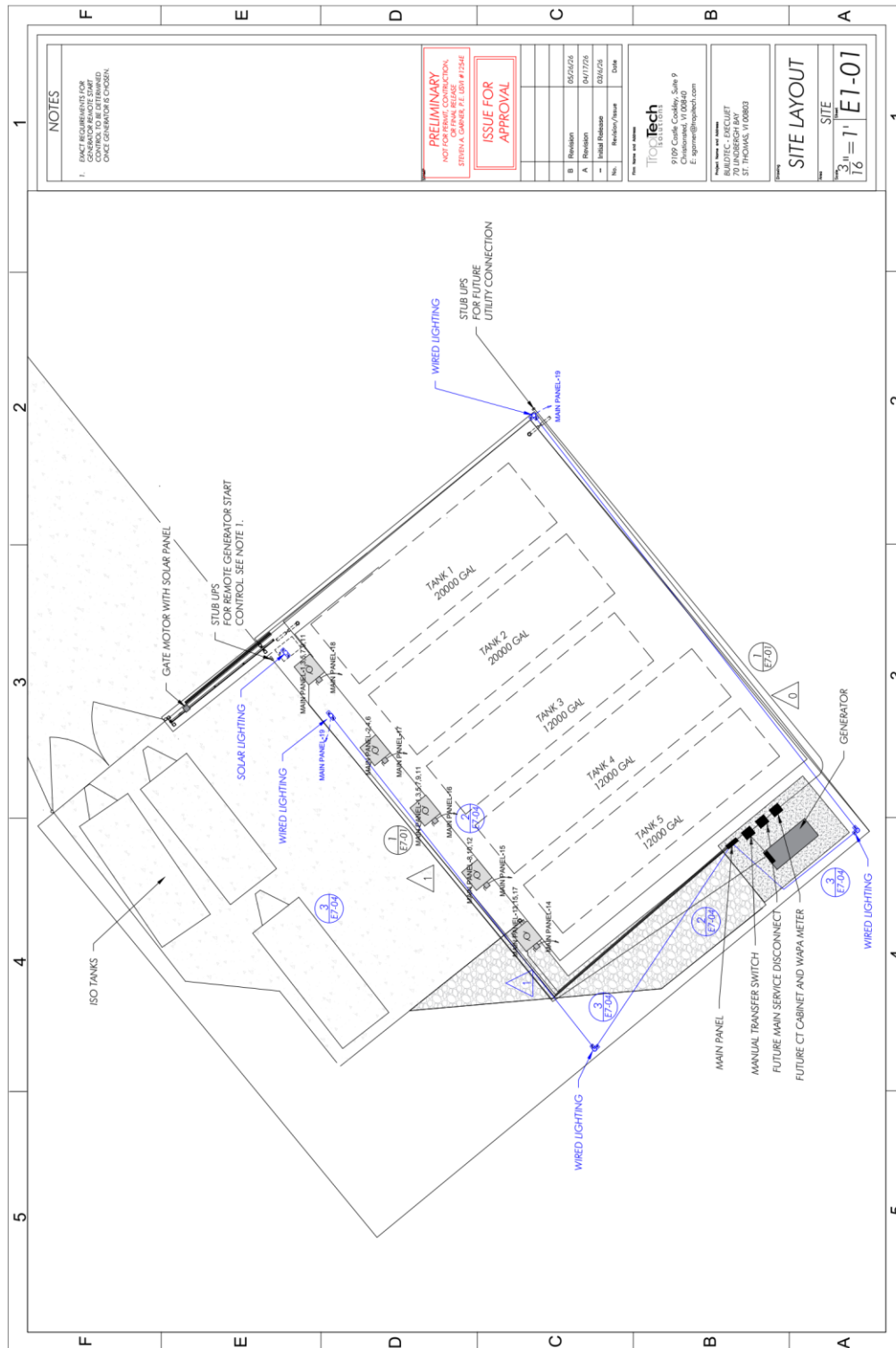
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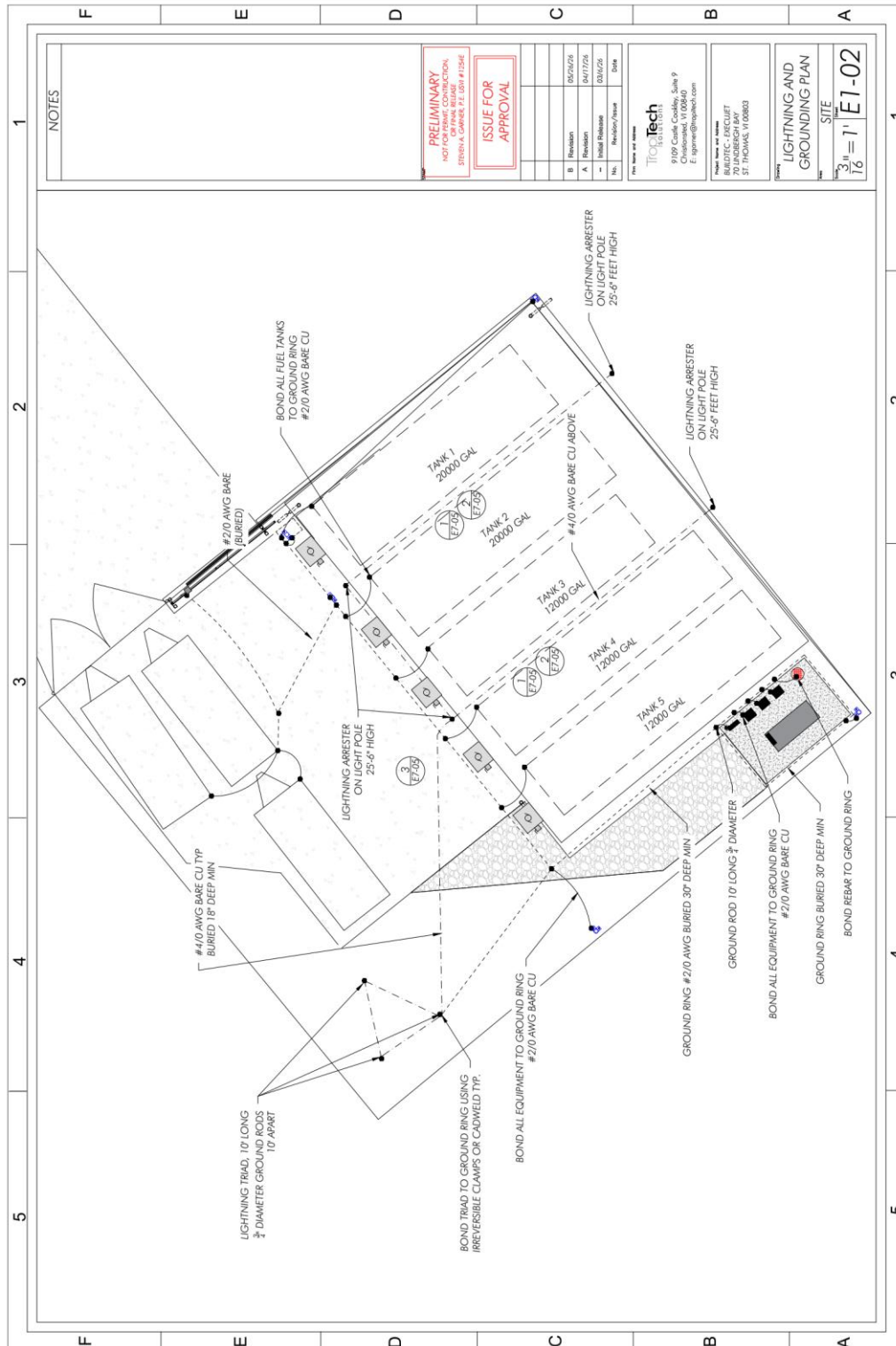
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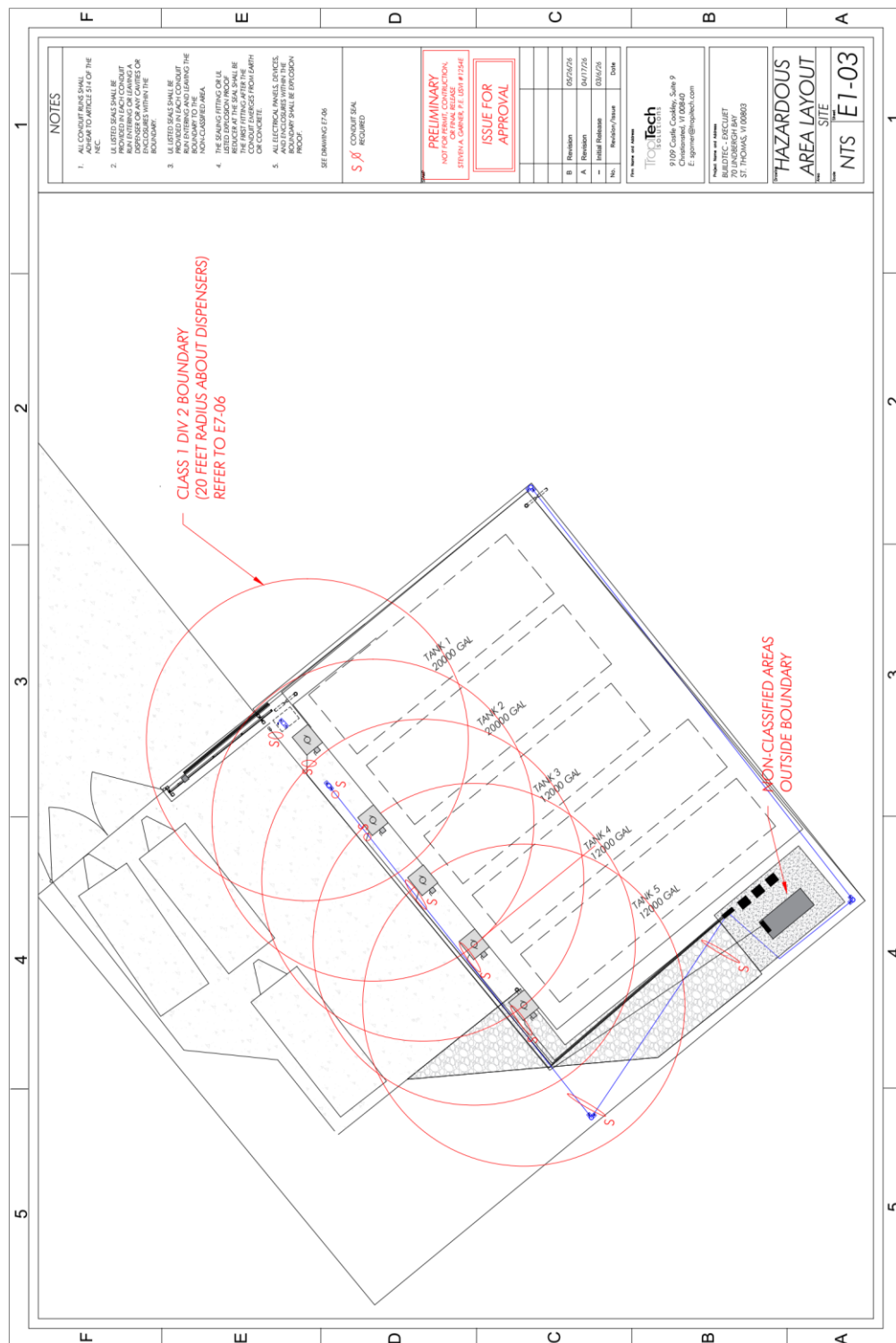
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5.03 PROJECT WORK PLAN AND SCHEDULE

1. Site Preparation & Logistics
 - A. Site Isolation: Install a Construction Entrance and Silt Fence around the entire perimeter to cordon off the construction zone from active taxiways and ramp areas.
 - B. Staging Area: Designate a secure area for storing any heavy machinery and materials.
 - C. Conduct a site visit with VIPA to plan out the disconnect and removal of existing tanks and piping.
2. Earth Work
 - A. Enabling Works: Demolition of existing tanks and piping on the site.
Clear , excavate and grade the site.
3. Tank Farm Construction: Construct foundation for the tanks and storage area along with containment walls.

Install Fuel Tanks and anchor to the foundation.
Install Site Lighting and generator.
Install Security Fencing and Gates.
4. Demobilization
 - A. Cleaning of the entire construction site and removal of all debris and equipment.

The process should take 4 months to complete.

6.00 ENVIRONMENTAL SETTING AND PROBABLE PROJECT IMPACTS

6.01 Climate and Weather

Prevailing Winds

The Virgin Islands lie in the "Easterlies" or "Trade Winds" which traverse the southern part of the "Bermuda High" pressure area, thus the predominant winds are usually from the east-northeast and east (IRF, 1977). These trade winds vary seasonally and are broadly divided into 4 seasonal modes: 1) December to February; 2) March to May; 3) June to August; and 4) September to November. Below are the characteristics of these modes as taken from Marine Environments of the Virgin Islands Technical Supplement No. 1 (IRF, 1977).

December - February

During the winter the trade winds reach a maximum and blow with great regularity from the east-northeast. Wind speeds range from eleven to twenty-one knots about sixty percent of the time in January. This is a period when the Bermuda High is intensified with only nominal compensation pressure changes in the Equatorial Trough. The trade winds during this period are interrupted by "Northerners" or "Christmas Winds" which blow more than twenty knots from a northerly direction in gusts from one to three days. Such outbreaks average about thirty each year. They are created by strengthening of high-pressure cells over the North American continent, which, in turn, allow weak cold fronts to move southeastward over the entire Caribbean region. These storms are accompanied by intermittent rains, clouds and low visibility.

March - May

During the spring, the trade winds are reduced in speed and blow mainly from the east. Winds exceed twenty knots only thirteen percent of the time in April. The change in speed and direction is the result of a decrease of the Equatorial Trough.

June - August

Trade winds reach a secondary maximum during this period and blow predominantly from the east to east-southeast. Speeds exceed twenty knots twenty-three percent of the time during July. The trend for increasing winds results from the strengthening of the Bermuda High and a concurrent lowering of the pressure in the Equatorial Trough. Trade winds during this period are interrupted by occasional hurricanes.

September - November

During the fall, winds blow mainly from the east or southeast and speeds reach an annual minimum. Only seven percent of the winds exceed twenty knots in October. The low wind speeds result from a decrease in the Equatorial Trough. During this period, especially during late August through mid-October, the normal trade wind regime is often broken down by easterly waves, tropical storms and hurricanes.

There are long-term wind records from the Cyril E. King Airport station, the station contains approximately 67 years of wind data records beginning in 1953.

NOAA Station 9751639 only has wind records dating back to the year 2000. The data indicates that the predominant winds are from the east, with 90% of the winds occurring from the southeast to northeast. A wind rose of the hourly wind speeds for the 1953 – 2020 period is provided below in Figure 6.01.1.

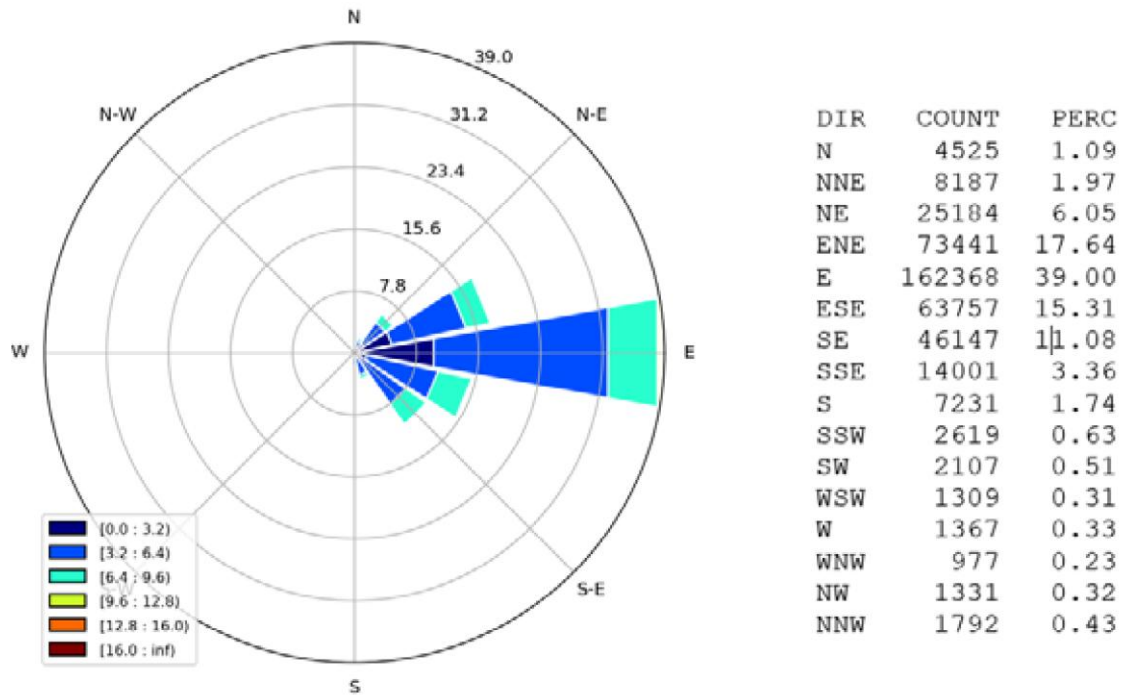


Figure 3. Wind Rose Cyril e. King Airport

Table 1. Hourly wind speeds by both return period and direction from the Cyril E. King Airport from 1953 to 2020.

DIR	RETURN PERIODS					
	2.0	5.0	10.0	25.0	50.0	100.0
N	9.6	13.2	15.5	18.5	20.6	22.8
NNE	10.1	11.8	12.9	14.3	15.3	16.3
NE	10.9	12.7	14.0	15.5	16.7	17.8
ENE	11.2	12.9	14.0	15.4	16.4	17.4
E	12.2	15.1	17.0	19.4	21.2	23.0
ESE	13.1	16.9	19.5	22.7	25.0	27.4
SE	11.6	15.6	18.3	21.7	24.3	26.8
SSE	10.8	15.5	18.6	22.5	25.4	28.3
S	9.7	13.2	15.5	18.4	20.6	22.8
SSW	8.0	11.8	14.4	17.6	20.0	22.3
SW	7.6	11.5	14.1	17.4	19.8	22.2
WSW	7.5	11.5	14.2	17.6	20.0	22.5
W	7.8	11.6	14.2	17.4	19.7	22.1
WNW	7.4	11.9	14.8	18.6	21.3	24.1
NW	7.3	11.0	13.5	16.6	18.9	21.2
NNW	6.9	9.3	10.9	12.8	14.3	15.8

Storm and Hurricanes

There are numerous disturbances during the year, especially squalls and thunderstorms. These occur most frequently during the summer, lasting only a few hours and causing no pronounced change in the trade winds.

A tropical cyclone whose winds exceed 74 miles per hour is termed a hurricane in the northern hemisphere and significantly affects the area. These hurricanes occur most frequently between August and mid-October with their peak activity occurring in September. The annual probability of a cyclone used to be one in sixteen years (Bowden, 1974). However, the Virgin Islands were hit with two Category V hurricanes within a two-week period in 2017 and a category 1 hurricane in 2019

Hurricane wind data for the airport was obtained from the HURDAT2, which contains tropical storm and hurricane information from 1851 to 2019, and the NOAA hurricanes website

<https://coast.noaa.gov/hurricanes/26.03>). According to the NOAA Historical Hurricane Tracks Tool, a total of 258 storms (hurricanes, tropical storms, and tropical depressions) have passed within 200 nautical miles of the airport location dating back to 1867 as shown in the figure below. Of the 258 storms, 38 were considered Major Hurricanes (Cat 3 or greater).

Climate

The average annual rainfall on St. Thomas is approximately 45 inches, ranging from 35 inches toward the eastern end of the island to more than 55 inches at the higher elevation to the west. Rainfall usually occurs in brief, intense showers of less than a few tenths of an inch and major rainfall events are associated with weather systems (USGS 1998). The Virgin Islands have no sharply defined wet season. The wettest period generally is from September to November, and the driest period is from January to June (USGS 1998). The Cyril E. King Airport area receives 39 inches of rainfall annually. The average rainfall received in Charlotte Amalie, which is located approximately 1.35 miles to the northwest between 1972 and 2012 is found in the following table.

Table 2. Climate Summary CHARLOTTE AMALIE HARBOR, VIRGIN ISLANDS (678905), Period of Record Monthly Climate Summary

Period of Record : 1/12/1972 to 4/30/2012, Monthly Climate Summary Southeast Regional Climate Center, sercc@climate.ncsu.edu

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	84.7	85.0	85.5	86.4	87.4	89.1	89.9	90.1	89.5	88.6	87.0	85.5	87.4
Average Min. Temperature (F)	72.3	72.2	72.7	74.2	76.3	77.7	78.0	78.1	77.6	76.6	75.1	73.3	75.3
Average Total Precipitation (in.)	2.03	1.45	1.46	2.74	3.35	2.75	2.66	3.83	5.42	5.94	5.54	2.84	40.01
Average Total Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 84% Min. Temp.: 83.6% Precipitation: 80.9% Snowfall: 80.1% Snow Depth: 76%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

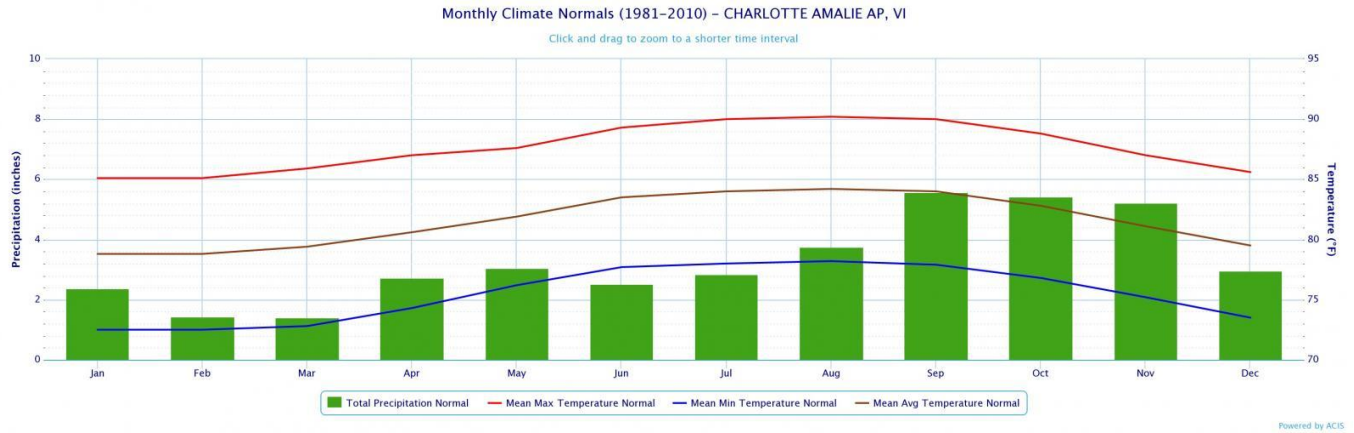


Figure 4. Monthly Climate Normals Charlotte Amalie Airport (<https://www.weather.gov>)

The difference between the mean temperatures of the coolest and warmest month is only 5 to 7 degrees F. The highest temperatures August or September and the lowest are in January or February. The highest average daytime temperature in the warmest months is about 88 degrees F, and in the coolest months is in the low 80's. Nighttime lows are usually in the mid 70's during the warmer months and in the high 60's during the cooler months (USGS 1998). In general, air temperature in the Virgin Islands ranges between 77 degrees and 85 degrees.

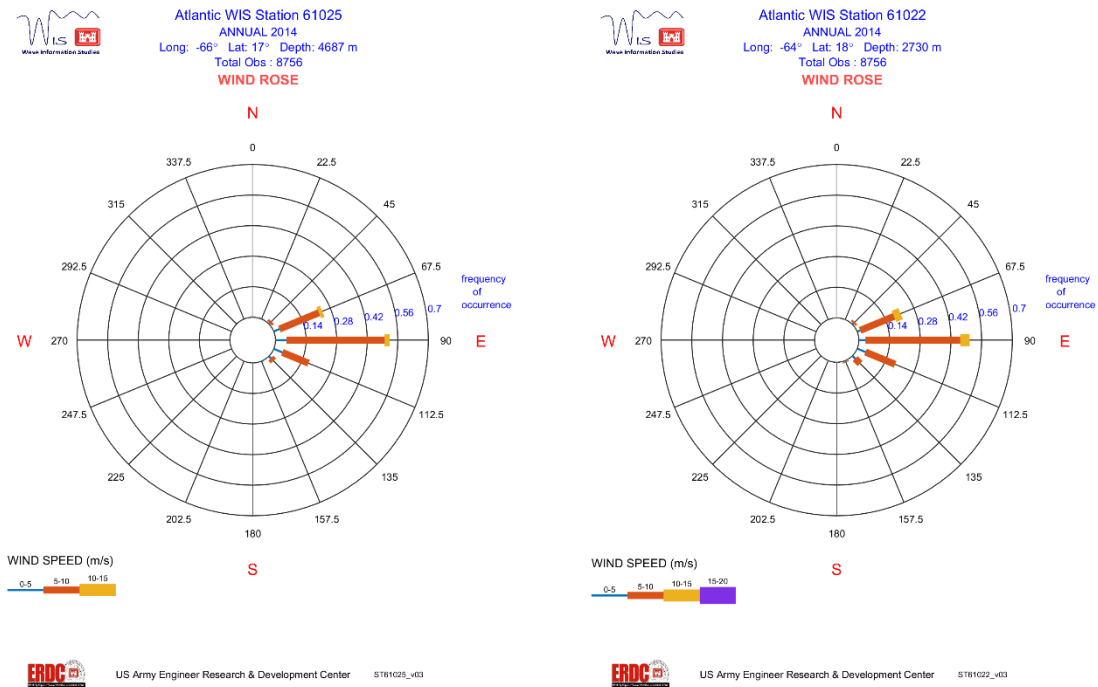


Figure 5. Wind Roses from the USACE showing the predominant easterly trade winds from the two closest WIS buoys.

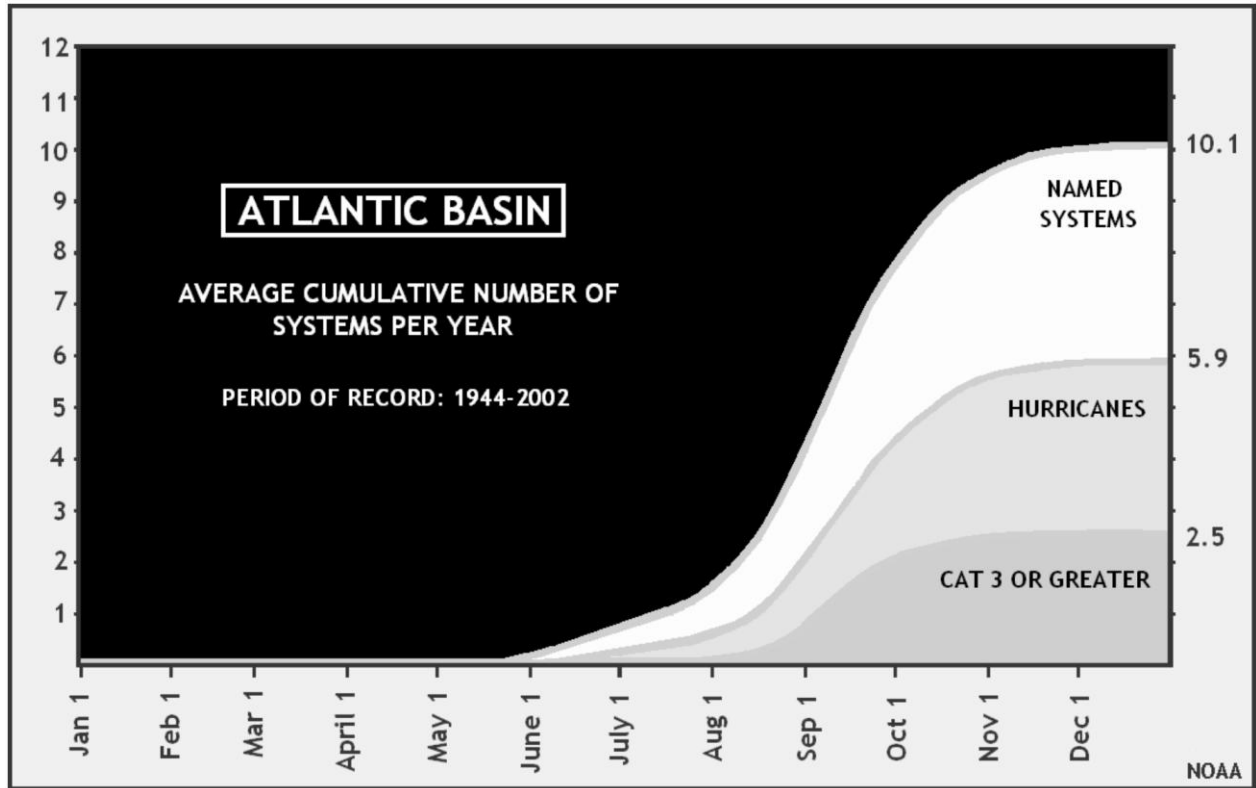


Figure 6. Tropical Cyclone Frequencies in the Atlantic (National Weather Service)

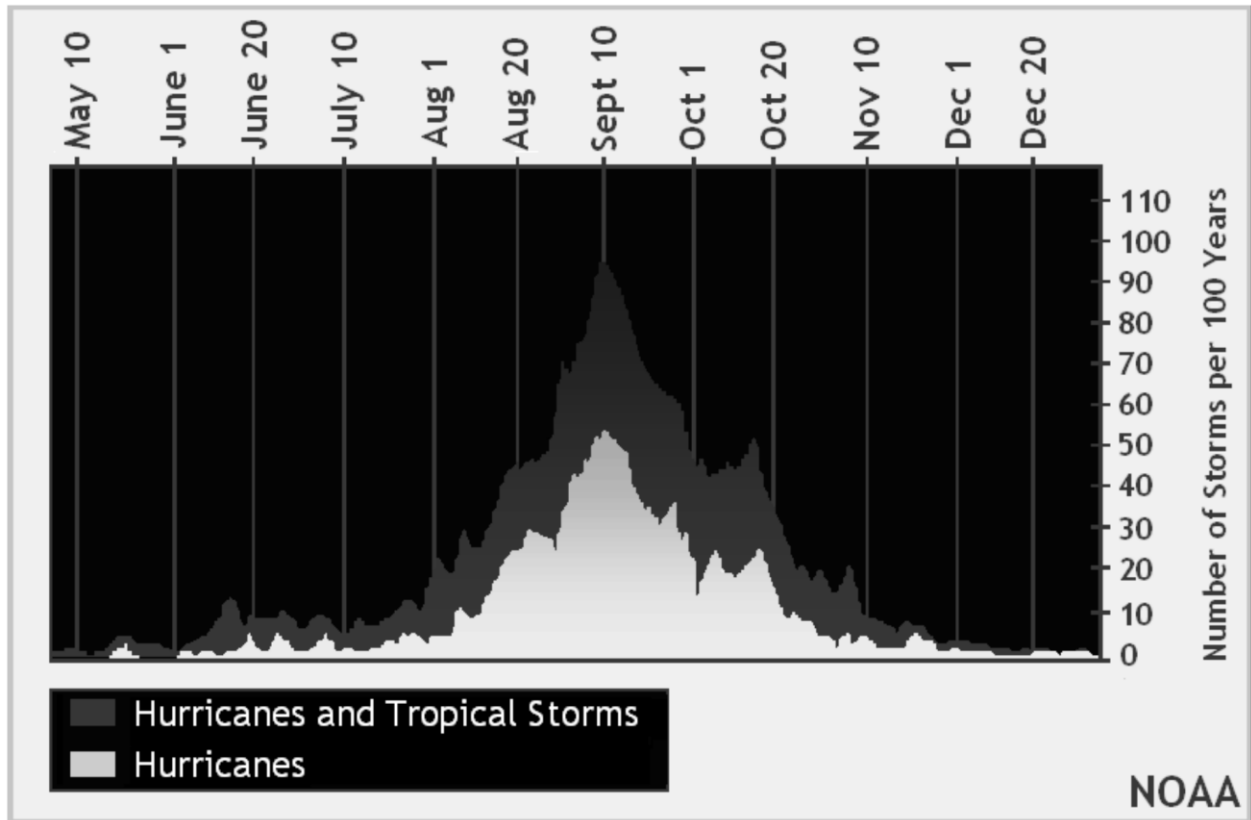
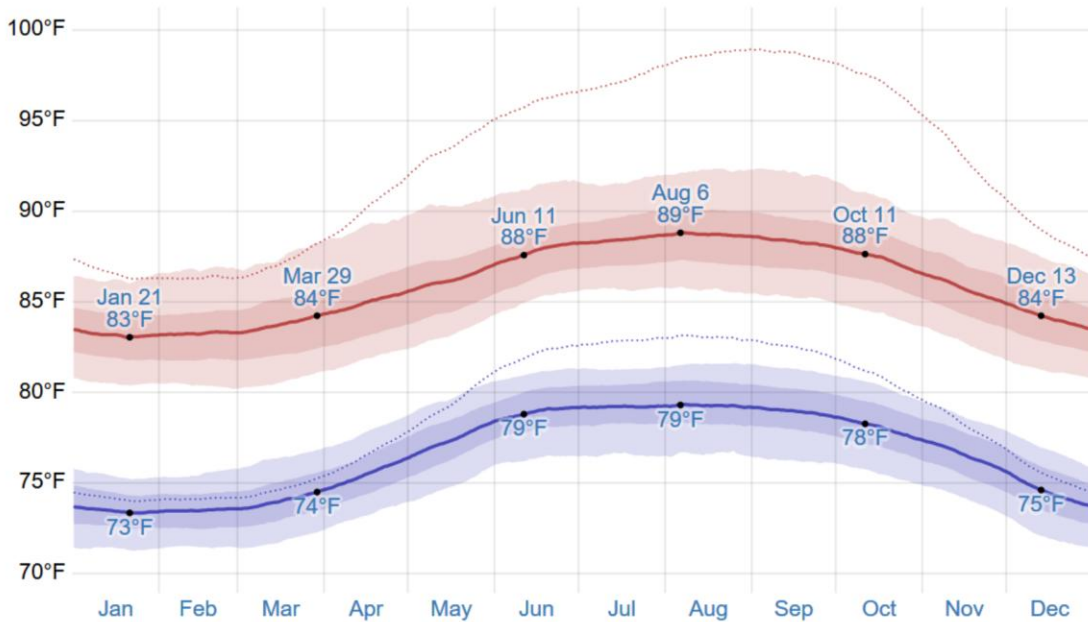


Figure 7. Tropical Storm and Hurricane Occurrences in the Atlantic (National Weather Service)

Average High and Low Temperature



The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.

Daily Chance of Precipitation



The percentage of days in which various types of precipitation are observed, excluding trace quantities: rain alone, snow alone, and mixed (both rain and snow fell in the same day).

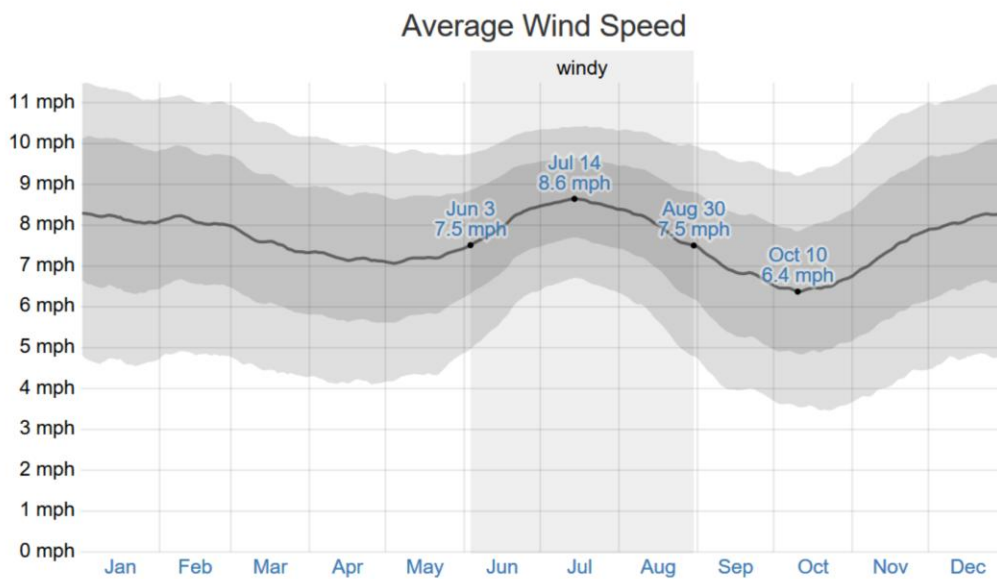
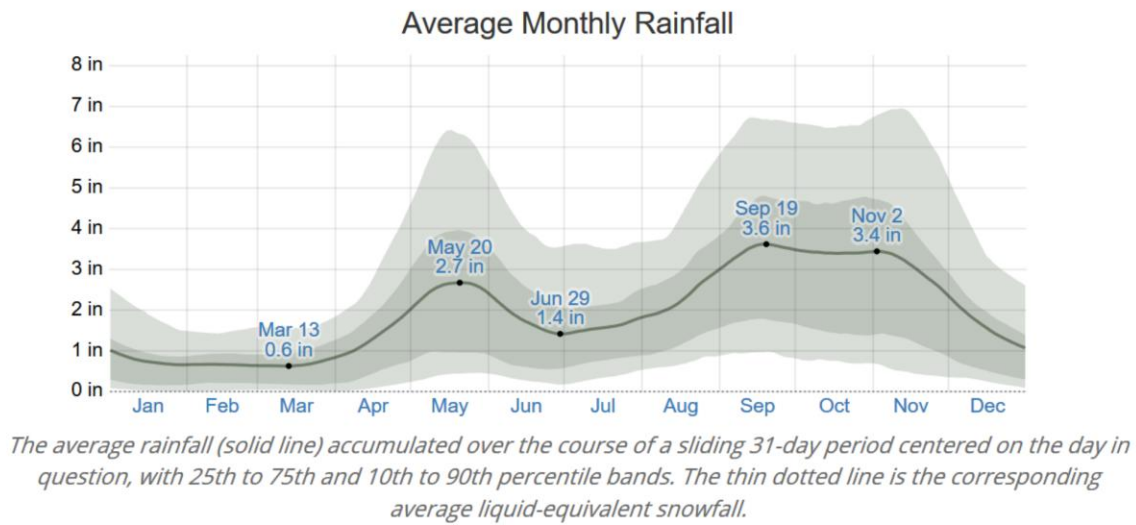


Figure 8. Climate averages (<https://weatherspark.com/y/28234/Average-Weather-inCharlotte-Amalie-U.S.-Virgin-Islands>)

Impact on Fuel Farm

The facility has been built to withstand Category V hurricanes as per the building code.

6.02 Landforms, Geology, Soils, and Historic Use

GEOLOGY OF ST. THOMAS

The Virgin Islands are near the northeastern corner of the present Caribbean Plate, a relatively small trapezoidal-shaped plate that is moving eastward relative to the North and South American continents carried on the American plate. The arc of the Lesser Antilles is an active volcanic arc above a subduction zone in which the Atlantic oceanic crust of the American Plate is carried downward under the Caribbean Plate. The closest volcano to the Virgin Islands that is still active is Saba, about 160 km. to the east.

St. Thomas is composed of stratified volcanic and volcanoclastic rocks with minor limestone of the Early Cretaceous (Albain) to possibly the late Cretaceous Age (Donnelly 1966). These rocks are granitic composition, some of which may be as young as Tertiary (Kesler and Sutter, 1979). The oldest rocks of St. John are submarine lavas (keratophyre and spilite), beds of volcanic debris and chert. Associated intrusive rocks of the Water Island Formation is overlain by andesitic volcanic and volcanoclastic rocks of the Louisenhoj Formation which underlies the island of St. Thomas to the east and much of the northwestern portion of St. John. Donnelly (1966) suggested that the Louisenhoj Formation was deposited unconformably on the Water Island Formation after a period of emergence, tilting and erosion, on the slopes and environs of a subaerial volcanic island located roughly between St. Thomas and St. John, an area now occupied by Pillsbury Sound. The youngest layered deposits on St. Thomas are volcanoclastic rocks of the Tutu Formation. Fossils contained in the Tutu Formation suggest that those deposits are of the Early Cretaceous (Albain) Age (Donnelly et. al. 1971). It appears that all of the volcanoclastic rocks of St. Thomas were deposited in a relatively short period of time spanning 10 to 15 million years approximately 100 million years ago (D. Rankin 1988).

St. Thomas is characterized by an irregular coastline, numerous bays, steep, slopes and small drainage areas. For the most part the topography is very mountainous and coastal plains are almost completely absent.

GEOLOGY OF THE CYRIL K. AIRPORT

The airport property has been highly altered overtime. A large salt pond off what was once called Mosquito Bay (Lindbergh Bay) was filled by the U.S. Navy, portions of Cabritaberg Hill and Sara Hill were cut down and the runway was filled out into the sea to a depth of nearly 90ft. The shorelines facing the west have been filled and revetted, all the FBO site is filled land.

HISTORIC USE

At one time there was a land fill adjacent to Red Point and both garbage and sewage were dumped in the water between Red Point and Brewers Bay. In July 1940, efforts were initiated to further develop Bourne Field and the long since abandoned radio station and submarine base. The initial program called for improvements and additions to facilities to house a Marine squadron of 18 planes on a permanent basis. The main runway at Bourne Field was extended to 4,800 feet and additions were made to hangers, housing, cold storage, gas storage and a new 60 bed dispensary and hospital.



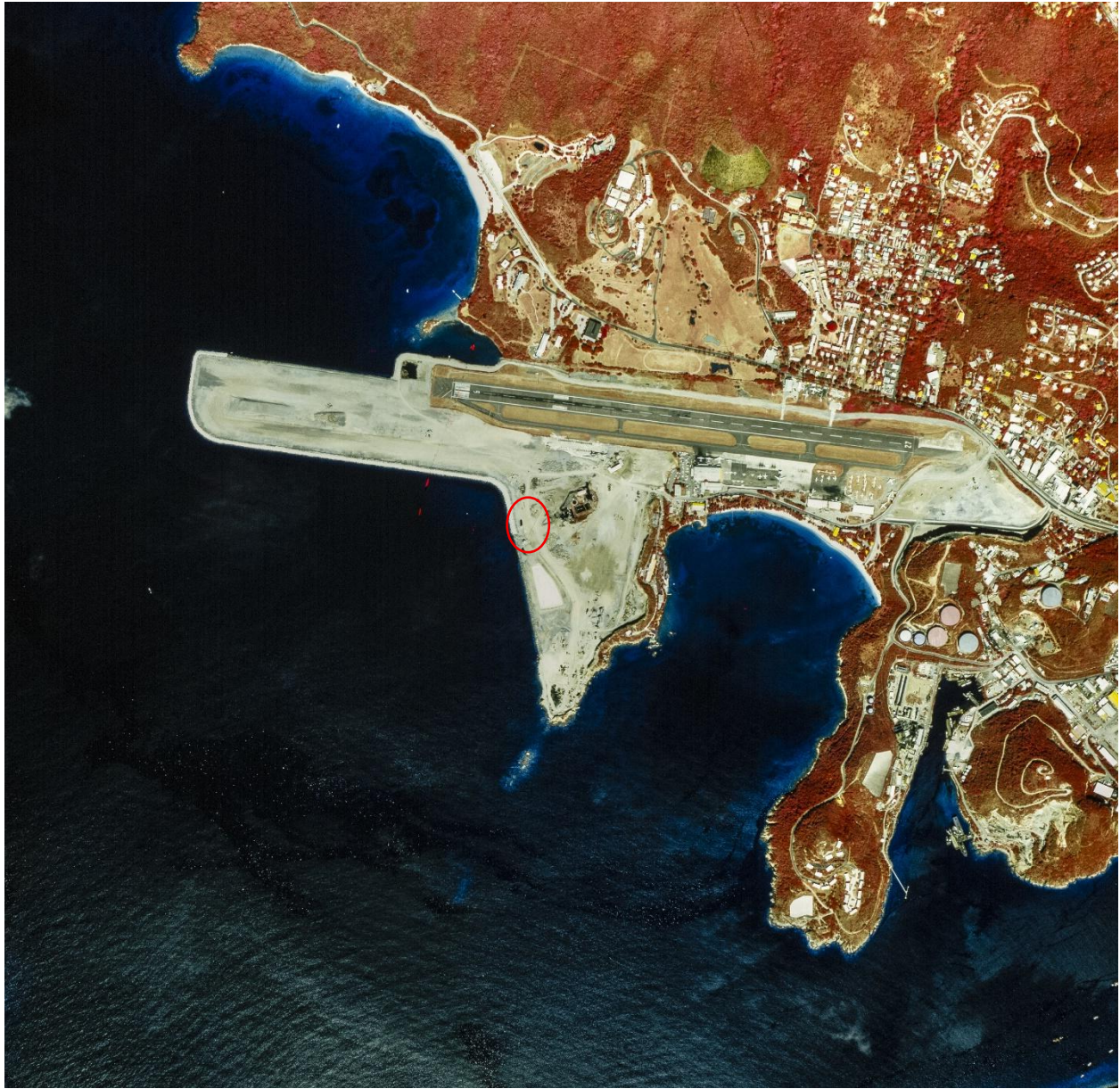
Bourne Field



Airport 1954

A runway was constructed in the late 1960's created "College Cove" and impacted the area around Range Cay.

Construction of the current airport terminal began in 1980 and was completed in October 1990. The runway was extended from 4,200 to its present 7,000 length in 1992.



Airport during filling/grading operations 1984. The project area was created during this operation.



Airport in 1989, the new runway is not yet in operation. The project area is to the north of the large Wastewater Treatment Plant (WWTP) pond.

ADVERSE SITE CONDITIONS

The coastline to the west of the project site has been revetted to protect against wave action. The project area lies in Zone X where 100-year flooding is not expected. The offshore area is Zone VE, areas of the coastal flood zone with velocity hazards (wave action) where the 100-year coastal flooding has been determined to be 18ft to the south and west and 12ft to the north. (Flood Insurance Rate Map, Panels 25 of 94, revised April 16, 2007).

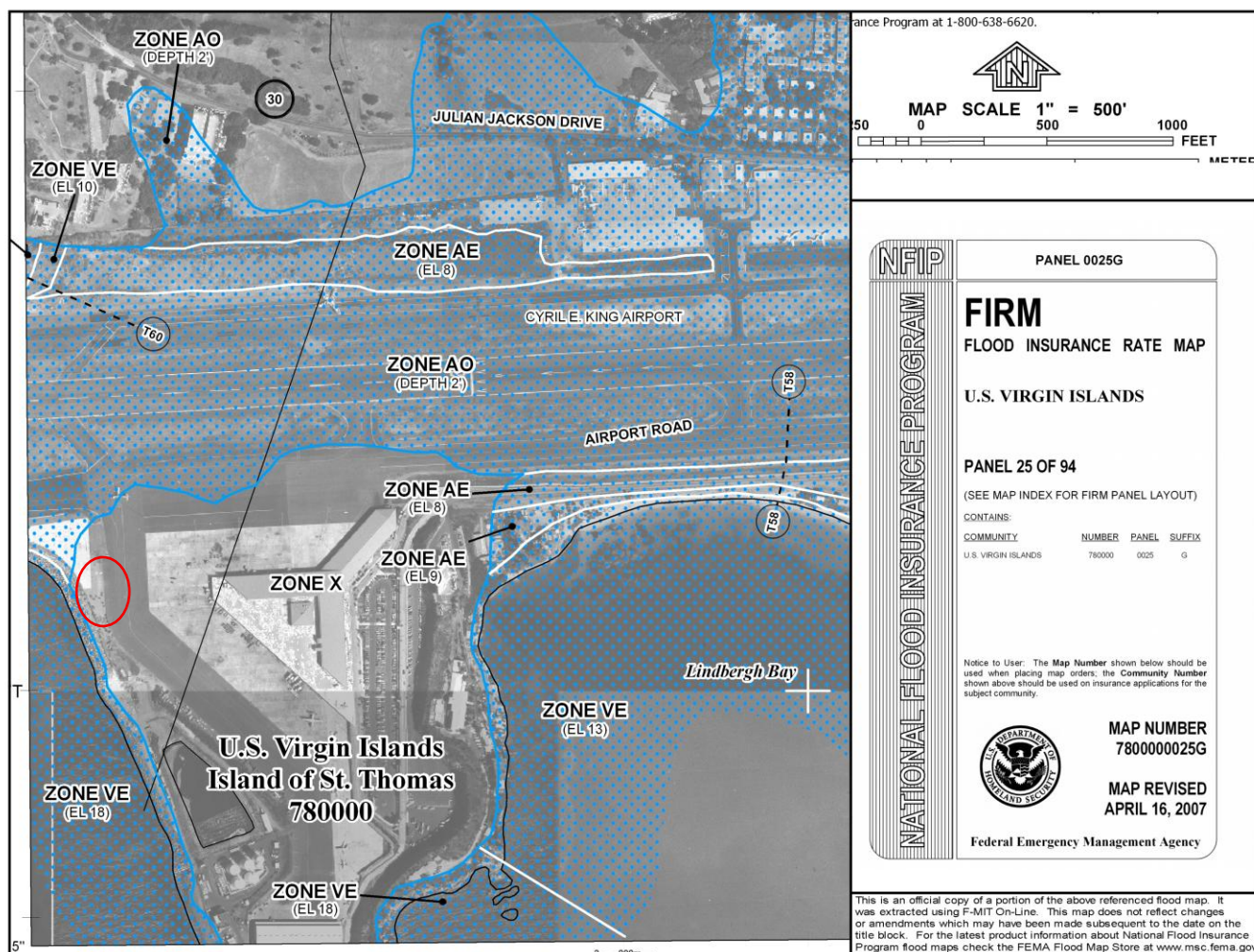


Figure 9. FEMA FIRM MAP 25 of 94 April 16, 2007.

The U.S. Virgin Islands lie in one of the most earthquake prone areas of the world, and are susceptible to ground shaking, earthquake-induced ground failures, surface fault ruptures and tsunamis (tidal waves) (Hays, 1984). The activity is mostly associated with large-scale tectonic activity or faulting, originating in the Anegada Trough to the northeast of the islands. The trough and its related scarp apparently were thrown up by block faulting during the late Pliocene or early Pleistocene. It is oriented generally northeast to southwest, separating St. Croix from Puerto Rico and the other Virgin Islands. Based on shallow focus earthquakes, the Anegada Fault Trough is estimated to be more than 400 miles in length. There are indications that strike slip movement is occurring, with St. Croix shifting northeast relative to Puerto Rico (Puerto Rico Water Authority 1970). The year 2026 marks the 159th anniversary of the last major earthquake in the islands. This quake, which occurred on November 18, 1867 had an identified intensity of VIII on the Modified Mercalli Scale. Earthquakes of this magnitude have generally been associated with epicentral ground accelerations of between 0.05 and 0.35 gravities. Since the 1868 quake, there has been continuous low intensity activity, all below 6.0 Richter. Thousands of tiny earthquakes are encountered every year on the island.

The USGS predicts St. Thomas is in a area with between 45 and 50% showing peak ground acceleration (%g) total mean hazard for 2% probability of exceedance in 50 years for a firm rock site (VS30 = 760 m/s).

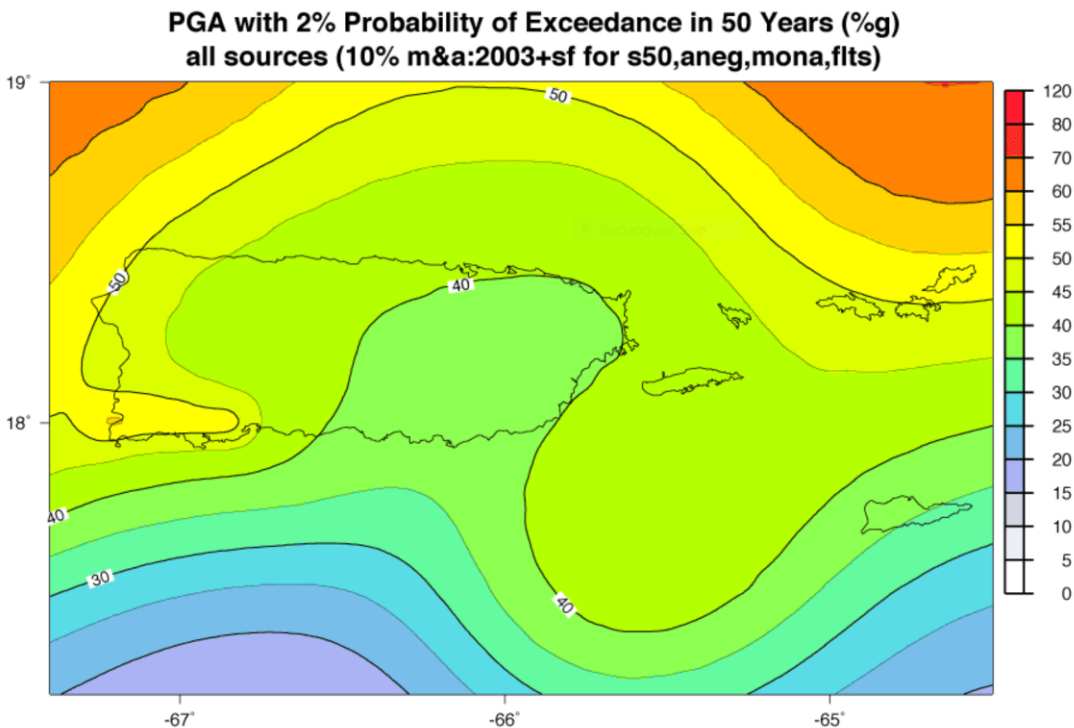


Figure 10. Probability of exceeding peak ground accelerations in 50 years <https://www.usgs.gov/media/images/puerto-rico-seismic-hazard-map>.

The FBO tank farm has been designed to address this risk.

SOILS

The Custom Soil Survey (<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>) shows that the airport area has been highly altered from its natural state. As shown on the following map except for the shoreline of Lindbergh Bay, the entire airport property is delineated as Urban Land (UbD), Urban Land is land that has been highly altered by man and contains a mix of soil types. The shoreline of Lindbergh Bay is delineated as Solitude gravelly fine sandy loam, 0 to 2 percent slopes, frequently flooded to the west in the area of the public park and Beaches, sandy to the east along the shoreline.

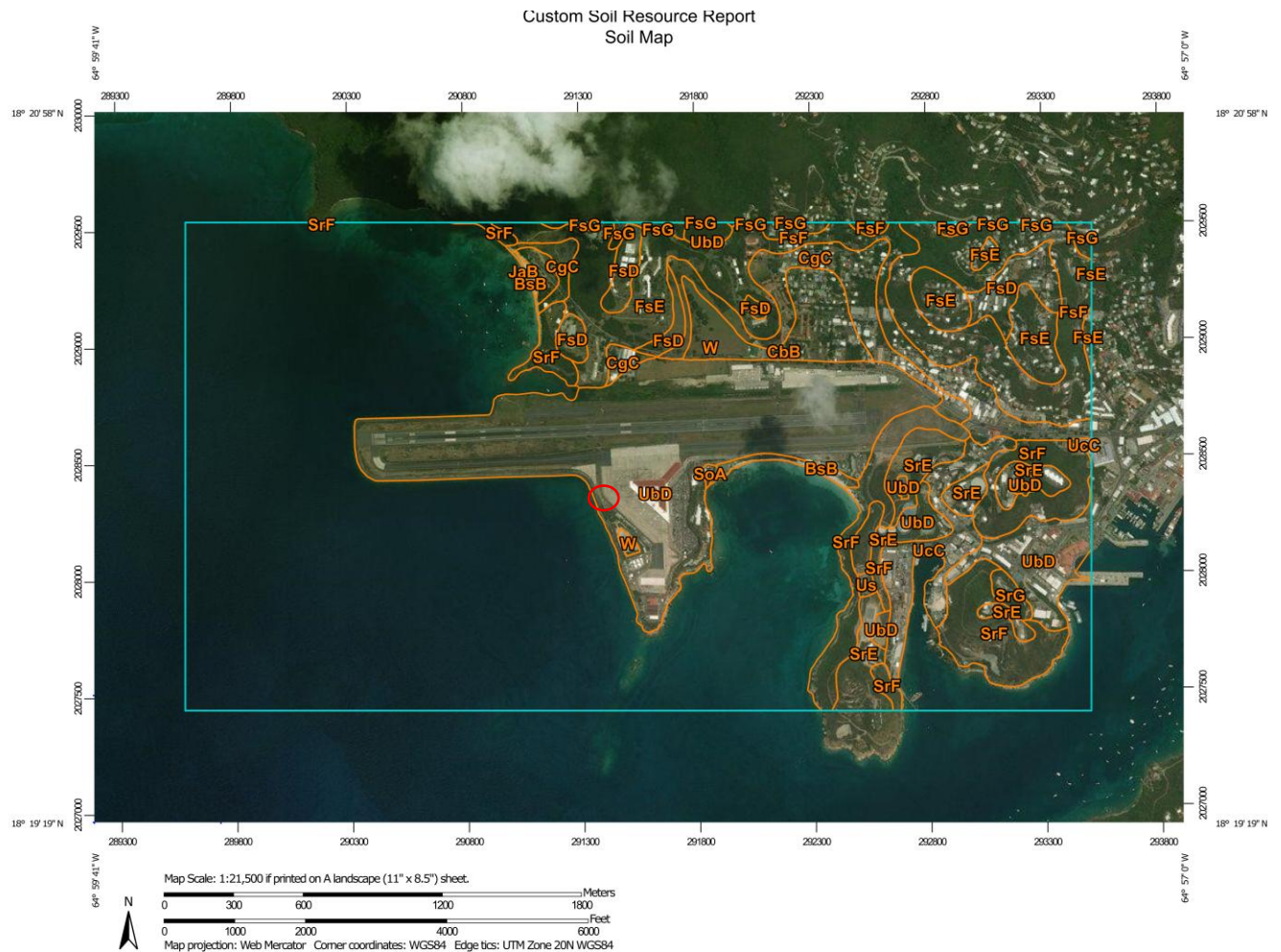


Figure 11. Custom soils map Cyril E. King Airport

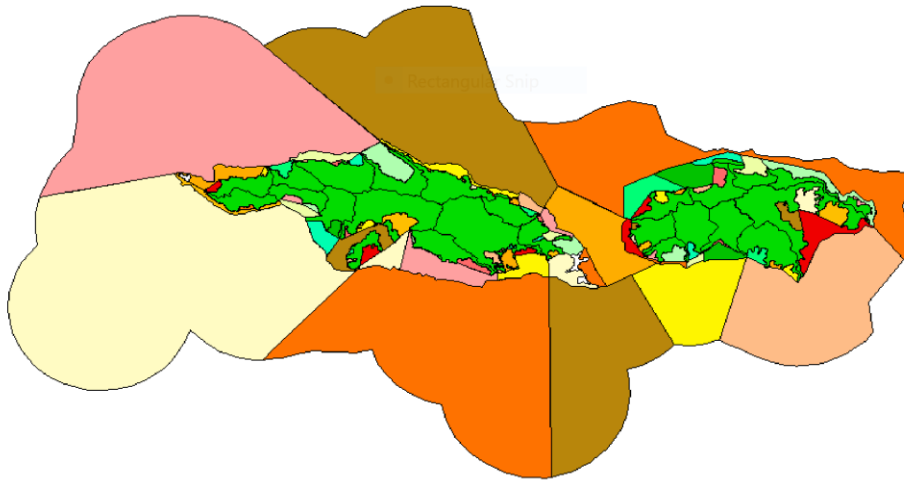
Impact of Improvements

The FBO tank farm development will not have any impact on the site geology. Any site alteration occurs to previously filled land.

6.03 Drainage, Flooding and Erosion Control

6.03a Existing Drainage Pattern

The Cyril E King Airport lies in a sub-watershed of 21020001010040 Southwest St. Thomas of the 14-Digit HUCs and Watersheds. The watershed which affects the airport drains 1,524 acres. According to NOAA's Watershed Summary the water shed contains 1,126 acres and is 59% developed.



2016 USVI Integrated Report

Figure 12. Watersheds as defined in the 2016 Integrated Water Quality Monitoring and Assessment Report.

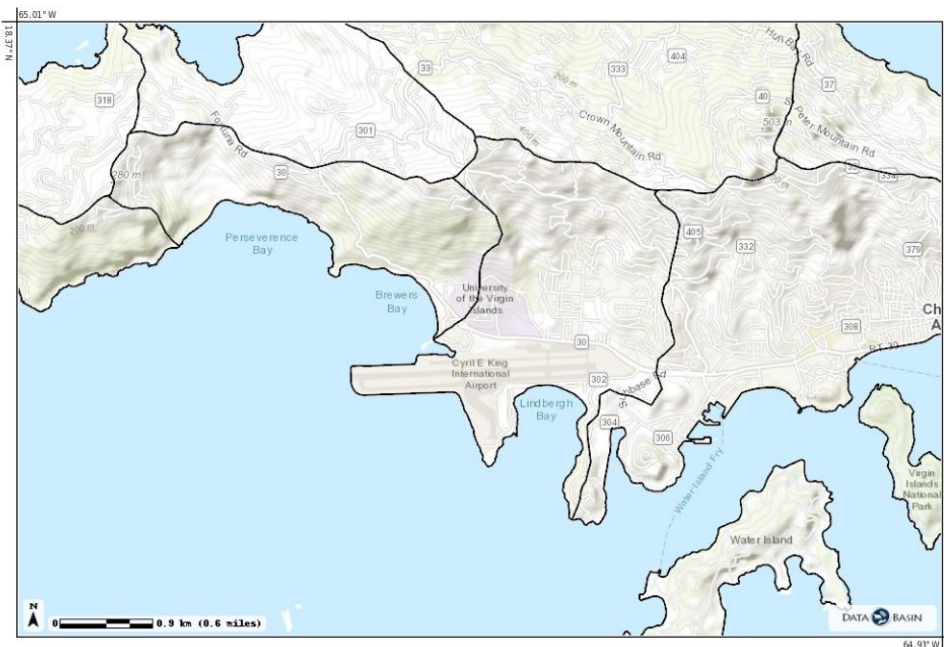


Figure 13. Delineation of the Watershed encompassing the Cyril E. King Airport.

Surface water flow from the site will flow east and into the underground storm sewer collection system. Containment is provided for all fuel storage areas to prevent introduction of hydrocarbons into the system.

6.03 b Alterations to Existing Drainage Patterns

No alterations to existing drainage patterns are proposed. The proposed improvements will follow existing drainage patterns with sheet flow entering the existing airport stormwater system. The project will increase the impervious surface by approximately 5200sq. ft. The areas to be improved are highly altered filled rocky/gravelly soil which is currently overgrown with secondary growth vegetation. The increase to runoff will be negligible.

6.03c Relationship of the project to the coastal floodplain

The typical wave and wave patterns affect the airport and the runway which extends offshore and the coastlines of the airport have been revetted to protect against wave action. The property is within Zone X where 100-year flooding is not expected (Flood Insurance Rate Map, Panel 25 of 94, revised April 16, 2007)(Figure 9).

6.03 d Peak Flow Calculations

Due to the limited size of the project area, less than 6000 sq.ft. and negligible increase in impervious surface no hydrology survey was performed.

6.03 e Existing Storm Water Disposal Structures

There are no existing stormwater disposal structures on the site, the site sheet flows to the east. There is a drainage which discharges to the south of the site via a storm drain.

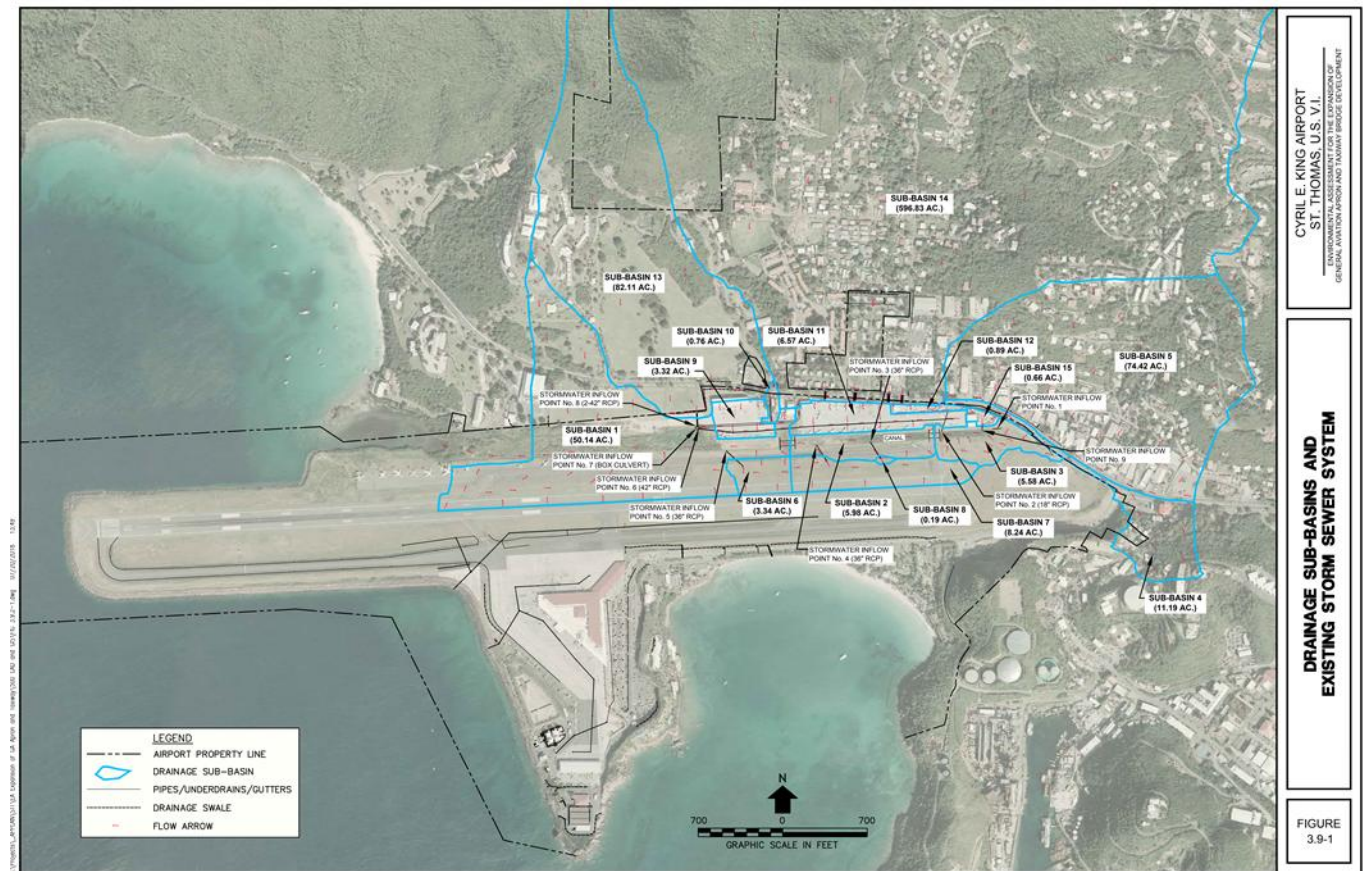


Figure 14. Subbasins and Storm Water Facilities

6.03 f Proposed Storm Water Facilities

The disturbed site area is less than 6,000 sf, well below the 1-acre threshold. Any increase in stormwater runoff is negligible and will be absorbed into the overall stormwater management system for the airfield. The site is graded to sheet flow runoff positively away from the proposed improvements. All necessary BMPs such as gravel construction entrance and silt fencing around the entire work site will be implemented prior to commencement of construction activities.

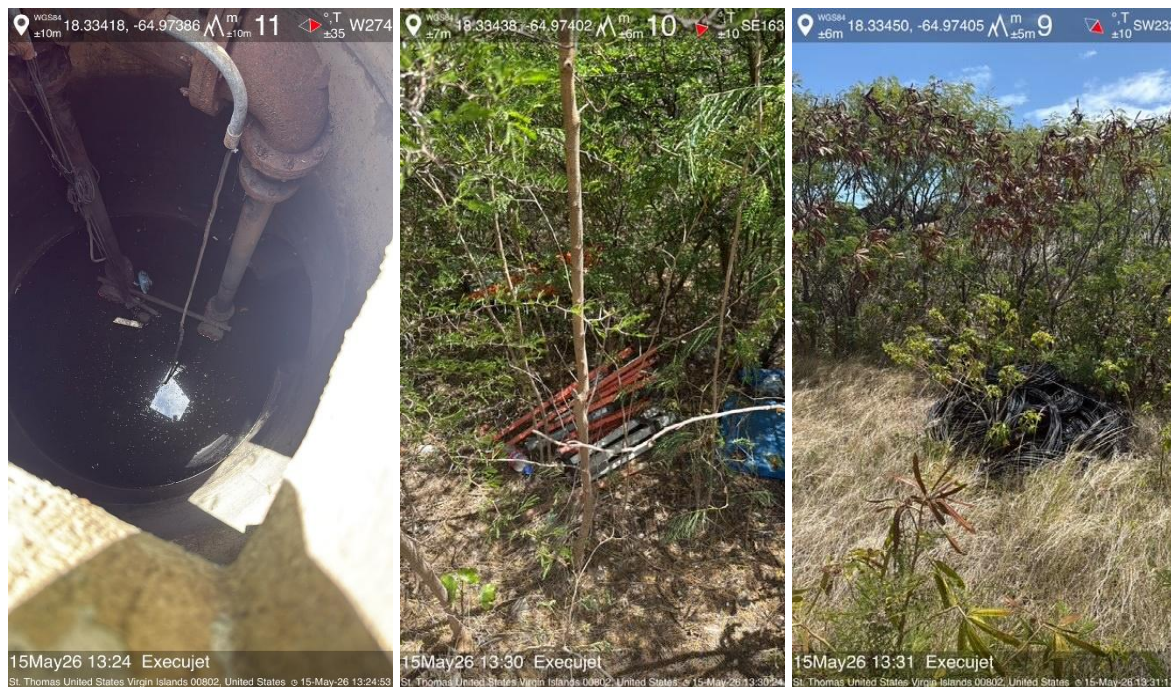
6.03 g Maintenance of Storm Water Control Facilities

Stormwater facilities will be inspected after all stormwater events in excess of 0.5" and all debris or sediment will be removed to maintain the system at full capacity.

6.03 h Method of Land Clearing

Bush on the site will be cleared and debris currently on the site will be removed. Any old infrastructure on these site will be removed, and old manholes and sumps fill as necessary.





6.03 i Provisions Preserve Topsoil and to Limit site Disturbance

There is limited topsoil on the property, all work will occur within silt fencing and a construction entrance.

6.03 j Presence and Location of Critical Areas

The proposed Fuel Farm property has been significantly altered and consists of large areas of fill. The area slated for the new Fuel Farm is an area of fallow land which was once a part of the old Red Point WWTP which is now overgrown with opportunistic herbaceous species. The property is on the coastline but separated by the riprap which protects this western face of the airport facility. The property also slopes towards the airfield rather than towards the sea.

The nearshore environment is colonized by both Endangered Species Act (ESA) listed corals and non-ESA listed coral it is imperative that runoff during construction be prevented from discharging sediment laden runoff into the sea. A stringent sedimentation and erosion control plan has been developed and will be implemented, and a stringent Spill Prevention and Counter Measure Control Plan be developed and

implemented. Spill containment has been developed for the site.

6.03 k Erosion and Sedimentation Control Devices to be Implemented

A Sedimentation and Erosion Control Plan has been developed to be implemented during the proposed construction. The plan includes silt fencing, and stabilized construction entrance. Construction will not interfere with airport operations.

6.03 l Maintenance of Erosion and Sediment Control Measures

All measures included in the Erosion and Sediment Control plan will be maintained in fully functional condition until no longer required. All erosion and sediment control measures shall be checked by a qualified person at least once every seven calendar days and within 24 hours of the end of a 0.5" rainfall event and cleaned and repaired in accordance with the following:

1. The construction entrances shall be maintained in a condition which will prevent tracking or flow of mud into the public rights-of-way. This may require periodic top dressing of the construction entrances as conditions demand.
2. Silt fencing will be repaired or replaced as necessary to ensure full functionality. Sediment shall be removed when it reaches $\frac{1}{4}$ the height of the fencing.
3. All repairs must be made within 24 hours of reporting.

6.03 m Impacts of Terrestrial and Shoreline Erosion

The proposed improvements will result in an increase of approximately 5200sqft. of additional impervious surface which will continue to flow away from the shoreline into the airports stormwater collection system as it does now..

The shorelines of the airport have been revetted. There was some shoreline erosion because of the two category V hurricanes which impacted the islands in 2017. Areas which were not fortified with dolos (Quadra pods) were eroded along the western shoreline of the airport to the west of the old WWTP ponds and along the northern side of the runway near Range Cay where the slopes had been revetted with armor stone. A project to fortify the western shoreline is currently being permitted.

6.04 Fresh Water Resources

The airport area and specifically the project area have been highly altered and all of the project site fill material over marine sea bottoms and as such are not suitable for ground water development. There are no fresh ponds on the airport property or on the project site.

6.05 Oceanography

6.05a Seabed Alteration

No seabed alterations are proposed.

6.05B TIDES AND CURRENTS

The Virgin Islands coastal areas are not subject to significant tidal ranges or tidal currents. Due to the small size of the island, the sea flows around the island causing an average tidal height of only a few inches and maximum change of only a little over a foot. Only very narrow intertidal zones are found because of this lack of tidal amplitude and the steepness of the island rising out of the sea. The tides around Frenchman's Reef are primarily semi-diurnal in nature, with two cycles of high and two of low water every 24 hours. The mean tides range from 0.8ft. to 1.0 ft. and the spring tidal ranges reach up to 1.3 ft (IRF 1977). The mean tides range from 0.8ft. to 1.0 ft. and the spring tidal ranges reach up to 1.3 ft (IRF 1977). There are no notable locally driven tidal currents due to the lack of confinement within the area. NOAA has a tide gauge in Charlotte Amalie and has recorded water levels since 1975. The high tide recorded on September 18, 1989 (Hurricane Hugo) was +3.35ft., in 1995 during Hurricane Marilyn the Charlotte Amalie tide station recorded the highest tide height 3.98' above Mean Lower Low Water. The lowest tide recorded was on February 6, 1985, and was -1.44ft.

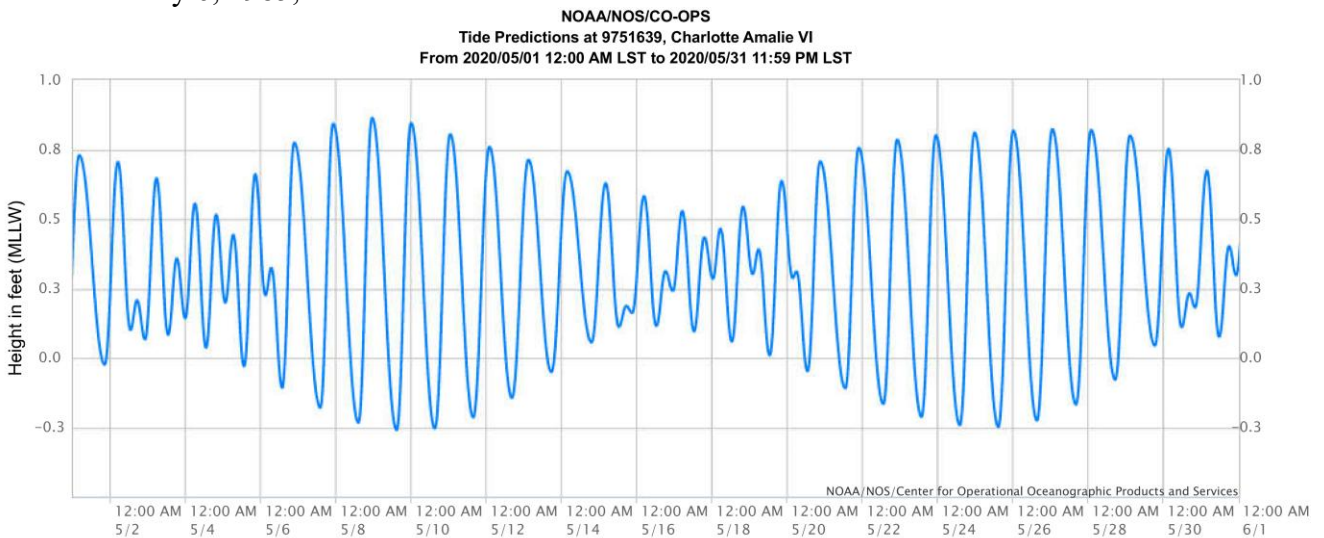


Figure 15. Tidal variation May 1, 2020 to June 1, 2020 (<https://tidesandcurrents.noaa.gov/>).

The tidal ranges of the station are as follows:

Mean Higher High Water	1.09'
Mean High Water	0.94'
Mean Tide Level	0.54'

Mean Sea Level	0.52'
Mean Low Water	0.13'
Mean Lower Low Water	0.0'

The figure below and following figure shows the extreme water levels at the Charlotte Amalie, VI station that were evaluated using the US Army Corps of Engineers' (USACE) calculator (version 5/17/2017) based on local tide gauge data – 32 years of record.

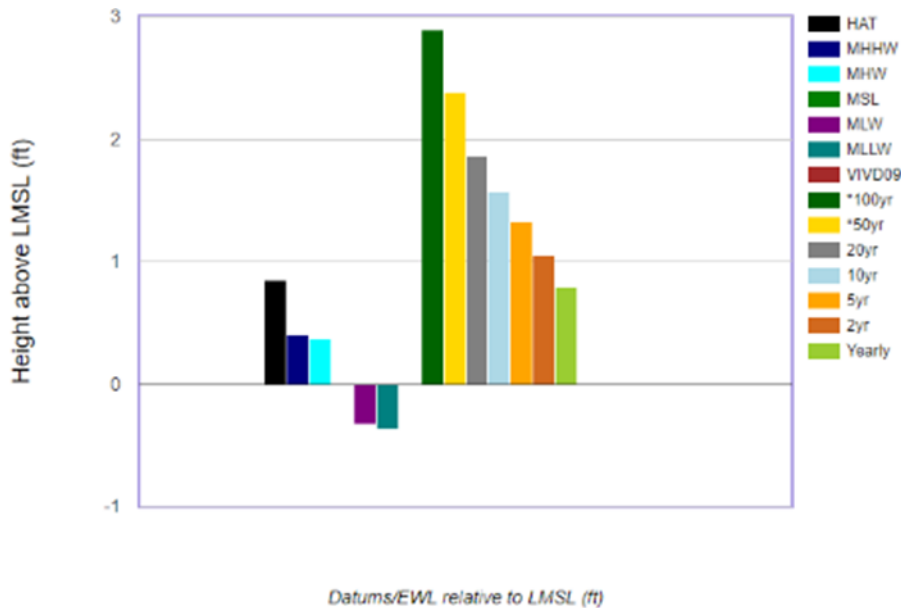


Figure 16. Tidal Datums and extreme water levels Station relative to VIVD09 - Station 9751639

Extreme Water Level	MSL, ft
Yearly	0.79
2 years	1.05
5 years	1.32
10 years	1.57
20 years	1.87
50 years*	2.38
100 years*	2.89

*Period of record is less than return period

Table 3. Extreme water levels Station relative to VIVD09 - Station 9751639

The surface currents throughout the Caribbean are driven by the North Equatorial Current that runs through the islands west-northwest and then joins the Gulf Stream (Figure 17). These currents change very little from season to season with the currents coming more from the south during the summer months. Because of the shallowness of the Caribbean basin, less than 1000m, surface water from the Atlantic flows through the islands. The westerly drift of the Caribbean current sweeps into Pillsbury

Sound from the Southeast, seeking a way North through the barrier set up by the Cays to discharge along the North Shore of St. Thomas and out into the Atlantic. The current flows along the south side of St. Thomas in a westerly direction. Currents flow off the airport in a westerly direction.

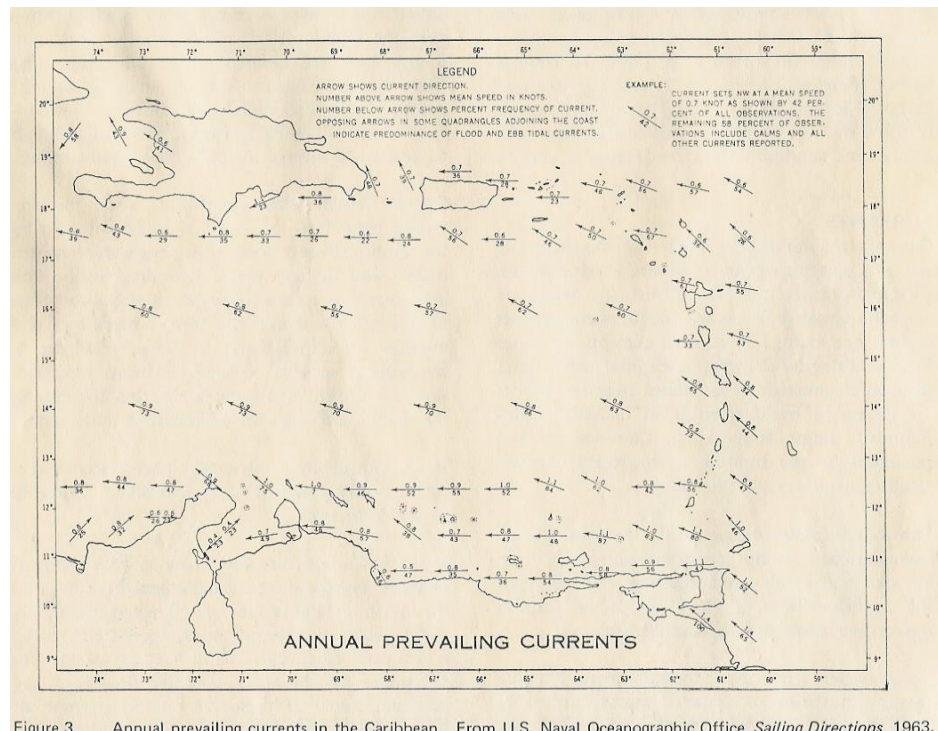


Figure 3. Annual prevailing currents in the Caribbean. From U.S. Naval Oceanographic Office. *Sailing Directions*. 1963.
Figure 17. Prevailing currents in the Caribbean, IRF 1975.

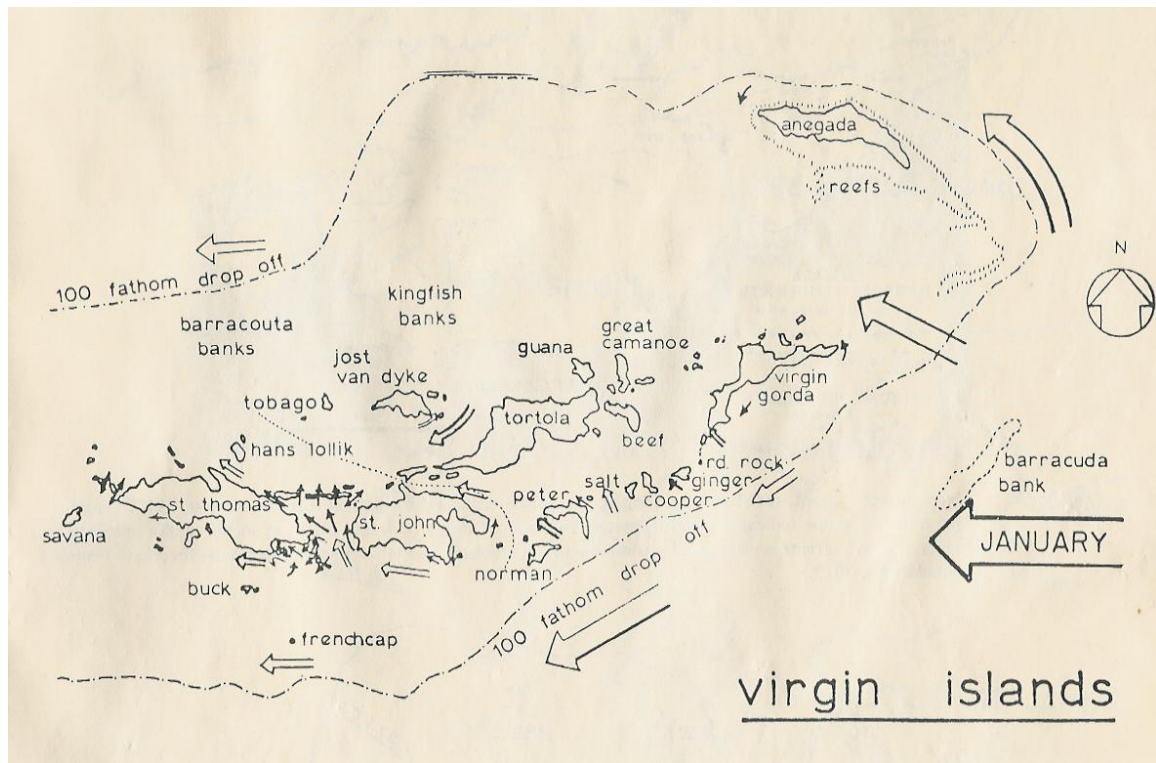


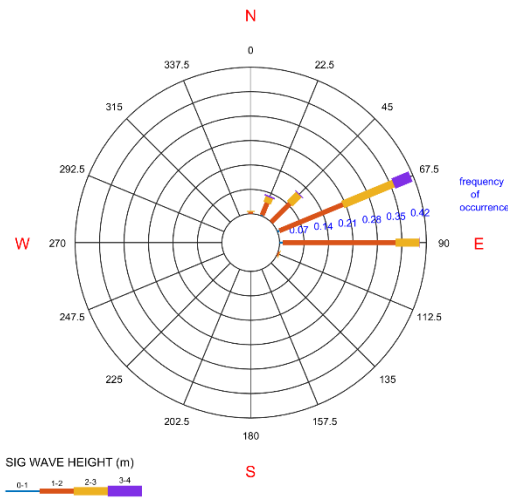
Figure 18. Prevailing current in Thomas, IRF 1975.

6.05C WAVES

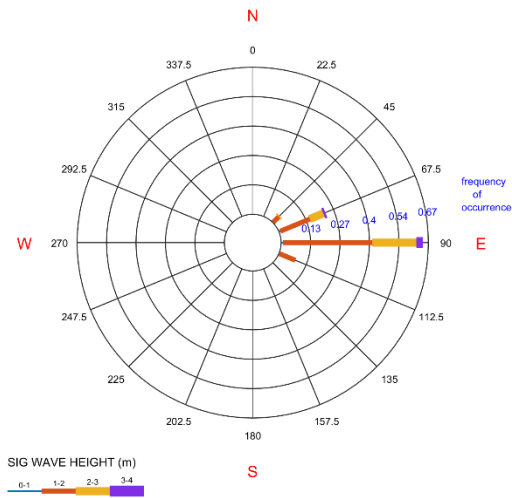
The deep-water waves off St. Thomas are primarily driven by the northeast trade winds that blow most of the year (Figure 19). Waves average from 1 to 3 ft. from the east, 42% of the time throughout the year (IRF, 1977). For 0.6% of the time easterly waves reach 12 ft. in height. The southeasterly swell with waves one to twelve feet high become significant in late summer and fall when the trade winds blow from the east or when tropical storms and hurricanes pass the islands at a distance to the south. During the winter months, long length, long period northern swells develop to a height of 1 to 5 feet.



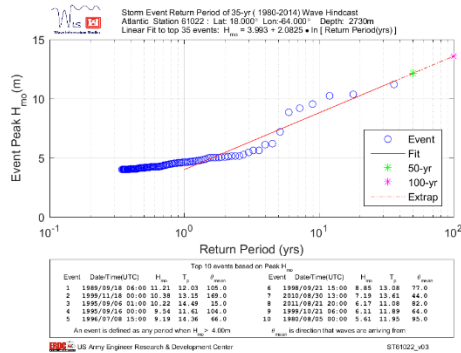
Atlantic WIS Station 61022
ANNUAL 2014
Long: -64° Lat: 18° Depth: 2730 m
Total Obs : 8756
WAVE ROSE



Atlantic WIS Station 61025
ANNUAL 2014
Long: -66° Lat: 17° Depth: 4687 m
Total Obs : 8756
WAVE ROSE



US Army Engineer Research & Development Center ST61022_v03



US Army Engineer Research & Development Center ST61025_v03

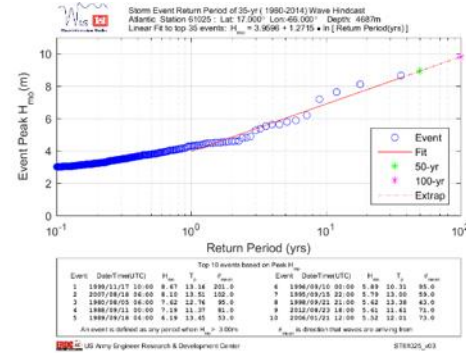


Figure 19. Wave Information for Station 61022 and 61025 (<http://wis.usace.army.mil/hindcasts.html?dmn=atlantic>)

6.05D MARINE WATER QUALITY

The offshore waters surrounding the site are classified as Class B and the best usage of the water is listed as the propagation of desirable species of marine life and for primary contact recreation (swimming, water skiing, etc.). The quality criteria include dissolved oxygen not less than 5.5mg/l from other than natural conditions. The pH must not vary by more than 0.1 pH unit from ambient; at no time shall the pH be less than 7.0 or greater than 8.3. Bacteria (fecal coliform) cannot exceed 70 per ml, and turbidity should not exceed a maximum nephelometric turbidity unit of three (3) NTU.

A combination of point and non-point sources represents the most probable surface water contamination sources in the airport area of STT. Non-point source pollutants include runoff from general airport areas

such as grassed fields, apron pavement, and roadways; failing septic systems, erosion from development; and urban runoff. Point source pollution (i.e., flow from a specific location) sources include sewage treatment plant discharges during high stormwater conditions, unpermitted discharges, and runoff that eventually leaves the area from a storm drain or outfall.

The proposed site modifications will not result in negative changes in runoff water quality with proper catchment installed for potential releases.

6.05.E SEA LEVEL RISE

Sea levels are projected to rise in coming decades because of increased global temperatures associated with climate change (IPCC, 2013). When reviewing SLR projections, it is important to distinguish the differences between global and local SLR rates. In 2007 The US Global Change Research Program assessed the Global Mean Sea Level projections and adjusted them to account for key factors important at regional scales, including: 1) shifts in oceanographic factors; 2) changes in the Earth's gravitational field and rotation; and 3) vertical land movement. The estimated relative sea level rise changes scenarios at Charlotte Amalie Station location are presented in Table 4.

Table 4. Estimated relative sea level rise changes scenarios at Charlotte Amalie Station

Year	NOAA2017 VLM	NOAA2017 Low	NOAA2017 Int-Low	NOAA2017 Intermediate	NOAA2017 Int-High	NOAA2017 High	NOAA2017 Extreme
2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.00	0.10	0.13	0.16	0.23	0.26	0.30
2020	0.00	0.20	0.26	0.36	0.49	0.56	0.62
2030	0.00	0.36	0.43	0.59	0.79	0.98	1.15
2050	0.00	0.59	0.79	1.21	1.74	2.40	2.79
2080	0.00	0.98	1.31	2.49	3.94	5.54	6.69
2100	0.00	1.15	1.61	3.58	5.94	8.30	10.24

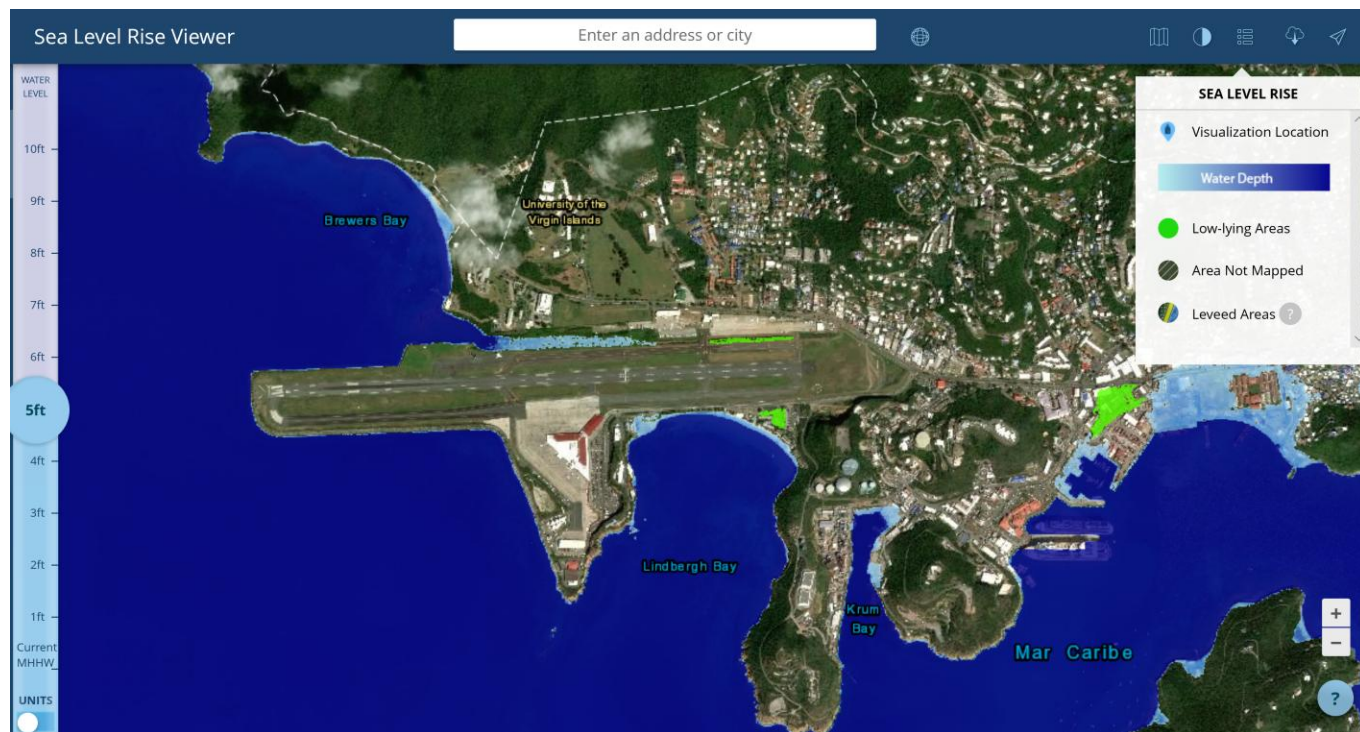


Figure 20. Map showing sea level rise of 5ft. Airport Facilities are still viable (but much of Crown Bay area is flooded) (<https://coast.noaa.gov>).

6.06 Marine Resources and Habitat Assessment

General

The waters adjacent to the Cyril E. King Airport have been altered through dredging and filling, however diverse coral and some scattered seagrass communities are found surrounding the site off Red Point and to the west of the site. Corals including ESA listed species have colonized the dolos and riprap which protect the shoreline.

Methods

Surveys have been done in the area repeated in the last 30 years. Surveys on SCUBA have been done to assess impacts to and by cables in Brewers Bay, surveys have been made around the runway to assess impact to revetment, surveys have been done to assess impacts of installation of new facilities for Total off the western side of the airport and along Red Point for various airport projects and in Lindbergh Bay for dredging project mitigation, hotel and dock renewals and to assess impacts of the discharges from the VI Water and Power Plant.

The most recent surveys have been done in 2026 along the western shoreline of the airport as part of the shoreline revetment repair project. All surveys have been made on SCUBA, habitats have been delineated and species present have been delineated.

NOAA NOS Benthic Habitat Map Tile 6 below depicts the benthic habitats within the area. The map is relatively accurate and dives and surveys within the area have found that the habitats depicted.

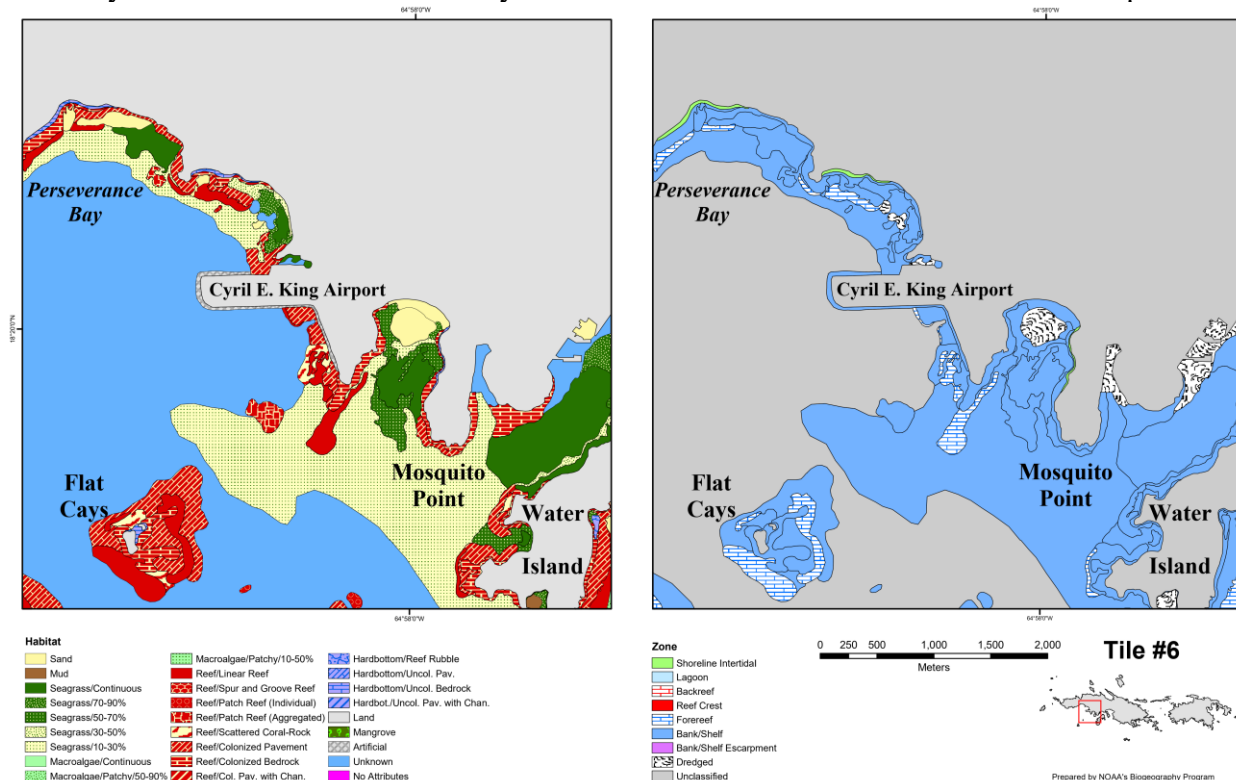
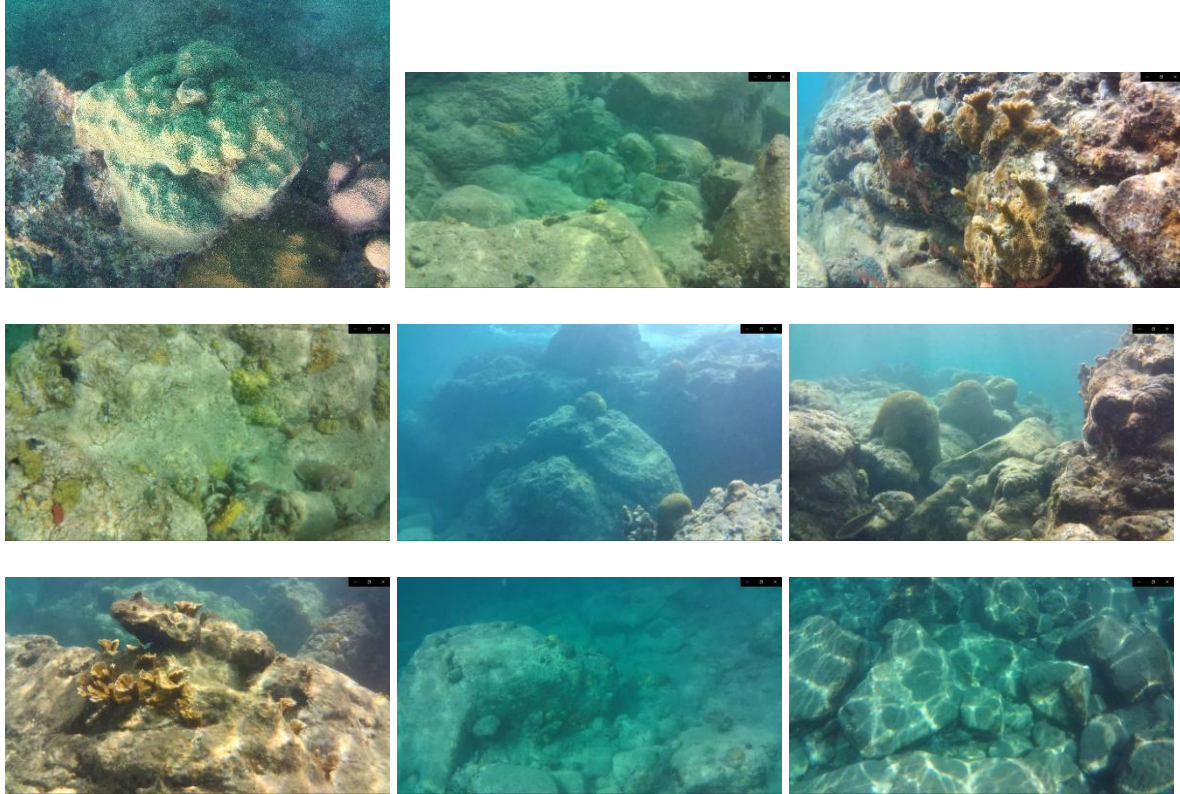


Figure 21. NOAA Benthic Habitat Map of the Cyril E. King Airport Area

Revetted Western Shoreline

Red Point is a rocky headland and partially emergent bedrock structure that extends almost 2000ft from the shore. Waves typically break over the top of the rock. The hardbottom is coral colonized and ESA species including *Acropora palmata*, *Orbicella faveolata* and *Dendrogyra cylindrus* are found. The hardbottom is colonized by *Diploria strigosa*, *D. clivosa*, *D. labyrinthiformis*, *Meandrina meandrites*, *Porites astreoides*, *P. porites*, *Siderastrea siderea*, *Dichocoenia stokesii*, *Agaricia agaricites*, and *Millepora complanata* and *M. alcicornis*. Overall coral colonization is less than 10% of the surface area. *Diploria spp.*, *Porites astreoides* and *Millepora spp.* are the most abundant colonizers. There is a sand halo at the base of the bedrock and then the sea floor gives way to sparse to moderate seagrass, *Thalassia testudinum* and *Syringodium filiforme* and *Halophila stipulacea*. *H. stipulacea* was not present 5 years ago. As the bedrock gives way to the dolo revetment the coral cover increases significant.



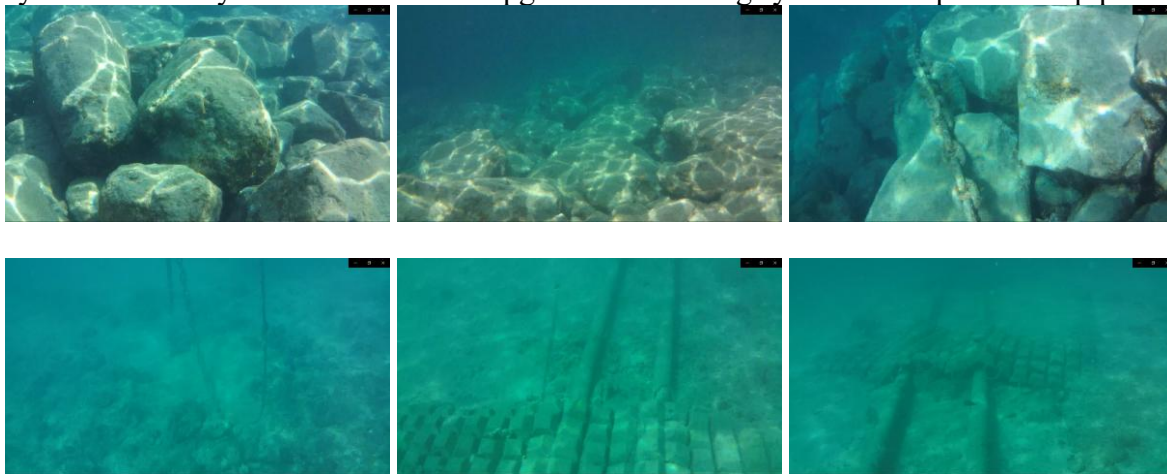
Areas on the sea floor are cobbly and there are areas of open sand. There is less seagrass present that there was prior to the 2017 storms. There are large areas with just macro-algal colonization. There are areas of open sand and there is scattered debris in the sand. Several carts from the airport now lay partially buried in the sand as well as pieces of boats. These were no doubt blown into the water by the hurricanes. Along the base of the dolos and the armor stone there are scattered pieces in the sand below.



Along the edge of the revetment there are large areas of broken rock and there is a notable amount of debris.



There is an area of rock revetment along the western shoreline. The rock revetment has less than 2% overall colonization. This may be due to movement of the stones during the hurricanes of 2017. *D. strigosa*, *P. astreoides* and *Millepora spp.* are the most abundant colonizers. The fuel depot fueling systems and buoy lie offshore. Total upgraded the fueling system and replaced the pipeline in 2019.



The dolos begin approximately 450ft from the base of the runway where it extends into the sea. The amount of coral colonization significantly increases on the dolos and colonization ranges from 10% to over 50% of the exposed surfaces. The dolos are colonized by *D. strigosa*, *S. siderea*, *Palythoa caribbaeorum*, *P. astreoides*, *P. porites*, *D. labyrinthiformis*, *Agaricia agaricites*, *A. fragilis*, *Stephanocoenia intersepta*, *Millepora alcicornis*, *M. complanata*, *Dichocoenia stokesii*, *Meandrina meandrites*, and ESA species *A. palmata*, *D. cylindrus*, and *O. faveolata*. Soft corals and gorgonians are also present though in much lower abundance than hard corals seen were *Briareum asbestinum*, *Gorgonia flabellum*, *G. ventalina*, *Pseudopterogorgia americana*, *P. bipinnata*, *Pterogorgia anceps*, *P. citrina*, *Eunicea spp.*, *Muriceopsis flavida*, *Plexaura flexuosa*, *Plexaurella nutans*, and *Pseudoplexaura spp.* Fish are abundant along the dolos. Some invertebrates were noted and lobsters (*Panularis argus*) were seen deep in the crevices. Stony Coral Tissue Loss Disease was seen on corals on the dolos. Damage from the 2017 hurricanes was evident on the branching corals which were noted to be recovering.





IMPACT OF AIRPORT

The construction of the airport had a significant impact on the marine environment. The first construction and early expansions resulted in impacts in Lindbergh Bay due to dredging and marine construction and to Brewers Bay and the area of Range Cay through filling. The more recent extension of the runway had significant impacts offshore to the west and to Brewers Bay and the area around Range Cay. Since the impacts the marine environment has recovered and hardbottoms including those which are man-made are colonized by corals including ESA listed species.

The development of the FBO Fuel farm and its operations should have a negligible impact on the marine environment as long as the proposed sediment control devices and fuel spill containment measures are implemented and maintained.

6.07 Terrestrial Resources

The entire airport area has been highly altered. The area has been graded and filled. Hillside have been leveled, salt ponds have been filled and decorative landscaping has occurred. The area around the runways and the taxi ways are continually mown. There are no “natural areas” within the airport proper, but here has been some recolonization in undisturbed areas by some opportunistic native species. Opportunistic plants within the area include guinea grass (*Panicum maximum*), tan-tan (*Leucaena leucocephala*), casha (*Acacia tortuosa*), malpighia vine (*Malpighia* sp.) *Eleusine indica*, *Rhynchelytrum roseum*, *Chloris inflata*, beggars tick (*Bidens pilosa*) *Boerhavia diffusa*, *B. erecta*, physic nut (*Jatropha curcas*), sensitive plant (*Mimosa pudica*), and burr grass (*Cenchrus incertus*).



Due to the nature of the airport property species found within the area are adapted to the existing activities and will not be affected by the proposed improvements. Noted within the airport property area are tree lizards; *Anolis cristatellus* and *A. pulchellus*, and ground lizards; *Ameiva exsul* and *Anolis stratulus*. Mongooses (*Herpestes auropunctatus*), rats (*Rattus norvegicus*, *R. rattus*) and mice (*Mus musculus*) are all present within the airport property and probably on the FBO proposed fuel farm site.

Bird strikes are an issue at the airport especially due to the presence of the adjacent wetland and coastal systems. Cattle egret (*Bubulcus ibis*), sea gulls (*Leucophaeus atricilla*, *Larus spp*) , terns (*Sternula antillarum*, *Sterna spp.*) , Scaly-naped pigeon (*Patagioenas squamosa*) , Common ground dove (*Columbina passerine*), Zenaida dove (*Zenaida aurita*), Mourning dove (*Zenaida macroura*), Red-tailed hawk (*Buteo jamaicensis*), Tropical kingbird (*Tyrannus melancholicus*), Pearly-eyed thrasher (*Margarops fuscatus*) and chickens (*Gallus gallus domesticus*) are common. Sparrows are living in the airport departure area (*Passer spp.*).

IMPACT OF IMPROVEMENTS

Minor impacts will occur to the opportunistic species which are found on the site, no large trees or endangered species will be impacted.

6.08 Wetlands

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).

There are no wetland on the project site.

6.09 Rare and Endangered Species

The airport property is completely developed, and no endangered plant species were noted on the project site. The Virgin Islands Tree Boa (*Epicrates monensis granti*) can occur in all areas of the island which have sufficient interdigitation and refugia although it is most likely to occur on the eastern end. There is no suitable tree boa habitat left within the airport property.

All four endangered sea turtle species are known to frequent the waters offshore of St. Thomas: Leatherback sea turtles (*Dermochelys coriacea*), green sea turtles (*Chelonia mydas*) loggerhead (*Caretta caretta*) and hawksbill sea turtles (*Eretmochelys imbricata*). And both green and hawksbill turtles have been seen during surveys of the area. The offshore seagrass beds and coral reefs are foraging habitats for these species. No sandy beaches or nesting habitat occurs within the proposed project site.

The nearshore coral colonized bedrock, boulders and revetment which surrounds the shoreline and airport is critical habitat to listed coral species, and *Acropora palmata*, *Dendrogyra cylindrus*, *Orbicella annularis*, and *Orbicella faveolata* are present in relative abundance.

The Nassau Grouper (*Epinephelus striatus*) has been seen around Red Point, and around the runway revetment during surveys of the area.

The Giant Manta Ray (*Manta birostris*), was seen in June of 2020 in Range Cay in Brewers Bay.

Scalloped Hammerhead (*Sphyma lewini*) and Oceanic Whitetip Shark (*Carcharhinus longimanus*) do not occur within the project area due to its proximity to shore.

Table 5. ESA Threatened and Endangered Species Potentially Occurring in the Greater Project Area

Scientific Name	Common Name	Status
<i>Acropora palmata</i>	Elkhorn coral	T
<i>Acropora cervicornis</i>	Staghorn coral	T
<i>Orbicella annularis</i>	Lobbed Star coral	T
<i>Orbicella faveolata</i>	Mountainous star coral	T
<i>Orbicella franksi</i>	Boulder star coral,	T
<i>Dendrogyra cylindrus</i>	Pillar coral	T
<i>Mycetophyllia ferox</i>	Rough Cactus Corals	T
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	E
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E
<i>Chelonia mydas</i>	Green sea turtle	T
<i>Caretta caretta</i>	Loggerhead sea turtle	T
<i>Trichechus manatus manatus</i>	West Indian manatee	E
<i>Megaptera novaeangliae</i>	Humpback whale	E/D ²
<i>Balaenoptera physalus</i>	Finback whale	E
<i>Epinephelus striatus</i>	Nassua grouper	T
<i>Manta birostris</i>	Giant Manta Ray	T
<i>Sphyma lewini</i>	Scalloped Hammerhead	T
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	T

Table 6. ESA Coral Species Observed in the Area

	West of Airport
Species	
ESA Listed	
<i>Acropora palmata</i>	X
<i>Acropora cervicornis</i>	
<i>Orbicella franksi</i>	
<i>Orbicella annularis</i>	X
<i>Orbicella faveolata</i>	X
<i>Mycetophyllia ferox</i>	
<i>Dendrogyra cylindrus</i>	X
<i>Eretmochelys imbricata</i>	X
<i>Dermochelys coriacea</i>	X

<i>Chelonia mydas</i>	X
<i>Caretta caretta</i>	
<i>Trichechus manatus manatus</i>	
<i>Megaptera novaeangliae</i>	
<i>Balaenoptera physalus</i>	
<i>Epinephelus striatus</i>	X
<i>Manta birostris</i>	
<i>Sphyma lewini</i>	
<i>Carcharhinus longimanus</i>	

Table 7. Species managed by CFMC occurring in the nearshore area in the Virgin Islands.

Scientific Name	Common Name
Cnidarians	All corals
<i>Strombus gigas</i>	Queen conch
<i>Panulirus argus</i>	Spiny lobster
<i>Epinephelus struiatus</i>	Nassau grouper
<i>E. guttatus</i>	Red hind
<i>E. fulvus</i>	Coney
<i>Ocyurus chrysurus</i>	Yellowtail snapper
<i>Lutjanus analis</i>	Mutton snapper
<i>L. apodus</i>	Schoolmaster
<i>L. griseus</i>	Grey snapper
<i>L. vivanus</i>	Silk snapper
<i>Chaetodon striatus</i>	Butterflyfish
<i>Holocentrus ascensionis</i>	Squirrel fish
<i>Haemulon plumieri</i>	White grunt
<i>Balistes vetula</i>	Queen triggerfish
<i>Malacanthus plumieri</i>	Sandtilefish
<i>Sparisoma chrysopteron</i>	Redtail parrotfish
<i>Lactophrys quadricornis</i>	Trunkfish
-	Sharks and Tunas
-	Swordfish and Billfishes

IMPACT OF PROPOSED FUEL FARM

Since the impacts the marine environment which occurred by the development of the airport the marine environment has recovered and hardbottoms including those which are man-made are colonized by corals including ESA listed species.

The development of the Fuel Farm and its operations should a negligible impact on the marine environment and its ESA species if the proposed sediment control devices and fuel spill containment

measures are implemented and maintained.

6.10 Air Quality

All of St. Thomas is designated Class II by the Environmental Protection Agency in compliance with National Ambient Air Quality Standards. In Class II air quality regions, the following air pollutants are regulated: open burning, visible air contaminants, particulate matter emissions, volatile petroleum products, sulfur compounds, and internal combustion engine exhaust (Virgin Islands Code Rules and Regulations).

The proposed development of the fuel farm will result in temporary increases in exhaust emissions from the use of heavy equipment during construction. The facility will apply for permits to construct and operate both the generator and the fuel storage tanks.

7.00 IMPACTS ON THE HUMAN ENVIRONMENT

7.01 Land and Water Use Plans

The property is zoned P “Public” and the airport is permitted as a matter of right “6. Airports & Flying Fields”. The Fuel Farm is an accessory use to the airport.

7.02 Visual Impact

The initial construction of the airport had a significant impact on the landscape of the area. The site has been in aviation use for more than 75 years. The proposed Fuel Farm will not significantly change the visual landscape.

7.03 Impact on Public Services

7.03a Potable Water

The airport relies on the public water supply for its potable water. The airport is serviced by a line which runs down Airport Road, and General Aviation area is serviced by the public water line which runs down the Moravian Highway (Julian Jackson Dr.). The Fuel Farm will not be connected to the public water supply and has no water demand.

7.03b Sewage Treatment and Disposal

The airport is serviced by the public sewer facility which is located on Red Point. Force mains are located within the airport property. The Fuel Farm has no sewerage associated with the operation.

7.03c Solid Waste Disposal

The airport disposes of their solid waste in the Bovoni Landfill. Debris associated with cleanup of the proposed site will be disposed of by the contractor who will be required to obtain Waste Disposal Permits from the Virgin Islands Waste Management Authority (VIWMA)

7.03d Roads, Traffic and Parking

The Cyril E. King Airport is served by the Airport Road, and the General Aviation Area is serviced by the Moravian Highway. There is roadway which accesses WWTP, Fuel Depot and Freight Services, this is the roadway which will service the Fuel Farm.

There will be a minor increase in traffic during the construction of the facility. Once constructed the Fuel Farm will not have impact on roads, traffic or parking.

7.03e Electricity

The facility will not be connected to the VIWAPA grid but will rely on a Single Phase 33kW generator. Hairoun Aviation Services, Inc. will file a Permit to Construct and to Operate the generator.

7.03f Schools

The Fuel Farm will have no direct impact on schools within the territory.

7.03g Fire and Police Protection

The VIPA maintains its own Police and Fire Service which will service the Fuel Farm since it is within the airfield.

The Virgin Islands Port Authority's Law Enforcement Force consists of officers trained by the Virgin Islands Police Department. All officers must meet the same requirements as the officers that serve the VIPD. VIPA Law Enforcement Officers are responsible for the protection of life and property on all Port Authority facilities. Officers monitor and enforce all laws of the United States of America and local laws of the U.S. Virgin Islands. Port police interact regularly with the public and must always display a courteous, firm and impartial demeanor when dealing with the public.

Airport Rescue and Fire Fighter (ARFF) team is available from 7 a.m. every morning, until the last flight lands at the airports on St. Thomas and St. Croix. The ARFF crews are trained specifically to extinguish aircraft fires. They assist airlines with removal of disabled aircraft at the airport. The ARFF crews are also certified first responders and are often the first medical personnel on the scene if a traveler has an

emergency at any of the territory's airports. In the absence of any emergencies, the crews take shifts operating and maintaining fire trucks and inspecting the airport runways for fire and aircraft hazards. The crews also spend time practicing, training, maintaining their firefighting and other emergency equipment as well as up keeping the firehouse.

7.03h Public Health

The Fuel Farm will not have a direct impact on public health services.

7.04 Social Impacts

The airport is a vital part of the Virgin Islands community providing access between the islands, the states and the world. Having a large international airport allows Virgin Islanders to visit friends and family who are off island and for the Virgin Islands to conduct business throughout the world. The Fuel Farm will help provide a competitive fuel service to aircraft visiting CEKA.

7.05 Economic Impact

The new Fuel Farm will contribute funds to the VI through taxes from fuel sales.

7.06 Impacts on Historical and Archeological Resources

The proposed Fuel Farm is within the filled land at the airport and will have no impact on historical or archeological resources.

7.07 Recreational Use

The airport property has been maintained as an airport for more than 75 years and there is no recreational use within the airport proper including the Fuel Farm site.

7.08 Waste Disposal

Waste fuels and other hydrocarbons will be collected and disposed of by private licensed companies.

7.09 Accidental Spills

The FBO will obtain a Terminal Facility Licenses and Spill Prevent and Countermeasure Control Plans and maintain spill response equipment at the airport in the event a release occurs associated with fueling of aircraft. Fuel spill supplies will be kept on site at the FBO Fuel Farm.

7.10 Potential Adverse Effects Which Cannot Be Avoided

The construction of the airport had a significant impact on the marine environment. The first

construction and early expansions resulted in impacts in Lindbergh Bay due to dredging and marine construction and to Brewers Bay and the area of Range Cay through filling. The more recent extension of the runway had significant impacts offshore to the west and to Brewers Bay and the area around Range Cay. Since the impacts, the marine environment has recovered and hardbottoms including those which are man-made are colonized by corals including ESA listed species. The proposed FBO Fuel Farm should have negligible impact on the environment.

8.00 Mitigation Plans

Impacts from the proposed Fuel Farm are to previously developed areas with only opportunistic species and will have no negative impact on the environment. Erosion and sediment control will be implemented to ensure no impacts due to sediment laden runoff occur and Spill Contingency and Countermeasure plans will be implemented.

9.00 Alternatives to Proposed Action

The Fuel Farm was considered on several other sites on the airport property. The chosen option is the only site that is available based on current airport planning. The site is what was offered by the VIPA.

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

The development of a site within the fill land of the existing airport is the best short term and long-term use of the environment. It utilizes fill land and an area with only opportunistic species and minimizes impact to greenfield spaces.

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