

Environmental Assessment



DEMOLITION OF THE WTJX RADIO STATION

PARCELS NO. 158 & 158A HAYPIECE HILL

SOUTHSIDE QUARTER, ST. THOMAS

PREPARED BY

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FEMA

TABLE OF CONTENTS

LIST OF ACRONYMS..... iii

1.0 INTRODUCTION..... 1

 1.1 LOCATION..... 1

2.0 PURPOSE AND NEED..... 1

3.0 ALTERNATIVES..... 3

 3.1 NO ACTION ALTERNATIVE..... 3

 3.2 PROPOSED ACTION..... 3

 3.3 OTHER ACTION ALTERNATIVES..... 3

 3.4 ALTERNATIVES CONSIDERED AND DISMISSED..... 4

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS..... 4

 4.1 PHYSICAL RESOURCES..... 4

 4.1.1 GEOLOGY, SOILS AND SEISMICITY..... 4

 4.1.2 AIR QUALITY..... 10

 4.1.3 CLIMATE CHANGE 11

 4.2 WATER RESOURCES..... 12

 4.2.1. WATER QUALITY..... 13

 4.2.2 WETLANDS..... 14

 4.2.3 WILD AND SCENIC RIVER ACT..... 15

 4.2.4 FLOODPLAINS..... 16

 4.3 COASTAL RESOURCES..... 17

 4.3.1 COASTAL BARRIER RESOURCES ACT..... 18

 4.4 BIOLOGICAL RESOURCES..... 19

 4.4.1 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT..... 21

 4.4.2 THREATENED AND ENDANGERED SPECIES AND CRITICAL HABITAT..... 21

 4.4.3 FISH AND WILDLIFE..... 22

 4.5 CULTURAL RESOURCES..... 22

 4.5.1 HISTORIC PROPERTIES..... 23

 4.5.2 AMERICAN INDIAN/NATIVE HAWAIIAN/NATIVE..... 23

 4.6 SOCIOECONOMIC RESOURCES..... 23

 4.6.1 ENVIRONMENTAL JUSTICE..... 24

 4.6.2 HAZARDOUS MATERIALS..... 24

 4.6.3 NOISE..... 25

 4.6.4 TRAFFIC..... 26

 4.6.5 PUBLIC SERVICE AND UTILITIES..... 26

 4.6.6 PUBLIC HEALTH AND SAFETY..... 26

 4.7 SUMMARY TABLE 26

5.0 CUMULATIVE IMPACTS..... 27

6.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT AND PERMITS..... 27

7.0 REFERENCES.....	27
8.0 LIST OF PREPARERS.....	28
9.0 APPENDICES.....	29

APPENDIX A

DRAWINGS

APPENDIX B

FWS iPaC Report

APPENDIX C

Material Safety Data Sheet Halon 1301

APPENDIX D

Correspondence

SHPO Clearance

VIDFW Concurrence of NLAA

FWS Concurrence of NLAA

APPENDIX E

Qualification Statement Bioimpact, Inc.

List of Acronyms

APE Area of Potential Effect

BMPs Best Management Practices

CAA Clean Air Act

CBRS Coastal Barrier Resources System

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

C.F.R. Code of Federal Regulations

CWA Clean Water Act

CZMA Coastal Zone Management Act

DPNR Department of Planning Natural Resources

EA Environmental Assessment

EFH Essential Fish Habitat

EJ Environmental Justice

EO Executive Order

EPA Environmental Protection Agency

ESA Endangered Species Act

FEMA Federal Emergency Management Agency

FIRM Flood Insurance Rate Map

FONSI Finding of No Significant Impact

HSEM Homeland Security and Emergency Management

IPaC Information for Planning and Consultation

MBTA Migratory Bird Treaty Act

NAVD North American Vertical Datum

NAAQS National Ambient Air Quality Standards

NEPA National Environmental Policy Act

NHPA National Historic Preservation Act
NOAA National Oceanic and Atmospheric Administration
NPDES National Pollution Discharge Elimination System
NPS National Park Service
NRCS Natural Resources Conservation Service
NRHP National Register of Historic Places
NWI National Wetlands Inventory
OSHA Occupational Safety and Health Administration
RCRA Resource Conservation and Recovery Act
SHPO State Historic Preservation Office
SWPPP Stormwater Pollution Prevention Plan
TMDL Total Maximum Daily Load
TPDES Territorial Pollutants Discharge Elimination Systems
USACE United States Army Corps of Engineers
U.S. United States
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service
USGS United States Geological Survey

1.0 Introduction

In September 2017, Hurricanes Irma and Maria caused significant damage to the United States Virgin Islands (USVI or “the territory”). President Donald Trump issued one disaster declaration (DR-4335-VI) for Irma on September 7, 2017, and another one (DR-4340-VI) for Maria on September 20, 2017 encompassing the entire territory. The declarations authorized federal assistance to affected communities and certain non-profit organizations in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 United States Code [U.S.C.] § 5172), as amended. The Declaration also authorized direct federal assistance. The Virgin Islands Territorial Emergency Management Agency is FEMA’s grant Recipient and WJTX Radio Station is FEMA’s Subrecipient. This Environmental Assessment (EA) is prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended; and the Regulations for Implementation of NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508). This EA considers the potential environmental impacts of the proposed project and alternatives to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). In accordance with above regulations and FEMA Directive 108-1 and FEMA Instruction 108-1-1, FEMA is required, during decision-making, to evaluate and consider the environmental consequences of major federal actions it funds or undertakes.

1.1 Project Location

The WJTX Radio Station is located on the crest of Haypiece Hill on the south shore of St. Thomas, approximately 1.5 miles southwest of the town of Charlotte Amalie. The radio station is located at 18.330323° N latitude and -64.958155°W longitude on Parcels 158 and 158A Haypiece Hill, Southside Quarter, St. Thomas, U.S. Virgin Islands.



Figure 1. Location of WJTX Radio Station



Figure 2. Parcels 158 and 158A Haypiece Hill, St. Thomas

2.0 Purpose and Need

FEMA's Hazard Mitigation Grant Program fosters the protection of health, safety, and welfare of citizens, assists communities in mitigating damages caused by disasters, and reduces future losses resulting from natural disasters. The purpose of this project is to demolish the ruins of the WJTX Radio Station which was destroyed during the 2017 Hurricanes. The radio station is an important part of the Virgin Islands Communication Infrastructure.

3.0 Alternatives

The purpose of this project is to demolish the existing ruins of the WJTX Radio Station. This is required so that the station may be rebuilt therefore the alternatives include the No Action Alternative, ie. leaving ruins to deteriorate further and abandoning the property and the extent of demolition of the remaining structures and infrastructure, ie. is there anything that is salvageable that can be saved and not demolished.

3.1 No Action Alternative

The property could remain as is as a ruin and the radio station could be reconstructed at a different location, which would result in additional impact to resources off site depending on the land on which the station is developed.. The remaining buildings and debris would continue to deteriorate, and the site would continue to be an eyesore and a hazard to anyone venturing on to the property. The property cannot be reused until such time as it is cleared of the damaged buildings and equipment.

3.2 Proposed Action

The proposed action is to demolish all the existing buildings including the roof structure, exterior and interior walls, windows, doors, floors, and floor slabs. And to demolish all building utilities, piping ductwork, electrical fixtures and debris down to soil. The plan proposes to removal all concrete decking, sidewalks, and steps to grade and to remove the existing retaining walls, and the concrete and asphalt parking areas. The removal of the existing diesel fuel and wastewater storage building structures and infrastructure and the complete demolition of the existing satellite antenna equipment, their foundations and slabs.

3.3 Other Action Alternatives

It is possible that the driveways and retaining wall could be retained for future use. This would require that the retaining walls be tested for structural strength and that the new design be worked

into the constraints of the existing layout. This was considered and dismissed due to the limits placed on future designs.

3.4 Alternatives Considered and Dismissed

The action is the demolition of existing ruin structures and removal of the hurricane damaged equipment. WJTX has chosen not to abandon the property and leaving the ruin on site is not a viable alternative.

4.0 Affected Environment and Potential Impacts

4.1 Physical Resources

4.1.1 Geology, Soils, and Seismicity

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 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 are 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 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).

An irregular coastline, numerous bays, steep slopes, and small drainage areas characterize St. Thomas. For the most part, the topography is mountainous and coastal plains are absent.

Geology of Haypiece Hill

Haypiece Hill is in the middle of a board peninsula extending between Crown Bay and Krum Bay. The peninsula is one large hill and the radio station sits at its crest at 314ft.

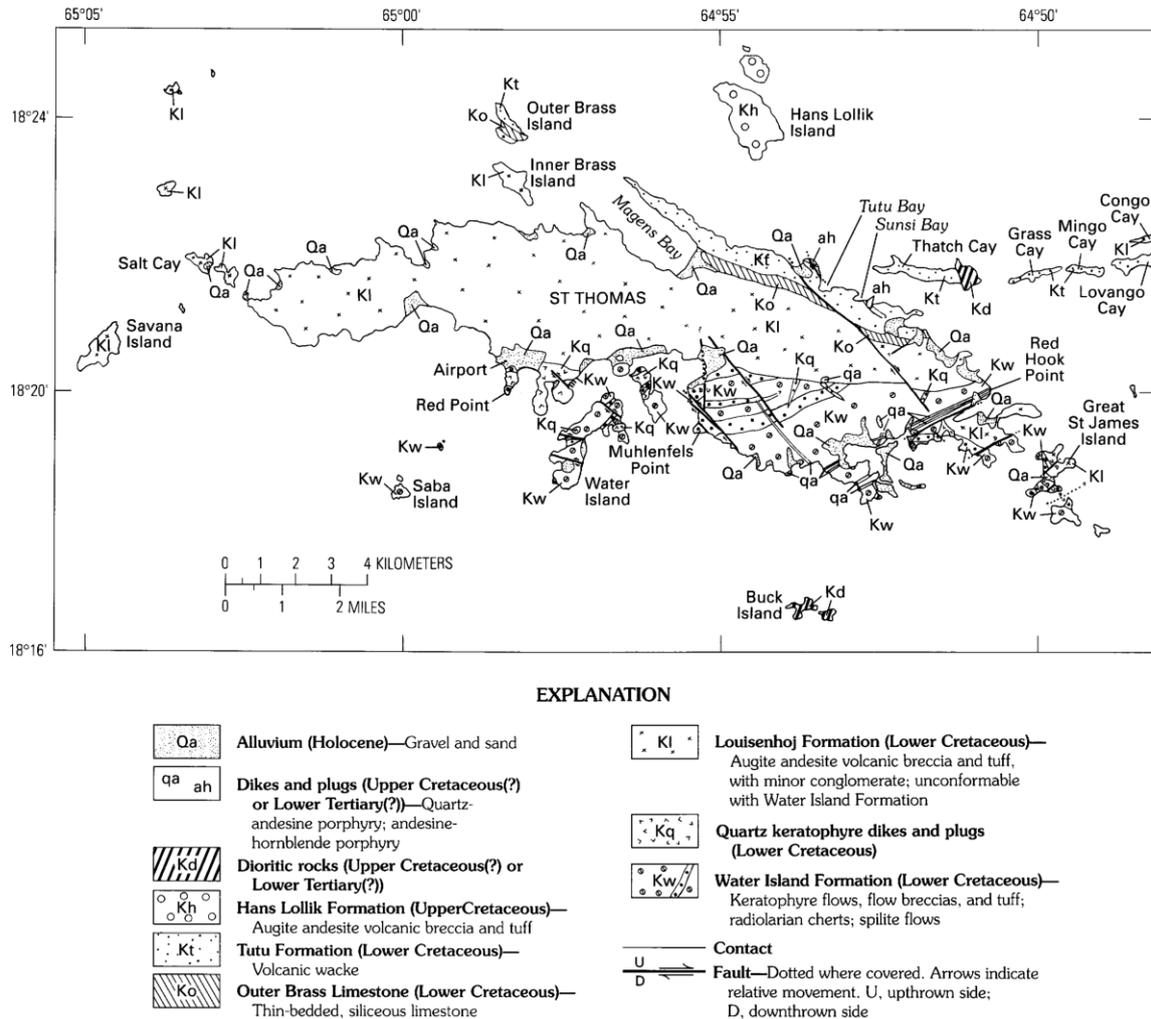


Figure 3. Simplified Geological Map of St. Thomas, Haypiece Hill is Quartz keratophyra dikes and plugs (Lower Cretaceous). (Alminas 1994)

Geology of the Project Site

The project site has been altered by the leveling of the hilltop for the building, parking areas and the cutting of the roadway to the site. Embankments along the roadway are steep.

The photographs below document changes which have been made to the site. The 1954 aerial shows a roadway cut up to the crest of the hill and a building on the top of the hill which was probably associated with military construction during the Naval Occupation of the area. There is no apparent change noted between the 1954 and 1971 but by 1988 the site had been significantly

developed and additional structures were constructed. There is little change on the site between 2003 and 2017 prior to the hurricanes.



Figure 4. 1954 USGS Aerial Service Map



Figure 5. 1971 USGS Aerial Survey Map



Figure 6. 1988 USGS Aerial Service Map



Figure 7. 2003 Google Earth Aerial



Figure 8. Prior to 2017 Hurricanes Google Earth Aerial



Figure 9. Current January 23, 2023 Google Aerial of the site.

Soils of WJTX

Two soil types are associated with the WJTX site, according to the Custom Soil Survey of the United States Virgin Islands prepared in 2022. Southgate-Rock outcrop complex, 20 to 40 percent slopes which makes up the southern two-thirds of the site. Southgate-Rock outcrop complex, 20 to 40 percent slopes are found on ridges, mountain slopes and hillsides. These soils are found in areas of 38 to 44 inches of annual precipitation and it is only 10 to 20 inches to a lithic bedrock (restrictive feature). Southgate-Rock outcrop complex (SrF), 40 to 60 percent slopes which makes up the northern third of the site is found in areas of 38 to 44 inches of rainfall annually and it is also 10 to 20 inches to lithic bedrock. These soils are found on mountain tops hillslopes, mountain slopes, and ridges and often have as much as 40% exposed rock outcroppings.

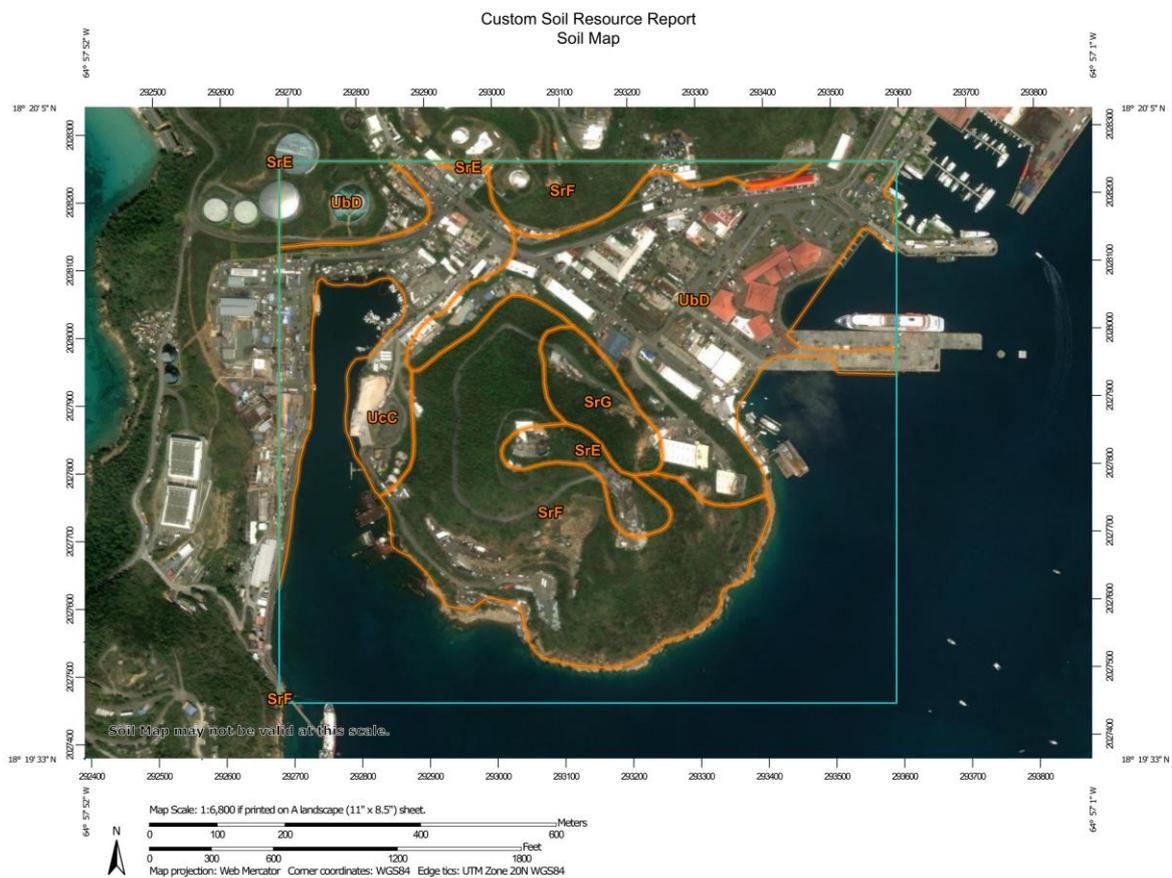


Figure 10. Custom Soil Map for the Haypiece Hill WJTX site.

Seismic Activity

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 willow 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). Since the 1867 quake, there has been continuous low intensity activity all below 6.0 Richter. Numerous minor tremors are often felt on the island. The project area and Haypiece Hill are in an area of low earthquake vulnerability.

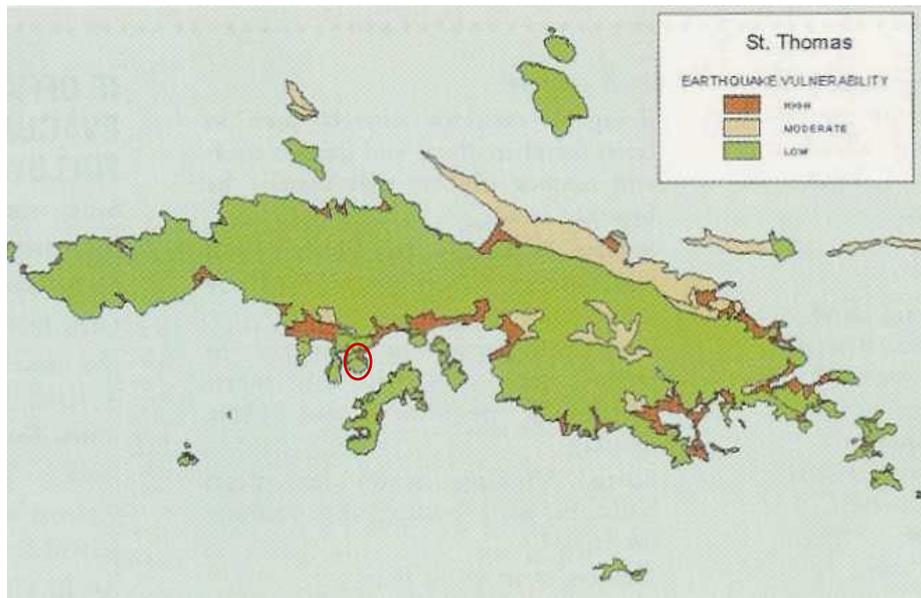


Figure 11. Earthquake Probability Map

4.1.2 Air Quality

The Clean Air Act of 1970 (42 USC 7401–7661 [2009]) is a comprehensive federal law that regulates air emissions from area, stationery, and mobile sources. The Act authorized the USEPA to establish National Ambient Air Quality Standards to protect public health and the environment. These include standards for six criteria air pollutants: lead, nitrogen dioxide, ozone, carbon monoxide, sulfur dioxide, and particulate matter. Particulate matter includes both less than 10 micrometers in diameter and fine matter less than 2.5 micrometers in diameter. Areas where the monitored concentration of a criteria pollutant exceeds the applicable air quality standards are designated as “in non-attainment” of the standards.

According to the Environmental Protection Agency (EPA) Criteria Pollutant Nonattainment Summary Report, the WSTX site is not within a Designated Nonattainment Area.

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 demolition of the ruins will create dust and combustion emissions through the use of heavy equipment. A dust control plan will be implemented during construction. Once the demolition is complete the air quality will return to ambient.

4.1.3 Climate Change

Climate change has had a significant impact on the Virgin Islands with the development of more frequent and stronger hurricanes. The radio station was destroyed by the passage of Category V hurricanes Irma and then Maria in a two-week period in 2017. Changes in climate will not impact the demolition of the structures other than being cognizant of hurricane season and avoiding having materials scattered about the site, but it will have an impact on the redevelopment of the site. New structures will be built to withstand more powerful more frequent storms.

Sea-level Rise

According to NOAA's Sea Level Rise Viewer shown below is set to show sea-level rise at 4ft.

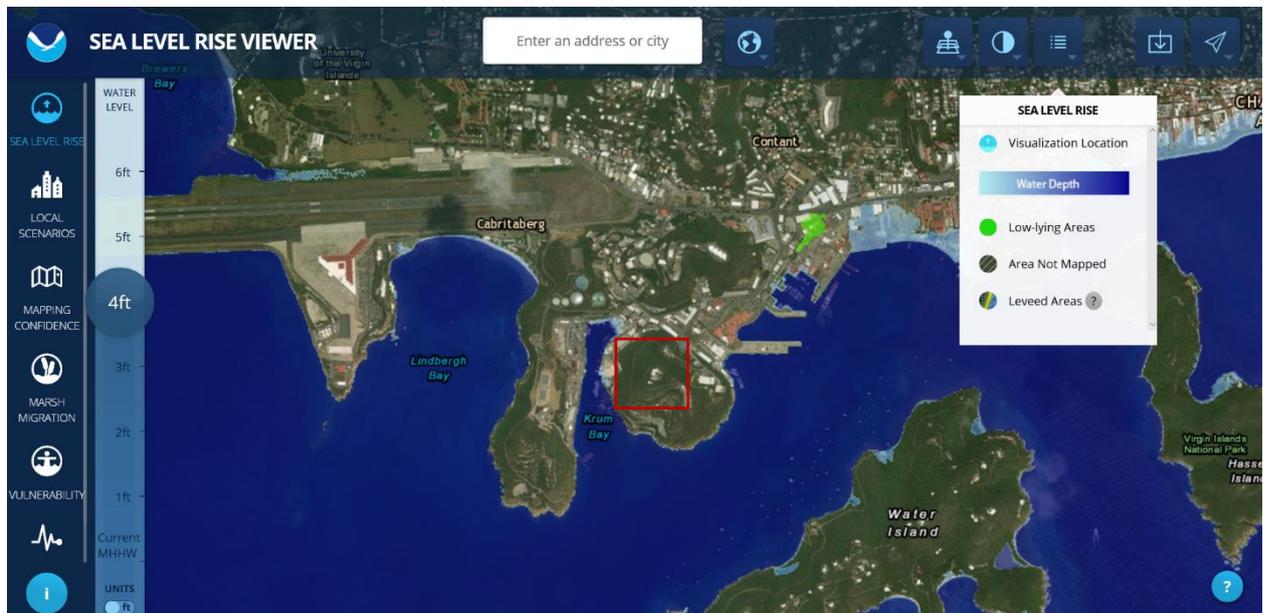


Figure 12. Sea Level Rise Map (<https://coast.noaa.gov/slr/#/layer/slr/4/-7231238.867507785/2076551.6197419522/15/satellite/none/0.56/2050/interHigh/midAccretion>)

The project site will not be affected by sea-level change due to its location at the top of Haypiece Hill.

4.2 Water Resources

St. Thomas, USVI has limited freshwater resources, which include groundwater wells, intermittent and ephemera streams and ponds which dry up during periods of limited rainfall. Most of the potable water is either captured by rooftops and stored in cisterns or is desalinated seawater. The site does not have freshwater resources. There are no ground water wells in the vicinity of the radio station (Figure 13).

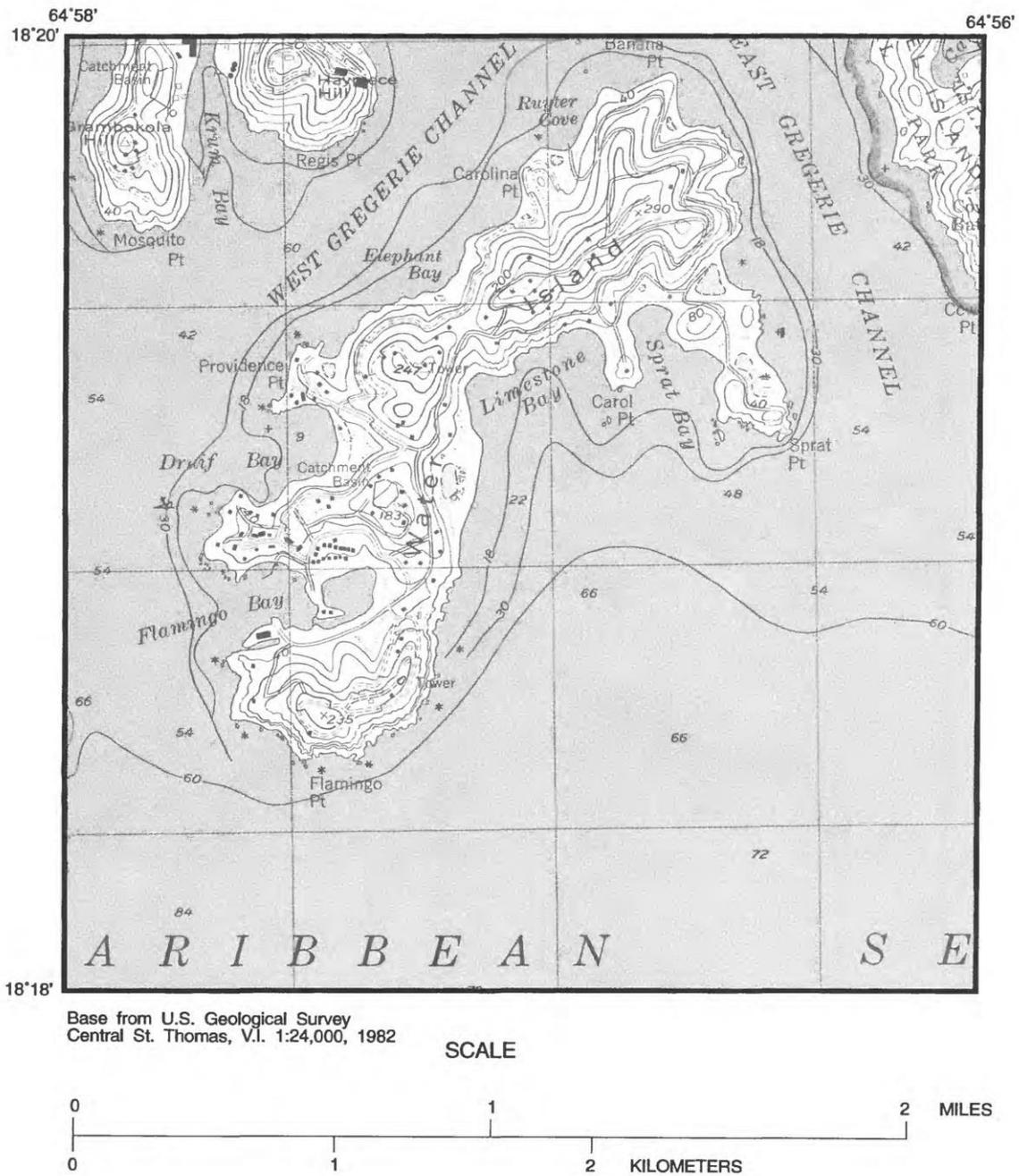


Figure 13. Groundwater well map from Water Wells on St. Thomas, U.S. Virgin Islands, USGS, Open-File Data Report 91-504.

4.2.1 Water Quality

Congress enacted the Federal Water Pollution Control Act in 1948 which was later reorganized and expanded in 1972 and became known as the Clean Water Act in 1977. This law regulates discharge of pollutants into water with sections falling under the jurisdiction of the United States Army Corps of Engineers (USACE) and the USEPA. Section 404 of the Clean Water Act establishes the USACE

permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act. Under the National Pollution Discharge Elimination System, the USEPA regulates both point and non-point pollutant sources, including stormwater and stormwater runoff. Activities that disturb one acre of ground or more are required to apply for Coverage under the General Construction Stormwater Permit (TPDES Territorially Pollution Discharge Elimination System) through the Division of Environmental Protection (DEP) Virgin Islands Department of Planning and Natural Resources (VIDPNR) as delegated by the USEPA.

The WJTX property demolition will impact just under an acre of land (36,000 to 41,000sqft) and will not be required to obtain coverage under the Virgin Islands General Stormwater Permit for Construction and will not have to prepare a Stormwater Pollution Prevention Plan (SWPPP). The project will however require a Coastal Zone Management Permit (Earth Change for First Tier of the Coastal Zone) and will be required prepare a Sedimentation and Erosion Control Plan and will implement Best Management Practices (BMP).

The property is located on the top of the hill and is more than 650ft at its nearest point from the sea. The slopes are heavily vegetated between the site and the coastline and there are no defined drainages on the property therefore the demolition of the site should have negligible impact on water quality if property sedimentation and erosion is implemented.

4.2.2 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 terrestrial wetlands within the WJTX Radio Station project site (Figure 14).



March 20, 2023

Wetlands

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

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

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

Figure 14. Fish and Wildlife Service Nation Wetland Inventory

4.2.3 Wild and Scenic Rivers Act

According to the U.S. Fish and Wildlife Service, there are 226 national Wild and Scenic Rivers across the 40 states and Puerto Rico (Figure 14). There are no Wild and Scenic Rivers in the U.S. Virgin Islands.

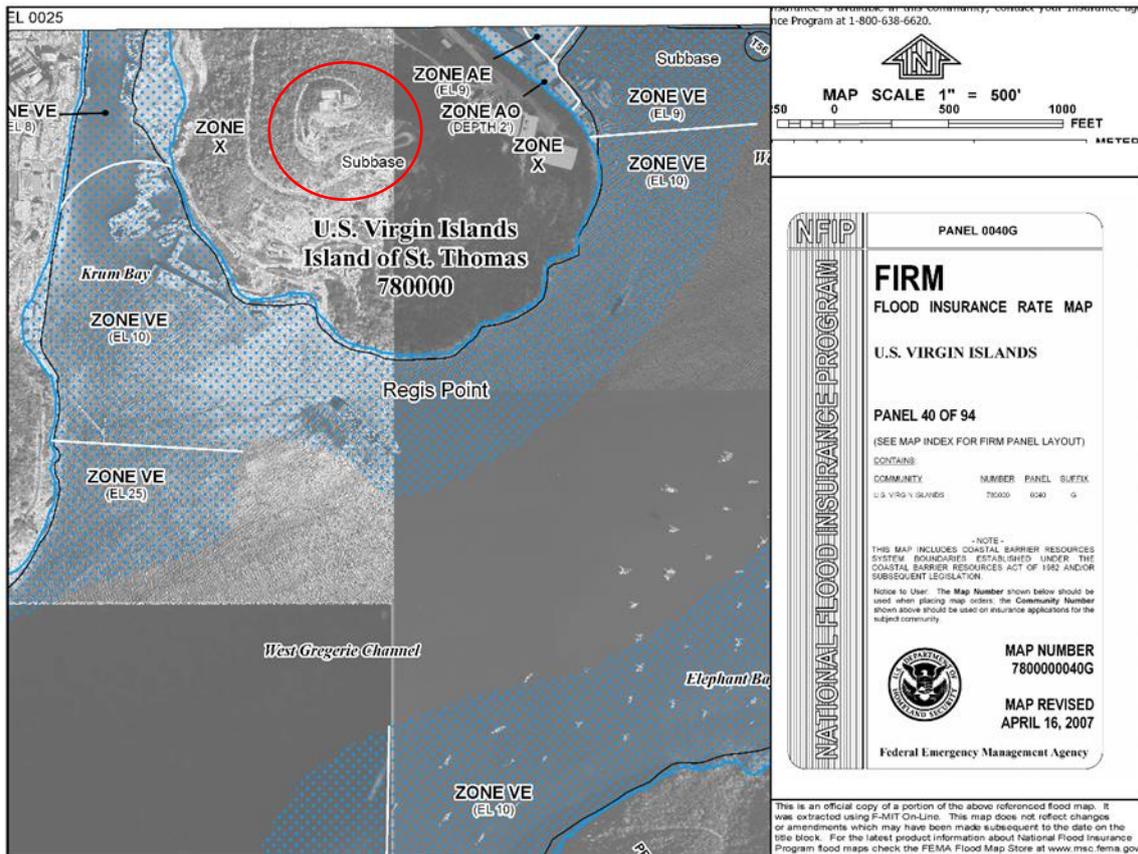


Figure 16. FEMA FIRM Map 40 of 94, April 16, 2007.

4.3 Coastal Resources

The Coastal Zone Management Act administered by states with shorelines in coastal zones requires those states to have a Coastal Zone Management Plan to manage coastal development. Projects within the designated coastal zones must be evaluated to ensure they are consistent with the Coastal Zone Management Plan. Projects receiving federal assistance must follow the procedures outlined in 15 CFR 930.90 – 930.101 for federal coastal zone consistency determinations, as implemented through Virgin Islands Code Title 12, Chapter 21. The radio station is within the first-tier jurisdiction of the Department of Planning and Natural Resources (DPNR), Division of Coastal Zone Management (CZM) and will need to obtain a Coastal Zone Management Permit or Coastal Consistency Certificate.

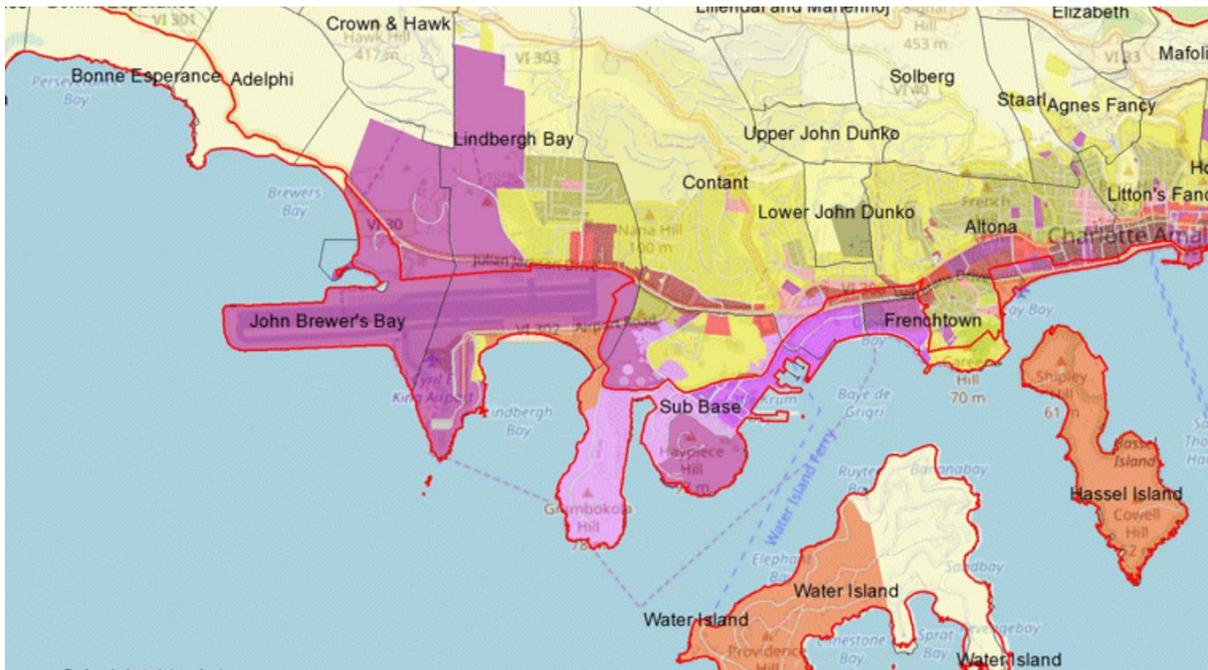


Figure 17. Areas of first-tier jurisdiction are shown in color.

5.9 Coastal Barrier Resources Act

The Coastal Barrier Resources Act of 1982 created designated areas under the jurisdiction of the United States Fish and Wildlife Service (USFWS) that are ineligible for both direct and indirect federal expenditures, with limited exceptions. The Coastal Zone Management Act (15 CFR 930.90 – 930.101) was amended by the Coastal Barrier Improvement Act of 1990, which added a new category of coastal barriers called Otherwise Protected Areas in which, only flood insurance is restricted. The radio station is not within a Coastal Barrier (Figure 18).



March 20, 2023

[Hatched Box] CBRS Buffer Zone [Pink Box] System Unit

CBRS Units

[Green Box] Otherwise Protected Area

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at <https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps>. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (<https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward
 This page was produced by the CBRS Mapper

Figure 18. The project area in reference to the Coastal Barriers.

4.4 Biological Resources

The property is located on top of a knoll top on the Haypiece Hill peninsula. The knoll has large areas of forested slope that have not been altered in more than 70 years. The knoll has been slowly developing with industrial type uses, warehouses, heavy equipment storage and cement plants.

The area around the station remains densely vegetated. In the surrounding forested areas the following species were seen:

Table 1. Flora species present on WJTX site

Acacia tortuosa and *A. macracantha* (kasha)
Agave spp.
Aloe vera
Antigonon leptopus (Wedding chain, coral vine)
Bucida buceras (Gris gris)
Bursera simaruba (Gumbo limbo, turpentine tree)
Caesalpinia pulcherrima (Peacock flower, pride of Barbados)
Calotropis gigantea (Giant milkweed)
Capparis indica
Capparis flexuosa (Limber caper)
Centrosema virginianum (Spurred butterfly pea)
Croton astroites (Wild maran, Maran bush)
Eugenia spp. including *Eugenia biflora* (Blackrodwood)
Euphorbia lactea (Dragon bone cactus)
Guapira fragrans (Black mampoo)
Hylocereus trigonatus (Night-blooming cereus)
Ixora spp. (West Indian jasmine)
Kalanchoe delagoensis (Mother of millions, formerly *Bryophyllum delagoense*)
Lantana involucrata (Purple sage, wild sage)
Leucaena leucocephala (Tan tan)
Melocactus spp. (Turks cap cactus, melon cactus)
Opuntia spp. (Prickly pear, Pear cactus)
Opuntia pubescens
Passiflora foetida (Pap vine, Stinking passionfruit)
Peltophorum pterocarpum (Yellow flamboyant)
Pilosereus royenii (pipe organ cactus)
Randia aculeata
Sansevieria trifasciata (Snake plant)
Sesbania punicea (Rattlebox)
Tecoma stans (Ginger Thomas)
Terminalia catappa (West Indian almond)
Tillandsia spp. (Bromeliads, "air plants")
Urochloa maxima (Guinea grass)

There is still landscaping on the site and this includes;

Adonidia merrillii (Christmas tree palm)
Asparagus aethiopicus (Asparagus fern)
Bougainvillea spp.
Dracaena fragrans (Corn plant)
Euphorbia tirucalli (Pencil cactus)
Ficus benghalensis (Banyan tree)
Hordeum jubatum (Foxtail barley)
Yucca aloifolia (Spanish bayonet)

The demolition will be focused on the existing structures, hardscape and utilities, this however will result in the loss of all species within planters or beds within the developed area and of plants that

are immediately adjacent to the structure due to the use of heavy equipment. All large trees around the perimeter of the site will be marked and protected. Clearing of natural flora will be minimal and will have a negligible impact.

During the surveys no mammals were seen. Birds seen on the property include Zenaida dove (*Zenaida aurita*), common ground dove (*Columbina passerina*) and gray kingbird (*Tyrannus dominicensis*).

Reptiles were abundant and tree anoles (*Anolis cristatellus*), grass anoles (*Anolis pulchellus*), barred anoles (*Anolis stratulus*), dwarf geckos (*Thecadactylus* sp), and common ground lizards (*Sphaerodactylus macrolepis*) were seen around the building and in the forested areas surrounding the buildings and satellite dishes. The Virgin Islands tree boa (*Chilabothrus granti*) could possibly be present but was not seen during the survey. There is sufficient interdigitation in the surrounding forested areas and there is adequate prey base.

There are a few lizards and possibly boas in the ruins or debris, it is likely these species will move into the forested areas as site disturbance begins. There is sufficient habitat surrounding the ruins for these boas.

4.4.1 Magnuson-Stevens Fishery Conservation and Management Act

The property is located well inland and will have no impact on fisheries resources, marine habitats or water quality.

4.4.2 Threatened and Endangered Species and Critical Habitat

The property is within the range for the St. Thomas Tree Boa (*Chilabothrus granti*), a federally listed rare and endangered species. There is a potential to harm the VI Tree Boa, during the demolition of the structure, this boa is usually found on the eastern end of the island but can be found in other locations. The project will not be clearing areas which were not previously developed as part of the demolition. However, it is possible that VI Tree Boas could be found in the damaged building and debris around the site and a training session should be held with the Division of Fish and Wildlife prior to the start of demolition so workers can be informed about the boas and what to do if they are encountered. Education regarding the Tree Boas will help minimize impact to these species if they are encountered. No VI Tree Boas were seen and habitat for these snakes remains in the vicinity.

No St. Thomas lid flowers (*Calypttranthes thomasiana*), an endangered plant species, were found during the surveys.

If during the demolition clearing is limited to that required to demolish the existing structures and if people working on the site are educated regarding the VI Tree Boas, the demolition **may affect but is not likely to adversely affect** the VI Tree Boa.

The Division of Fish and Wildlife, DPNR and FWS have been asked for concurrence that the project is Not Likely to Adversely Affect the VI Tree Boa.

4.4.3 Fish and Wildlife

The Fish and Wildlife Service iPac (Information for Planning and Consultation) list to species related to the site, the West Indian Manatee (*Trichechus manatus*) and the Virgin Islands Tree Boa (*Chilabothrus granti*). The iPac report states there are no critical habitats at this location, however potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves. There will be no impact to manatees as they are marine mammals and are not terrestrial. There is a potential to harm the VI Tree Boa, this boa is usually found on the eastern end of the island but can be found in other locations. The project will not be clearing areas which were not previously developed as part of the demolition. However, it is possible that VI Tree Boas could be found in the damaged building and debris around the site and a training session should be held with the Division of Fish and Wildlife prior to the start of demolition so workers can be educated about the boas and what to do if they are encountered.

The iPac report states there are no migratory birds of conservation concern expected to occur at this location.

The iPac Report is found in the Appendix B.

4.5 Cultural Resources

FEMA must consider the potential effects of its funded actions upon cultural resources prior to engaging in any undertaking. FEMA evaluates potential effects in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, implemented by 36 CFR Part 800. The NHPA defines an historic property as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion” on the National Register of Historic Places (NRHP). FEMA evaluates the Area of Potential Effects pursuant to 36 CFR 800.4(a)(1), defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. FEMA evaluates properties with undetermined eligibility for listing in the NRHP as though they are, until an official determination is made.

A SHPO Clearance Letter has been requested from the Division of Historic Preservation.

4.5.1 Historic Properties

The site originally had structures which were more than 50 years old however these were destroyed with the construction of the existing structures. The demolition of the existing structures will have no impact on historic properties.

4.5.2 American Indian/Native Hawaiian/Native

In June of 2021 Albert Byran governor of the U.S. Virgin Islands recognized the Guainia Tanio Tribe of the U.S. Virgin Islands. The Guainia Tanio Tribe does not have tribal lands within the U.S. Virgin Islands. WJTX Radio Station is not on Tribal Lands. There are no tribal lands within the Virgin Islands. The project will have no impact on tribal lands.

7.0 Socioeconomic Resources

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to identify and address disproportionately high and adverse human health, requires federal agencies or environmental effects its activities.

The project area is zone "P" Public and is in an area of industrial and commercial use. The near properties which are developed are being used for concrete plants, heavy equipment storage, warehouse use and industrial marine use. The public electrical utility is located across Krum Bay to the west and the cruise ship port and marine uses are located to the northeast.

WTJX-FM is a non-commercial, educational public radio station, serving as the NPR network affiliate for the United States Virgin Islands.

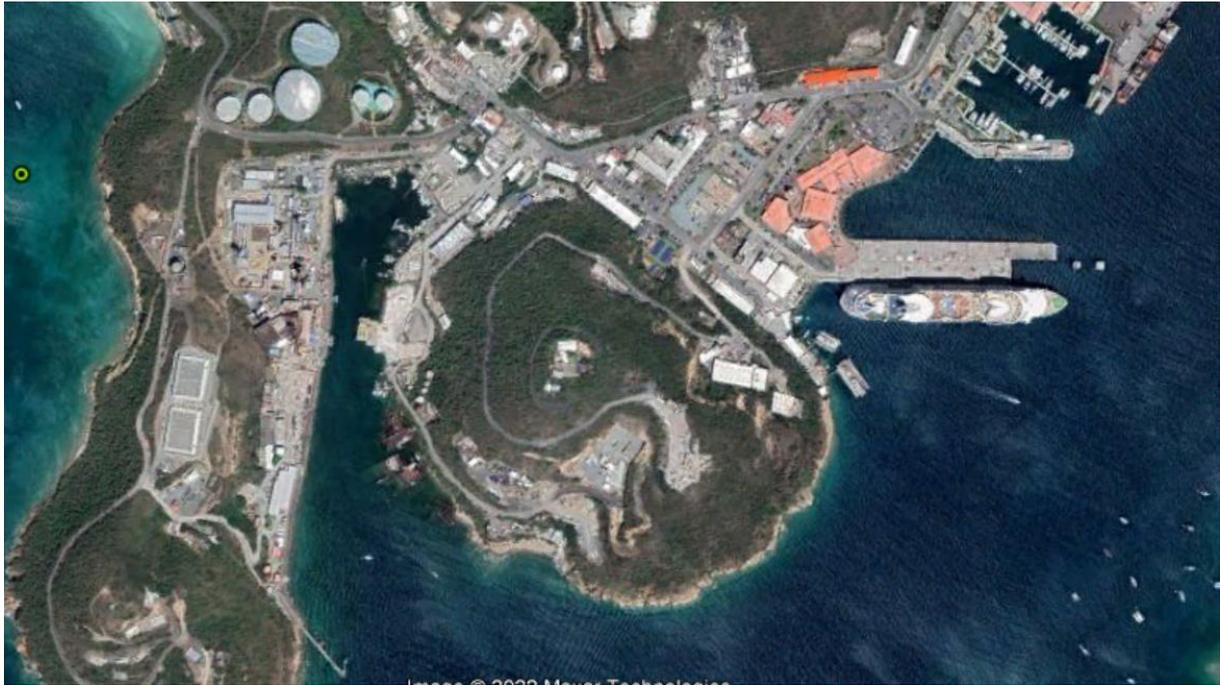


Figure 19. Uses in the surrounding area

4.6.1 Environmental Justice

The property is in a commercial/industrial area on a top of a knoll and the demolition of this damaged property will not cause disproportionate impact on any minority or low-income populations. The closest residential properties are more than ½ mile away and the remaining undeveloped land is not suitable for residential use due to the existing uses.

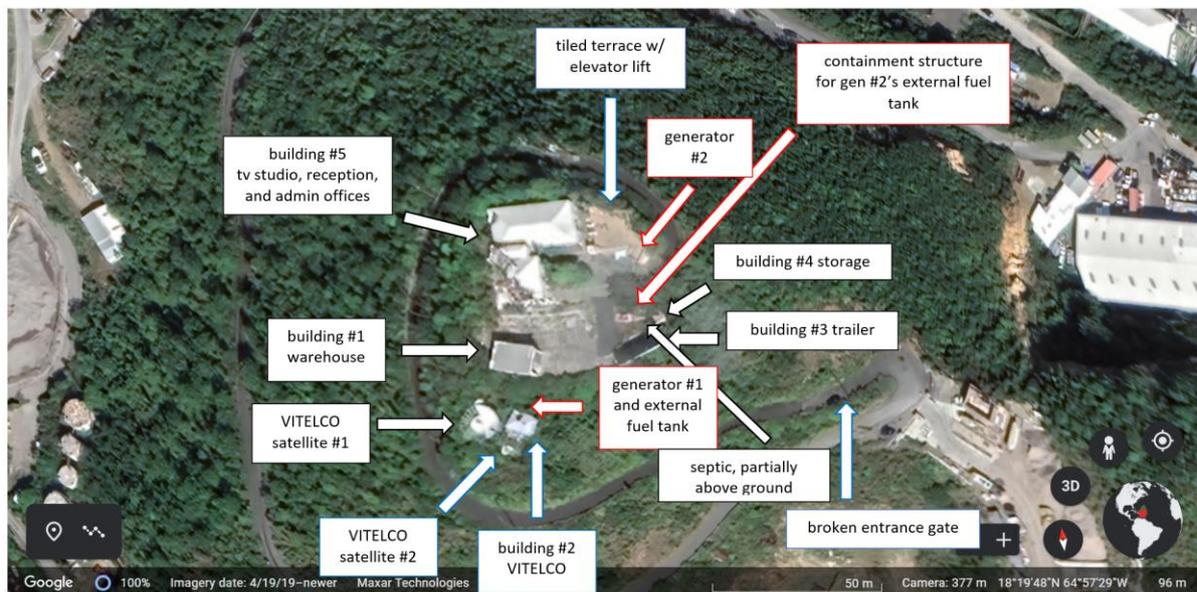
4.6.2 Hazardous Material

There are two generators on site, Generator #1 is the former VITELCO diesel generator which is located to the immediate north of the VITELCO building. The generator and fuel tank are housed separately. The tank is rectangular and appears to have a 350 to 400 gallon capacity. The tank is rusted around containment and at bottom. Information plates are worn and cannot be read. It is unclear when this was last in use. Plants are growing around fuel tank and generator therefore it is unlikely that there has been a release from this tank.

Generator #2 is the only WTJX diesel generator. The generator is housed inside a locked structure under the tiled terrace. Generator has a separate fuel tank, the external fuel tank is cylindrical and horizontal, approx. 4' circumference x 10' long and the capacity of the tank is approximately 950 gallons. The tank is contained within a secondary containment concrete structure. Plants are growing around external tank are within the containment. There appear to have been no releases from the containment.

Halon 1301 (Bromotrifluoromethane), is the most effective fire extinguishing agent, but because of its high ozone depleting potential, the production of Halon 1301 was banned in 1994 as part of the Montreal Protocol. Halon 1301 was stored onsite in the VITELCO building at some point a warning sign is on the entrance door. The Material Safety Data Sheet is found in the Appendix c.

There is underground piping for fuel in part of the site, it is possible that there may have been a leak along one of the fuel lines. Prior to removal of the underground piping a Plan will be developed and approved by the Department of Planning and Natural Resources (DPNR) Division of Environmental Protection (DEP). During demolition of the area surrounding the fuel line, organic vapors will be tested during the excavation and if vapors are detected, all soils with vapors will be removed and set aside on 3 mm Visqueen®. Soils will be excavated until no further vapors are detected in the soil and samples will be taken to validate that all contaminated soil has been removed. The removed soil will be sampled for Total Petroleum Hydrocarbons TPH and BTEX. The soil will be protected from runoff and covered awaiting the results of the testing. If result exceeding the U.S. Virgin Islands regulation limits are found (460ppm) the soil will either be disposed of by a licensed company which deals with hazardous materials or a remediation plan will be developed and approved by DPNR/DEP.



4.6.3 Noise

The site is within an area of industrial and commercial use. There will be noise created during the demolition. The noise created should not have a negative impact on the properties immediately around the site. The closest residential areas are more than ½ mile away. There are offices (V.I. Property and Procurement) located approximately 0.12 miles from the site. It is possible that some

noise by be heard during demolition. The already impacted by the noise associated with the port activities and the power generation plant and other uses. Noise created by the demolition will have a negligible impact on surrounding properties.

4.6.4 Traffic

The property is located on top of a knoll with only a few developed properties however the road connects into Crown Bay a very busy port area. During demolition there will be an increase in vehicle traffic carrying debris to the landfill. This will be short lived and will not have a longterm impact on traffic in the area.

4.6.5 Public Service and Utilities

The project is the demolition of an radio station building which was impacted by the 2017 hurricanes. The demolition of this building will impact the Virgin Islands landfill by increasing materials in the landfill. WJTX and its contractors will follow all the Virgin Islands Waste Managements guidelines for the debris disposal and will obtain the necessary permits for the disposal of materials.

4.6.6 Public Health and Safety

The demolition of the radio station facilities will not have an impact on public health or safety. The radio station is in an isolated area and is only surrounded by industrial uses and is currently not visited by the public. The nearest residential communities are more than ½ mile away and the nearest offices are approximately 0.1 miles away.

4.7 Summary Table

Resource	No Action	Proposed Action
Water Quality	No impact	No impact
Air Quality	No impact	Minor temporary impact, No long-term impact
Wetlands	No impact	No impact
Floodplains	No impact	No impact
Coastal Resources	No impact	No impact
Threatened and Endangered Species	No impact	Not like to adversely affect the Virgin Island tree boa
Cultural Resources	No impact	No impact
Socioeconomics	No impact	No impact

Public Services	No impact	Minor Impact to Landfill
Public Health and Safety	No impact	No impact

5.0 Cumulative Impacts

The demolition of the building has negligible impacts on both the natural and man’s environment. The demolition if the building will add debris to the Bovoni Landfill which is already reaching capacity. This is a significant on going issue which currently is being working on by the Virgin Islands government.

The demolition and reconstruction of the site will not create significant impacts as that this will be the rebuilding of a previously developed site.

6.0 Agency Coordination, Public Involvement and Permits

Department of Planning and Natural Resources, Division of Coastal Zone Management - Coastal Consistency Determination – Public Hearing and Decision Meeting

Department of Planning and Natural Resources, Division of Environmental Protection - Coverage under the General Construction Stormwater Permit

7.0 References

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Wetlands Mapper <http://www.fws.gov/wetlands/Data/Mapper.html>

8.0 List of Preparers

Amy Claire Dempsey, M.A., Bioimpact, Inc.

Jaughna Nielsen-Bobbit MPH

9.0 Appendices

APPENDIX A

DRAWINGS

APPENDIX B

FWS iPaC Report

APPENDIX C

Material Safety Data Sheet Halon 1301

APPENDIX D

Correspondence

SHPO Clearance

VIDFW Concurrence of NLAA

FWS Concurrence of NLAA

APPENDIX E

Qualification Statement Bioimpact, Inc.

APPENDIX A

Location Map:



SITE

Vicinity Map:



SITE

WTJX Radio Station

SLA Project Number: 510-21-1 WTJX

Submissions:

Demolition Permit Documents

Project Team:

Owner	Agency	Agency	Architect of Record	Civil Consultant	Structural Consultant	MEP Consultant	Surveyor
Government of the United States virging islands	Office of Disaster Recovery	Department of Public Works	Springline Architects, LLC	Harris Civil Engineers, LLC	Total Engineering, LTD.	Todd W. Carey & Associates	MARVIN BERNING & ASSOCIATES
HONORABLE ALBERT BRYAN, JR. GOVERNOR HONORABLE ALBERT BRYAN, JR. GOVERNOR HONORABLE TREGENZA A. ROACH, ESQ LIEUTENANT GOVERNOR Government House St. Thomas 5047 (21-22) Kongens Gade, St. Thomas, VI 00802-6487 PHONE: (340) 774-0001 FAX: ATT: Albert Bryan, Jr. Governor EMAIL:	HONORABLE Adrienne L. Williams-Octalien DIRECTOR V.I Public Finance Authority 1000 King Street, Suite No. 6 Christiansted, VI 00820-4905 PHONE: (340) 774-778-8135 FAX: ATT: Michael D. Vante EMAIL: mdvante@usvipfa.com	HONORABLE Derek Gabriel COMMISSIONER Patrick Williams, P.E CAPITAL IMPROVEMENT PROJECTS ENGINEERING ADMINISTRATOR Department of Public Works 8244 Subbase St. Thomas, VI 00802 PHONE: (340) 776-4844 FAX: ATT: Patrick Williams EMAIL: patrick.williams@vi.gov	Michael de Haas, AIA, LEED PRINCIPAL Jerry L. Traino, AIA PROJECT MANAGER 6346 Estate Smith Bay St. Thomas, U.S.V.I. 00802 PHONE: (340) 777-2345 FAX: (340) 777-2346 ATT: Michael de Haas EMAIL: mike@springlinearchitects.com	David Taylor, PE PROJECT MANAGER Jerry L. Traino, AIA PROJECT MANAGER 1200 Hillcrest St Orlando, FL 32803 PHONE: (407) 428-2639 FAX: - ATT: David Taylor, PE EMAIL: DavidT@harriscivilengineers.com	Richard Taylor, PE PRINCIPAL P.O. Box 8309 Cruz Bay, St. John VI 00831-8309 PHONE: (340) 513-2817 FAX: (284) 494-0775 ATT: Richard Taylor, PE EMAIL: sytmeng@systemscuribbean.com	Todd W. Carey, P.E. PRINCIPAL 429 Canvasback Road Moorestville, NC 28117 PHONE: (704) 664-9824 FAX: (704) 663-1044 ATT: Todd W. Carey, P.E. EMAIL: Todd@ToddCarey.com	HARRY A. GAURILOF, 488 RLS 6501 Red Hook Plaza Suite 201 St. Thomas, U.S.V.I. PHONE: (340) 775-6557 FAX: (340) 643-1729 ATT: HARRY A. GAURILOF EMAIL: hgvisurvey@gmail.com

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JLT

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SUBMISSIONS:

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A	Demolition Permit Documents	01/10/21
B	Programming / Schematic Design	
C	60% Construction Documents	
D	90% Construction Documents	
E	100% Construction Documents	

REVISIONS: _____

No.	Description	Date

PROJECT :

WTJX Radio Station

Haypiece Hill, Parcels 158A and 158 Rem
Submarine base, St. Thomas USVI

SHEET TITLE:

TITLE SHEET

510-21-1 **G000**
JOB NO. SHEET NO.



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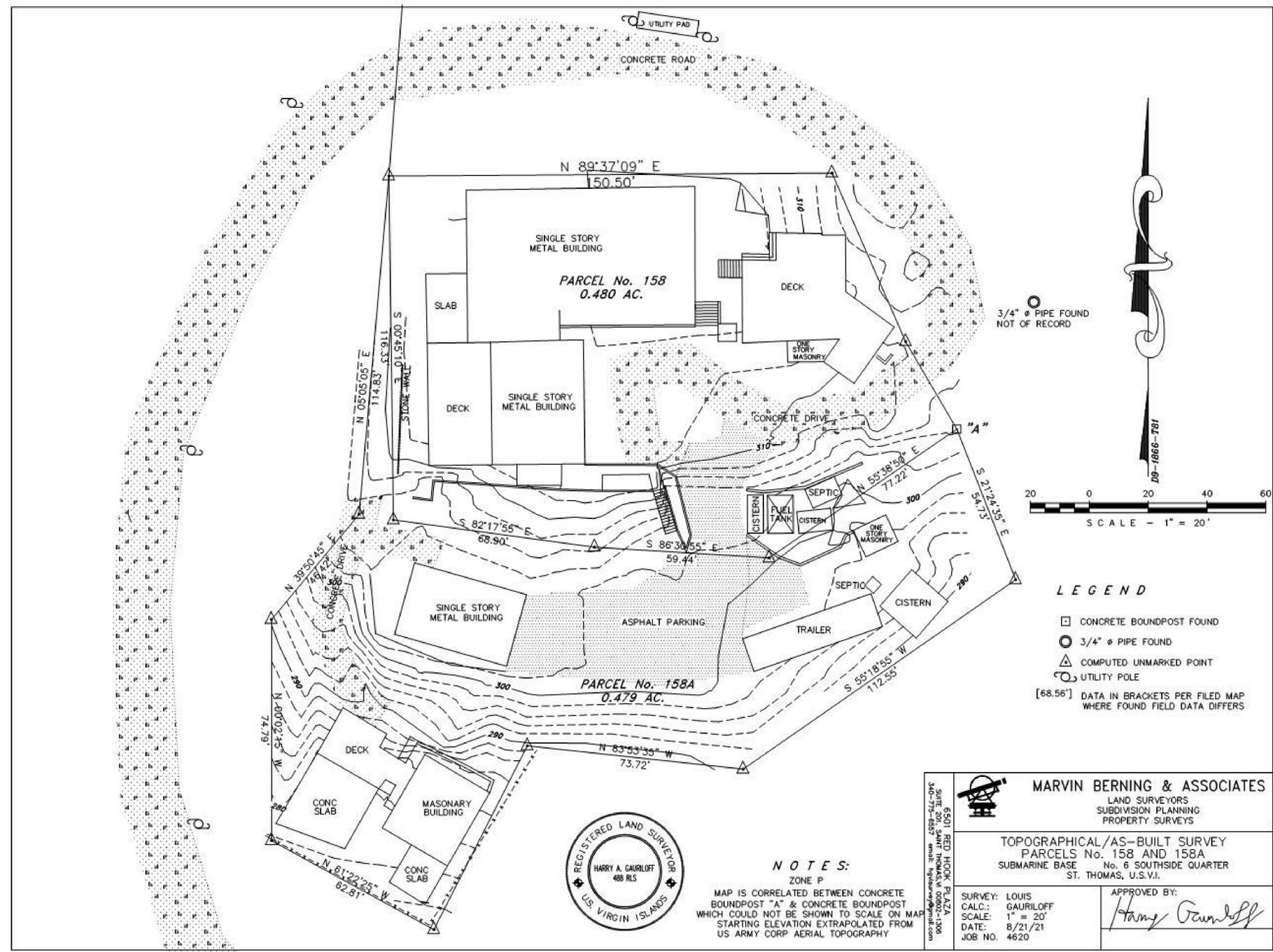
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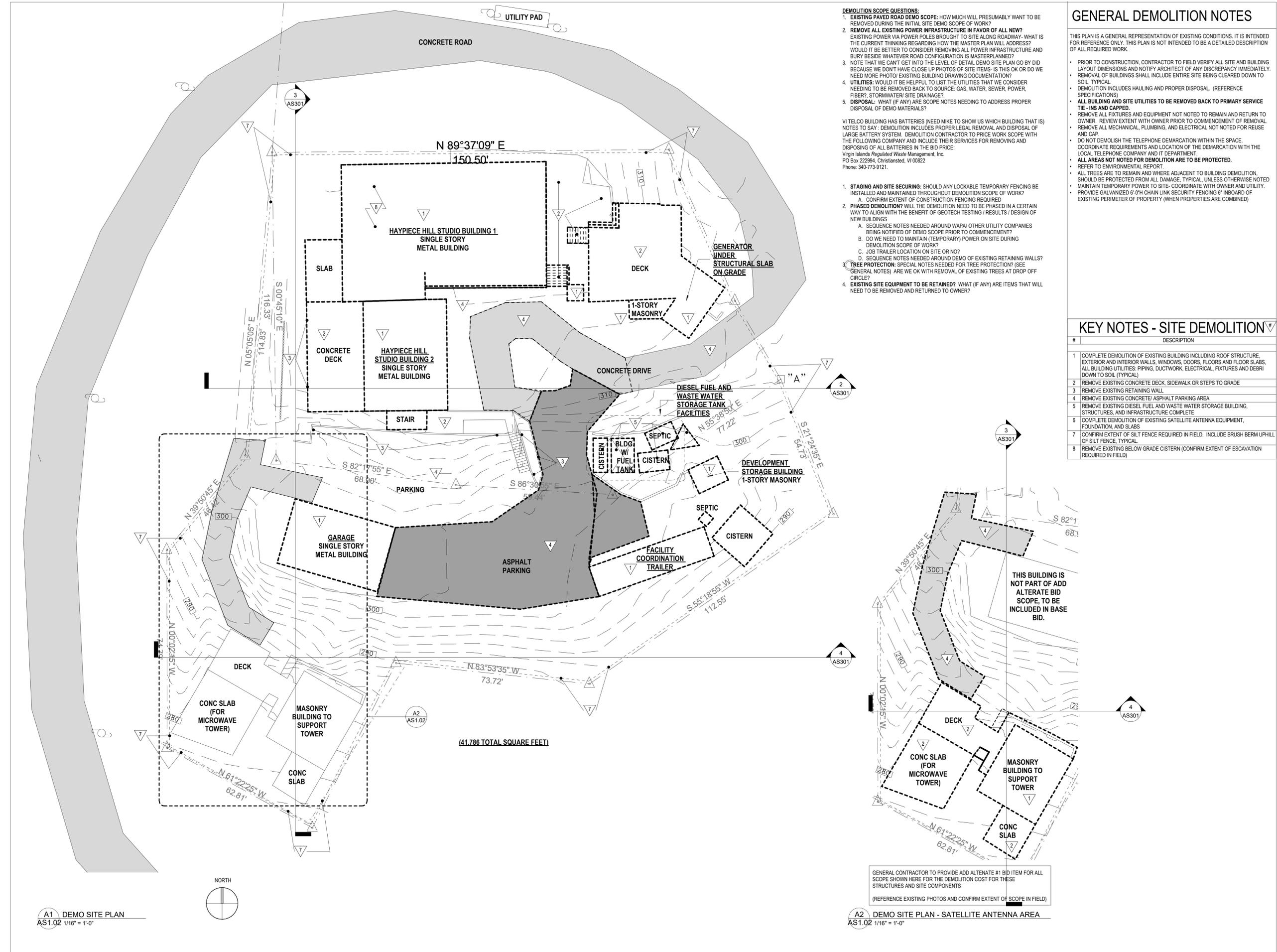
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No.	Description	Date

PROJECT: WTJX Radio Station
Haypiece Hill, Parcels 158A and 158 Rem
Submarine base, St. Thomas USVI

SHEET TITLE: EXISTING CONDITIONS SURVEY





- DEMOLITION SCOPE QUESTIONS:**
- EXISTING PAVED ROAD DEMO SCOPE: HOW MUCH WILL PRESUMABLY WANT TO BE REMOVED DURING THE INITIAL SITE DEMO SCOPE OF WORK?
 - REMOVE ALL EXISTING POWER INFRASTRUCTURE IN FAVOR OF ALL NEW? EXISTING POWER VIA POWER POLES BROUGHT TO SITE ALONG ROADWAY- WHAT IS THE CURRENT THINKING REGARDING HOW THE MASTER PLAN WILL ADDRESS? WOULD IT BE BETTER TO CONSIDER REMOVING ALL POWER INFRASTRUCTURE AND BURY BESIDE WHATEVER ROAD CONFIGURATION IS MASTER PLANNED?
 - NOTE THAT WE CANT GET INTO THE LEVEL OF DETAIL DEMO SITE PLAN GO BY DID BECAUSE WE DONT HAVE CLOSE UP PHOTOS OF SITE ITEMS- IS THIS OK OR DO WE NEED MORE PHOTOS/ EXISTING BUILDING DRAWING DOCUMENTATION?
 - UTILITIES: WOULD IT BE HELPFUL TO LIST THE UTILITIES THAT WE CONSIDER NEEDING TO BE REMOVED BACK TO SOURCE: GAS, WATER, SEWER, POWER, FIBER? STORMWATER/ SITE DRAINAGE?
 - DISPOSAL: WHAT (IF ANY) ARE SCOPE NOTES NEEDING TO ADDRESS PROPER DISPOSAL OF DEMO MATERIALS?

VI TELCO BUILDING HAS BATTERIES (NEED MIKE TO SHOW US WHICH BUILDING THAT IS) NOTES TO SAY : DEMOLITION INCLUDES PROPER LEGAL REMOVAL AND DISPOSAL OF LARGE BATTERY SYSTEM. DEMOLITION CONTRACTOR TO PRICE WORK SCOPE WITH THE FOLLOWING COMPANY AND INCLUDE THEIR SERVICES FOR REMOVING AND DISPOSING OF ALL BATTERIES IN THE BID PRICE:
 Virgin Islands Regulated Waste Management, Inc.
 PO Box 22294, Christiansted, VI 00622
 Phone: 340-773-9121.

- STAGING AND SITE SECURING:** SHOULD ANY LOCKABLE TEMPORARY FENCING BE INSTALLED AND MAINTAINED THROUGHOUT DEMOLITION SCOPE OF WORK?
 A. CONFIRM EXTENT OF CONSTRUCTION FENCING REQUIRED
- PHASED DEMOLITION?** WILL THE DEMOLITION NEED TO BE PHASED IN A CERTAIN WAY TO ALIGN WITH THE BENEFIT OF GEOTECH TESTING / RESULTS / DESIGN OF NEW BUILDINGS
 A. SEQUENCE NOTES NEEDED AROUND WAPA/ OTHER UTILITY COMPANIES BEING NOTIFIED OF DEMO SCOPE PRIOR TO COMMENCEMENT?
 B. DO WE NEED TO MAINTAIN (TEMPORARY) POWER ON SITE DURING DEMOLITION SCOPE OF WORK?
 C. JOB TRAILER LOCATION ON SITE OR NO?
 D. SEQUENCE NOTES NEEDED AROUND DEMO OF EXISTING RETAINING WALLS?
- TREE PROTECTION:** SPECIAL NOTES NEEDED FOR TREE PROTECTION? (SEE GENERAL NOTES) ARE WE OK WITH REMOVAL OF EXISTING TREES AT DROP OFF CIRCLE?
- EXISTING SITE EQUIPMENT TO BE RETAINED?** WHAT (IF ANY) ARE ITEMS THAT WILL NEED TO BE REMOVED AND RETURNED TO OWNER?

GENERAL DEMOLITION NOTES

THIS PLAN IS A GENERAL REPRESENTATION OF EXISTING CONDITIONS. IT IS INTENDED FOR REFERENCE ONLY. THIS PLAN IS NOT INTENDED TO BE A DETAILED DESCRIPTION OF ALL REQUIRED WORK.

- PRIOR TO CONSTRUCTION, CONTRACTOR TO FIELD VERIFY ALL SITE AND BUILDING LAYOUT DIMENSIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCY IMMEDIATELY.
- REMOVAL OF BUILDINGS SHALL INCLUDE ENTIRE SITE BEING CLEARED DOWN TO SOIL, TYPICAL.
- DEMOLITION INCLUDES HAULING AND PROPER DISPOSAL. (REFERENCE SPECIFICATIONS)
- ALL BUILDING AND SITE UTILITIES TO BE REMOVED BACK TO PRIMARY SERVICE TIE - INS AND CAPPED.
- REMOVE ALL FIXTURES AND EQUIPMENT NOT NOTED TO REMAIN AND RETURN TO OWNER. REVIEW EXTENT WITH OWNER PRIOR TO COMMENCEMENT OF REMOVAL.
- REMOVE ALL MECHANICAL, PLUMBING, AND ELECTRICAL NOT NOTED FOR REUSE AND CAP.
- DO NOT DEMOLISH THE TELEPHONE DEMARCATION WITHIN THE SPACE. COORDINATE REQUIREMENTS AND LOCATION OF THE DEMARCATION WITH THE LOCAL TELEPHONE COMPANY AND IT DEPARTMENT.
- ALL AREAS NOT NOTED FOR DEMOLITION ARE TO BE PROTECTED.
- REFER TO ENVIRONMENTAL REPORT.
- ALL TREES ARE TO REMAIN AND WHERE ADJACENT TO BUILDING DEMOLITION, SHOULD BE PROTECTED FROM ALL DAMAGE, TYPICAL, UNLESS OTHERWISE NOTED.
- MAINTAIN TEMPORARY POWER TO SITE- COORDINATE WITH OWNER AND UTILITY.
- PROVIDE GALVANIZED 6'-0" CHAIN LINK SECURITY FENCING 6' INBOARD OF EXISTING PERIMETER OF PROPERTY (WHEN PROPERTIES ARE COMBINED)

KEY NOTES - SITE DEMOLITION

#	DESCRIPTION
1	COMPLETE DEMOLITION OF EXISTING BUILDING INCLUDING ROOF STRUCTURE, EXTERIOR AND INTERIOR WALLS, WINDOWS, DOORS, FLOORS AND FLOOR SLABS, ALL BUILDING UTILITIES, PIPING, DUCTWORK, ELECTRICAL, FIXTURES AND DEBRIS DOWN TO SOIL (TYPICAL)
2	REMOVE EXISTING CONCRETE DECK, SIDEWALK OR STEPS TO GRADE
3	REMOVE EXISTING RETAINING WALL
4	REMOVE EXISTING CONCRETE/ ASPHALT PARKING AREA
5	REMOVE EXISTING DIESEL FUEL AND WASTE WATER STORAGE BUILDING, STRUCTURES, AND INFRASTRUCTURE COMPLETE
6	COMPLETE DEMOLITION OF EXISTING SATELLITE ANTENNA EQUIPMENT, FOUNDATION, AND SLABS
7	CONFIRM EXTENT OF SILT FENCE REQUIRED IN FIELD. INCLUDE BRUSH BERM UPHILL OF SILT FENCE, TYPICAL.
8	REMOVE EXISTING BELOW GRADE CISTERN (CONFIRM EXTENT OF ESCAVATION REQUIRED IN FIELD)



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REVISIONS:		
No.	Description	Date

PROJECT :
 WTJX Radio Station
 Haypiece Hill, Parcels 158A and 158 Rem
 Submarine base, St. Thomas USVI

DEMOLITION SITE PLAN

A1 DEMO SITE PLAN
 AS1.02 1/16" = 1'-0"

A2 DEMO SITE PLAN - SATELLITE ANTENNA AREA
 AS1.02 1/16" = 1'-0"



SITE AERIAL VIEW



AERIAL VIEW - LOOKING WEST

SITE CONDITIONS REFERENCES

THESE PHOTOS ARE FOR GENERAL REPRESENTATION OF EXISTING CONDITIONS. IT IS INTENDED FOR REFERENCE ONLY. EXTENT OF SCOPE TO BE CONFIRMED IN FIELD.

- PRIOR TO DEMOLITION OR REMOVAL OF EXISTING ...



SITE AERIAL VIEW



AERIAL VIEW - LOOKING WEST



AERIAL VIEW - LOOKING NORTH

KEY NOTES - SITE DEMOLITION

#	DESCRIPTION
1	COMPLETE DEMOLITION OF EXISTING BUILDING INCLUDING ROOF STRUCTURE, EXTERIOR AND INTERIOR WALLS, WINDOWS, DOORS, FLOORS AND FLOOR SLABS, ALL BUILDING UTILITIES, PIPING, DUCTWORK, ELECTRICAL, FIXTURES AND DEBRIS DOWN TO SOIL, (TYPICAL)
2	REMOVE EXISTING CONCRETE DECK, SIDEWALK OR STEPS TO GRADE
3	REMOVE EXISTING RETAINING WALL
4	REMOVE EXISTING CONCRETE/ ASPHALT PARKING AREA
5	REMOVE EXISTING DIESEL FUEL AND WASTE WATER STORAGE BUILDING, STRUCTURES, AND INFRASTRUCTURE COMPLETE
6	COMPLETE DEMOLITION OF EXISTING SATELLITE ANTENNA EQUIPMENT, FOUNDATION, AND SLABS



AERIAL VIEW - LOOKING EAST

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No.	Description	Date

PROJECT: **WTJX Radio Station**

Haypiece Hill, Parcels 158A and 158 Rem
Submarine base, St. Thomas USVI

SHEET TITLE: **DEMO REFERENCE PHOTOS**



SITE AERIAL VIEW



AERIAL VIEW - LOOKING SOUTH

SITE CONDITIONS REFERENCES

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- PRIOR TO DEMOLITION OR REMOVAL OF EXISTING ...



SITE AERIAL - LOOKING NORTH



AERIAL VIEW - LOOKING WEST



AERIAL VIEW - LOOKING NORTH



AERIAL VIEW - LOOKING EAST

KEY NOTES - SITE DEMOLITION

#	DESCRIPTION
1	COMPLETE DEMOLITION OF EXISTING BUILDING INCLUDING ROOF STRUCTURE, EXTERIOR AND INTERIOR WALLS, WINDOWS, DOORS, FLOORS AND FLOOR SLABS, ALL BUILDING UTILITIES, PIPING, DUCTWORK, ELECTRICAL, FIXTURES AND DEBRIS DOWN TO SOIL, (TYPICAL)
2	REMOVE EXISTING CONCRETE DECK, SIDEWALK OR STEPS TO GRADE
3	REMOVE EXISTING RETAINING WALL
4	REMOVE EXISTING CONCRETE/ ASPHALT PARKING AREA
5	REMOVE EXISTING DIESEL FUEL AND WASTE WATER STORAGE BUILDING, STRUCTURES, AND INFRASTRUCTURE COMPLETE
6	COMPLETE DEMOLITION OF EXISTING SATELLITE ANTENNA EQUIPMENT, FOUNDATION, AND SLABS

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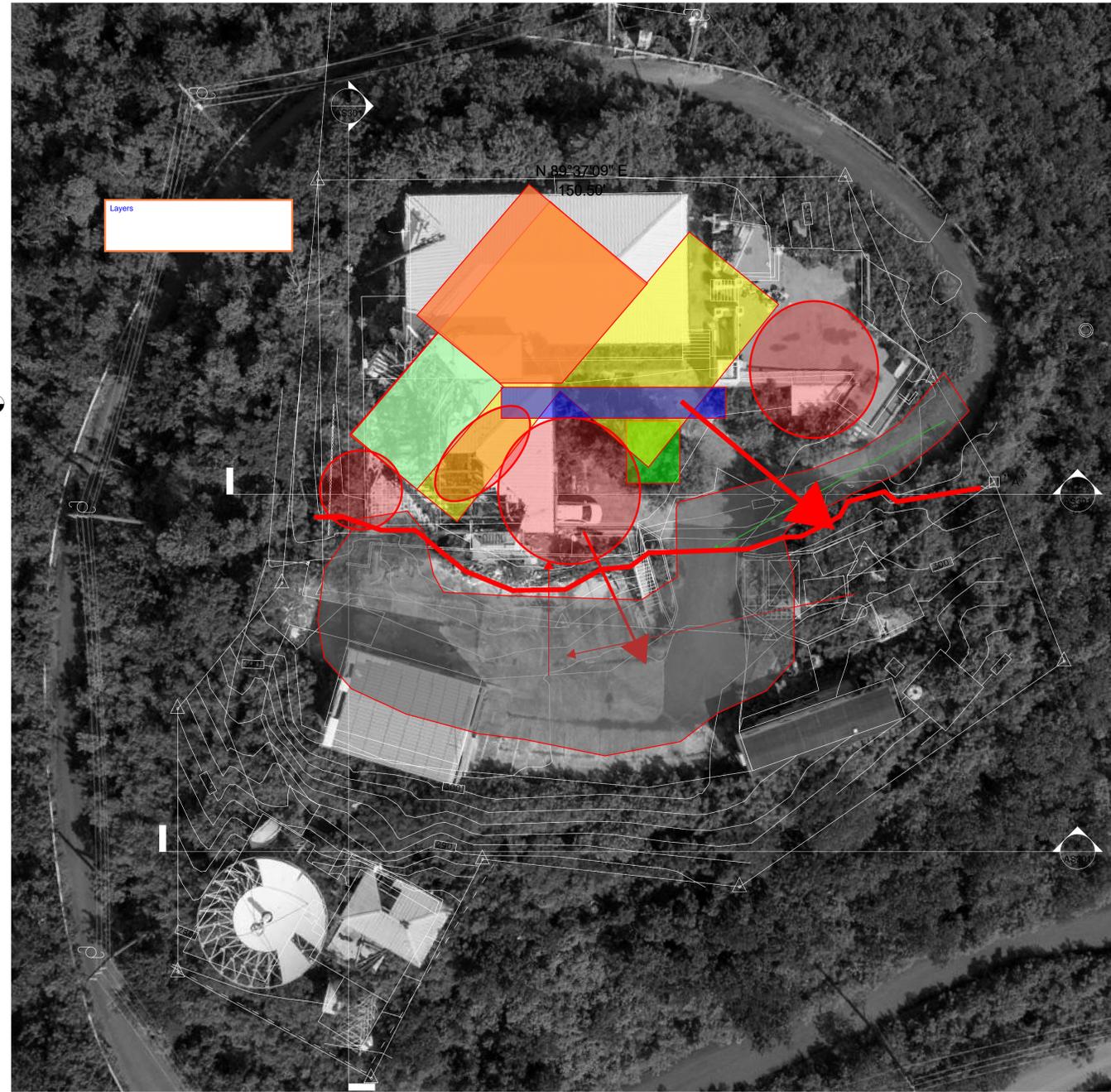
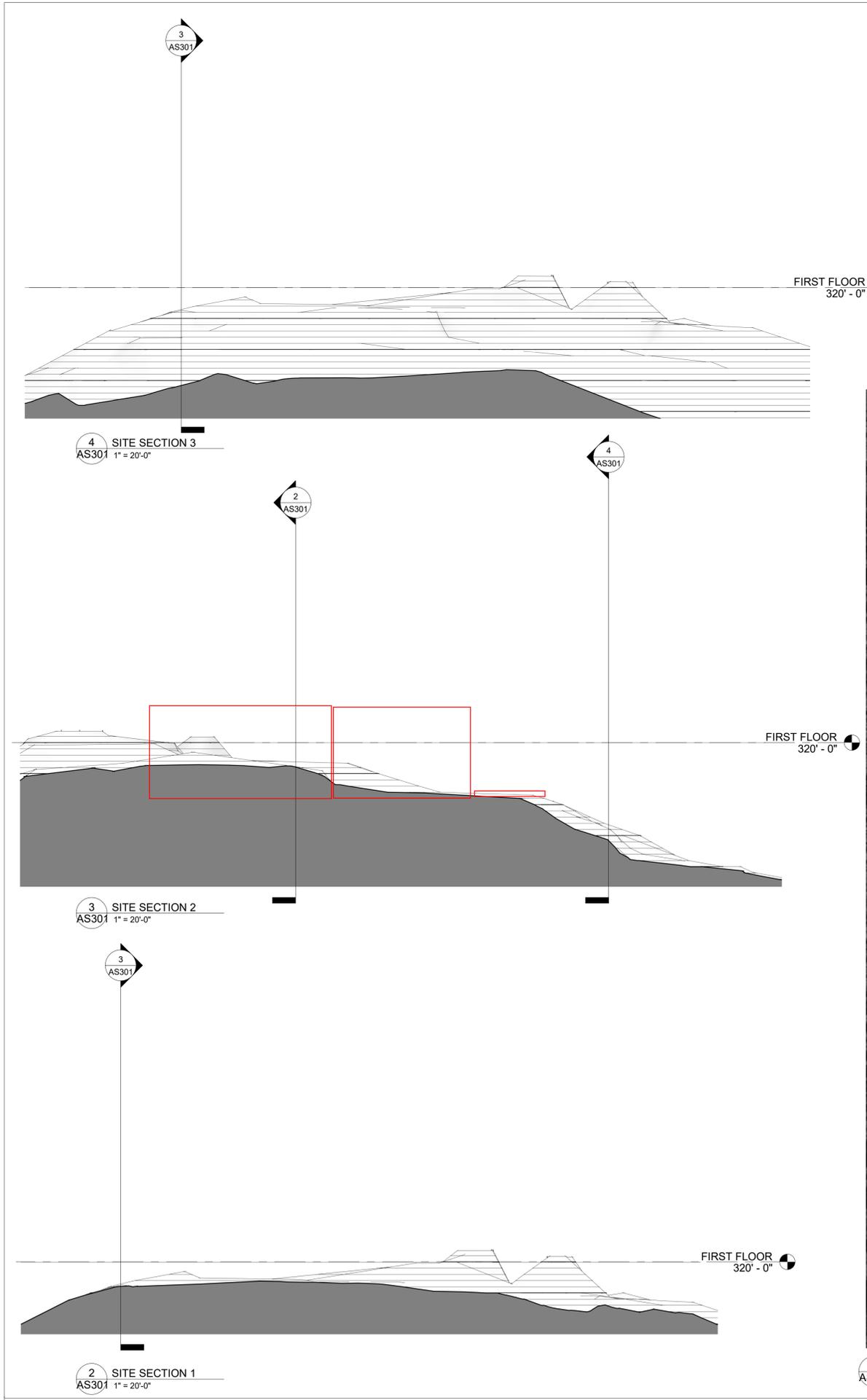
REVISIONS:

No.	Description	Date

PROJECT: **WTJX Radio Station**

Haypiece Hill, Parcels 158A and 158 Rem
Submarine base, St. Thomas USVI

SHEET TITLE: **DEMO REFERENCE PHOTOS**



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IN PROGRESS DOCUMENTS FOR PERMIT REVIEW
REGULATORY REVIEW
COMPLETION

Author: _____ Checker: _____
DRAWN BY: JLT REVIEW BY: _____

PROJECT MANAGER: _____

SUBMISSIONS:

Ref	Description	Date
A	Demolition Permit Documents	01/10/21
B	Programming / Schematic Design	
C	60% Construction Documents	
D	90% Construction Documents	
E	100% Construction Documents	

REVISIONS: △

No.	Description	Date

PROJECT: WTJX Radio Station
Haypiece Hill, Parcels 158A and 158 Rem
Submarine base, St. Thomas USVI

SHEET TITLE: SITE ANALYSIS

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

St. Thomas County, Virgin Islands



Local office

Caribbean Ecological Services Field Office

☎ (787) 851-7297

📠 (787) 851-7440

MAILING ADDRESS

Post Office Box 491

Boqueron, PR 00622-0491

PHYSICAL ADDRESS

Carr 301, Km 5.1, Bo Corozo

Boqueron, PR 00622-0510

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
West Indian Manatee <i>Trichechus manatus</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4469	Threatened Marine mammal

Reptiles

NAME	STATUS
Virgin Islands Tree Boa <i>Chilabothrus granti</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3247	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

NOT FOR CONSULTATION

Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walrus, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*
<https://ecos.fws.gov/ecp/species/4469>

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA](#)

[Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

**MATERIAL SAFETY DATA SHEET****Halon 1301 (Fire Extinguishing Agent)**

A UTC Fire & Security Company

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name	Halon 1301 (Fire Extinguishing Agent)
Other Trade Names	Bromotrifluoromethane
Product Description	Fire Extinguishing Agent
Manufacturer/Supplier	Fenwal Protection Systems
Address	400 Main Street Ashland, MA 01721 USA
Phone Number	(508) 881-2000
Chemtrec Number	(800) 424-9300
(for emergencies only)	(703) 527-3887 (International)
Revision Date:	February 9, 2012
MSDS Date:	February 9, 2009

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards Non Flammable Gas

Routes of Entry

Eye contact - Inhalation - Skin contact

Carcinogenic Status

Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs

Respiratory System - Skin - Eye - Cardiovascular System - Central Nervous System

Health Effects - Eyes

Direct contact with the cold gas or liquid can cause freezing of exposed tissues, with pain, redness, burns and corneal damage.

Health Effects - Skin

Direct contact with the cold gas or liquid can cause freezing of exposed tissues.

Health Effects - Ingestion

Ingestion is not a possible route of exposure.

Health Effects - Inhalation

Exposure to vapor at high concentrations have the following effects: - light headedness - dizziness - difficulty with breathing - drowsiness - nausea - mental confusion - increased blood pressure - increased respiratory rate - loss of consciousness. Exposure at high concentrations may cause temporary alteration of the heart's electrical activity with irregular pulse, palpitations or inadequate circulation.

Individuals with preexisting diseases of the cardiovascular system or nervous system may have increased susceptibility from excessive exposures.



MATERIAL SAFETY DATA SHEET

Halon 1301 (Fire Extinguishing Agent)

A UTC Fire & Security Company

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#/Codes	Concentration	R Phrases	EU Classification
Methane, bromotrifluoro-	75-63-8 EC#200-887-6	>99.9	None	Non Flammable Gas

4. FIRST AID MEASURES

Eyes

Immediately flood the eye with plenty of warm water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Flush with water. Obtain medical attention if frostbite or blistering occurs or redness persists.

Ingestion

Ingestion is not considered a potential route of exposure.

Inhalation

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Advice to Physicians

In case of frostbite, place the frostbitten part in warm water. If warm water is not available or impractical to use, wrap the affected parts gently in blankets. DO NOT USE HOT WATER.

5. FIRE - FIGHTING MEASURES

Extinguishing Media

Halon 1301 is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may rupture or burst in the heat of a fire.

Unusual Fire and Explosion Hazards

Containers may explode in heat of fire. Predominant decomposition products are hydrogen fluoride and hydrogen bromide in fire situations. Products are irritant and potentially toxic if fire extinguishment is delayed.

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Wear full protective clothing and self-contained breathing apparatus. Remove leaking cylinder to a safe place. Ventilate the area. Leaks inside confined spaces may cause suffocation, as vapors may displace air, and should not be entered without a self-contained breathing apparatus.

7. HANDLING AND STORAGE

Cylinders should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike against each other. Never apply flame or localized heat directly to any part of the cylinder. Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards**Methane, bromotrifluoro-**

ACGIH TLV: 1000ppm TWA

OSHA PEL: 1000ppm (6100mg/m³) TWA**Engineering Control Measures**

Use with adequate ventilation. There should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes or odor becomes apparent, use local exhaust ventilation.

Respiratory Protection

Not normally required under conditions of use as a portable fire extinguisher. In oxygen deficient atmospheres, use a self contained breathing apparatus, as an air purifying respirator will not provide protection.

Hand Protection

Wear rubber gloves. Avoid contact with skin.

Eye Protection

Chemical goggles or safety glasses with side shields. Avoid contact with eyes.

Body Protection

Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquefied gas under pressure
Color	Colorless
Odor	Slight ether
Specific Gravity	Not available
Boiling Range/Point (°C/F)	-58°C/ - 72 °F
Flash Point (PMCC) (°C/F)	Not Flammable
Solubility in Water	0.03 wt% @ 77 °F
Vapor Density (Air = 1)	5.14
Vapor Pressure	235 psia @ 77°F
Gas Density	Not available
Evaporation Rate	Not available

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to Avoid

- Heat - High temperatures - Exposure to direct sunlight

Materials to Avoid

- alkali or alkaline earth metals - powdered metals (ex. aluminum, zinc, etc.)

Hazardous Polymerization

Will not occur.

10. STABILITY AND REACTIVITY

Hazardous Decomposition Products

- hydrogen fluoride – hydrogen bromide – free bromine – carbonyl halides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Inhalation 1-hour LC50(rat) >770,000 ppm

Chronic Toxicity/Carcinogenicity

This product is not expected to cause long term adverse health effects.

Genotoxicity

This product is not expected to cause any mutagenic effects. Tests have shown that this material does not cause genetic damage in bacterial cell cultures.

Reproductive/Developmental Toxicity

This product is not expected to cause adverse reproductive effects. Tests in animals demonstrate no developmental toxicity.

12. ECOLOGICAL INFORMATION

Mobility

No data available.

Persistence/Degradability

No data available.

Bio-accumulation

No data available.

Ecotoxicity

No data available.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. If spilled, contents will vaporize to the atmosphere.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Bromotrifluoromethane, 2.2, UN1009
UN Proper Shipping Name	Bromotrifluoromethane or Refrigerant Gas, R 13B1
UN Class	(2.2) Non-Flammable Gas
UN Number	UN1009
UN Packaging Group	Not applicable

15. REGULATORY INFORMATION

EU Label Information

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

15. REGULATORY INFORMATION

EU Hazard Symbol and Indication of Danger.

Non Flammable Gas

R phrases

None

S phrases

None

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing

This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing

All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS) or are exempt from listing.

DSL/NDSL (Canadian) Listing

All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

WHMIS Classification

A

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

MA Right To Know Law

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: - Methane, bromotrifluoro- (75-63-8)

PA Right To Know Law

This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - none Methane, bromotrifluoro- (75-63-8)

NJ Right To Know Law

This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - none Methane, bromotrifluoro- (75-63-8)

California Proposition 65

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

SARA Title III Sect. 302 (EHS)

This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304

This product does not contain any chemicals subject to SARA Title III Section 304.

SARA Title III Sect. 311/312 Categorization

- Immediate (Acute) Health Hazard - Pressure Hazard

SARA Title III Sect. 313

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations: Methane, bromotrifluoro- (75-63-8)



MATERIAL SAFETY DATA SHEET

Halon 1301 (Fire Extinguishing Agent)

A UTC Fire & Security Company

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Health - 1

NFPA Code for Flammability - 0

NFPA Code for Reactivity - 0

NFPA Code for Special Hazards - None

HMIS Ratings

HMIS Code for Health - 1

HMIS Code for Flammability - 0

HMIS Code for Reactivity - 0

HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available

CAS#: Chemical Abstracts Service Number

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk

S: Safety

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Fenwal Protection Systems assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.

APPENDIX D

BIOIMPACT, INC.
P.O. BOX 132 KINGSHILL
ST. CROIX, U.S. VIRGIN ISLANDS 00851
bioimpact@islands.vi Bioimpact.islands.vi@gmail.com
340 690 8445 fax 340 718 3800

April 21, 2023

Sean Krigger
Director
David Brewer
Senior Archeologist
Department of Planning & Natural Resources
Virgin Islands State Historic Preservation Office
Fort Frederik, 198 Strand Street
Frederiksted, St. Croix, Virgin Islands 00840

Re: Demolition of the WTJX Radio Station

Dear Mr. Krigger and Mr. Brewer,

The WTJX has been awarded funds from FEMA to demolish the WTJX Radio Station on Haypiece Hill which was destroyed by Hurricanes Irma and Maria in 2017. The WTJX Radio Station is located on the crest of Haypiece Hill on the south shore of St. Thomas, approximately 1.5 miles southwest of the town of Charlotte Amalie. The radio station is located at 18.330323° N latitude and -64.958155°W longitude on Parcels 158 and 158A Haypiece Hill, Southside Quarter, St. Thomas, U.S. Virgin Islands.



The proposed action is to demolish all the existing buildings including the roof structure, exterior and interior walls, windows, doors, floors, and floor slabs. And to demolish all building utilities, piping ductwork, electrical fixtures and debris down to soil. The plan proposes to removal all concrete decking, sidewalks, and steps to grade and to remove the existing retaining walls, and the concrete and asphalt parking areas. The removal of the existing diesel fuel and wastewater storage building structures and infrastructure and the complete demolition of the existing satellite antenna equipment, their foundations and slabs.

This action constitutes an undertaking under Section 106 of the National Historic Preservation Act 1966, as amended (54 U.S.C. § 300101 et seq.).

As that the project only involves activities in previously developed areas WTJX respectfully request your concurrence that the project will have no impact on historical or archeological resources.

Please let me know if you require any additional information and I look forward to your earliest reply. Thank you very much for your attention to this matter.

Respectfully submitted,

A blue ink handwritten signature, appearing to read 'Amy Claire Dempsey', with a long horizontal flourish extending to the right.

Amy Claire Dempsey, M.A.
President, Bioimpact, Inc.

BIOIMPACT, INC.
P.O. BOX 132 KINGSHILL
ST. CROIX, U.S. VIRGIN ISLANDS 00851
bioimpact@islands.vi Bioimpact.islands.vi@gmail.com
340 690 8445 fax 340 718 3800

April 21, 2023

Felix Lopez
US Fish and Wildlife Service
Caribbean Ecological Services FO
San Juan, Puerto Rico

Re: Demolition of the WTJX Radio Station

Dear Dr. Angeli,

The WTJX has been awarded funds from FEMA to demolish the WTJX Radio Station on Haypiece Hill which was destroyed by Hurricanes Irma and Maria in 2017. The WTJX Radio Station is located on the crest of Haypiece Hill on the south shore of St. Thomas, approximately 1.5 miles southwest of the town of Charlotte Amalie. The radio station is located at 18.330323° N latitude and -64.958155°W longitude on Parcels 158 and 158A Haypiece Hill, Southside Quarter, St. Thomas, U.S. Virgin Islands.



The proposed action is to demolish all the existing buildings including the roof structure, exterior and interior walls, windows, doors, floors, and floor slabs. And to demolish all building utilities, piping ductwork, electrical fixtures and debris down to soil. The plan proposes to removal all concrete decking, sidewalks, and steps to grade and to remove the existing retaining walls, and the concrete and asphalt parking areas. The removal of the existing diesel fuel and wastewater storage building structures and infrastructure and the complete demolition of the existing satellite antenna equipment, their foundations and slabs.

The property is located on top of a knoll top on the Haypiece Hill peninsula. The knoll has large areas of forested slope that have not been alter in more than 70 years. The knoll has been slowly developing with industrial type uses, warehouses, heavy equipment storage and cement plants. The area around the station remains densely vegetated. The demolition will be focused on the existing structures, hardscape and utilities, this however will result in the loss of all species within planters or beds within the developed area and of plants that are immediately adjacent to

the structure due to the use of heavy equipment. All large trees around the perimeter of the site will be marked and protected. Clearing of natural flora will be minimal and will have a negligible impact.

During the surveys no mammals were seen. Birds seen on the property include Zenaida dove (*Zenaida aurita*), common ground dove (*Columbina passerina*) and gray kingbird (*Tyrannus dominicensis*). Reptiles were abundant and tree anoles (*Anolis cristatellus*), grass anoles (*Anolis pulchellus*), barred anoles (*Anolis stratulus*), dwarf geckos (*Thecadactylus sp.*), and common ground lizards (*Sphaerodactylus macrolepis*) were seen around the building and in the forested areas surrounding the buildings and satellite dishes. The Virgin Islands tree boa (*Chilabothrus granti*) could possibly be present but was not seen during the survey. There is sufficient interdigitation in the surrounding forested areas and there is adequate prey base. There are a few lizards and possibly boas in the ruins or debris, it is likely these species will move into the forested areas as site disturbance begins. There is sufficient habitat surrounding the ruins for these boas.

The project will not be clearing areas which were not previously developed as part of the demolition. However, it is possible that VI Tree Boas could be found in the damaged building and debris around the site there for we think a training session should be held with the Division of Fish and Wildlife prior to the start of demolition so workers can be informed about the boas and what to do if they are encountered. Education regarding the Tree Boas will help minimize impact to these species if they are encountered.

We believe that if during the demolition clearing is limited to that required to demolition the existing structures and if people working on the site are educated regarding the VI Tree Boas, the demolition may affect but is not likely to adversely affect the VI Tree Boa. We respectfully request your concurrence with this determination.

Please let me know if you require any additional information and I look forward to your earliest reply. Thank you very much for your attention to this matter.

Respectfully submitted,



Amy Claire Dempsey, M.A.
President, Bioimpact, Inc.

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April 21, 2023

Nicole F. Angeli, PhD.
Director
Department of Planning & Natural Resources
Division of Fish and Wildlife
Frederiksted, St. Croix, Virgin Islands 00840

Re: Demolition of the WTJX Radio Station

Dear Dr. Angeli,

The WTJX has been awarded funds from FEMA to demolish the WTJX Radio Station on Haypiece Hill which was destroyed by Hurricanes Irma and Maria in 2017. The WTJX Radio Station is located on the crest of Haypiece Hill on the south shore of St. Thomas, approximately 1.5 miles southwest of the town of Charlotte Amalie. The radio station is located at 18.330323° N latitude and -64.958155°W longitude on Parcels 158 and 158A Haypiece Hill, Southside Quarter, St. Thomas, U.S. Virgin Islands.



The proposed action is to demolish all the existing buildings including the roof structure, exterior and interior walls, windows, doors, floors, and floor slabs. And to demolish all building utilities, piping ductwork, electrical fixtures and debris down to soil. The plan proposes to removal all concrete decking, sidewalks, and steps to grade and to remove the existing retaining walls, and the concrete and asphalt parking areas. The removal of the existing diesel fuel and wastewater storage building structures and infrastructure and the complete demolition of the existing satellite antenna equipment, their foundations and slabs.

The property is located on top of a knoll top on the Haypiece Hill peninsula. The knoll has large areas of forested slope that have not been alter in more than 70 years. The knoll has been slowly developing with industrial type uses, warehouses, heavy equipment storage and cement plants. The area around the station remains densely vegetated. The demolition will be focused on the existing structures, hardscape and utilities, this however will result in the loss of all species

within planters or beds within the developed area and of plants that are immediately adjacent to the structure due to the use of heavy equipment. All large trees around the perimeter of the site will be marked and protected. Clearing of natural flora will be minimal and will have a negligible impact.

During the surveys no mammals were seen. Birds seen on the property include Zenaida dove (*Zenaida aurita*), common ground dove (*Columbina passerina*) and gray kingbird (*Tyrannus dominicensis*). Reptiles were abundant and tree anoles (*Anolis cristatellus*), grass anoles (*Anolis pulchellus*), barred anoles (*Anolis stratulus*), dwarf geckos (*Thecadactylus sp*), and common ground lizards (*Sphaerodactylus macrolepis*) were seen around the building and in the forested areas surrounding the buildings and satellite dishes. The Virgin Islands tree boa (*Chilabothrus granti*) could possibly be present but was not seen during the survey. There is sufficient interdigitation in the surrounding forested areas and there is adequate prey base. There are a few lizards and possibly boas in the ruins or debris, it is likely these species will move into the forested areas as site disturbance begins. There is sufficient habitat surrounding the ruins for these boas.

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We believe that if during the demolition clearing is limited to that required to demolition the existing structures and if people working on the site are educated regarding the VI Tree Boas, the demolition may affect but is not likely to adversely affect the VI Tree Boa. We respectfully request your concurrence with this determination.

Please let me know if you require any additional information and I look forward to your earliest reply. Thank you very much for your attention to this matter.

Respectfully submitted,



Amy Claire Dempsey, M.A.
President, Bioimpact, Inc.

BIOIMPACT, INC.

P.O. BOX 132

KINGSHILL, ST. CROIX

U.S. VIRGIN ISLANDS 00851

PHONE NUMBER: (340) 690-8445

FAX NUMBER: (340) 718-3800

EMAIL: bioimpact@islands.vi, bioimpact.islands.vi@gmail.com

QUALIFICATION STATEMENT

Bioimpact, Inc. is a Virgin Islands corporation that has been licensed to do business in the USVI since 1986.

Bioimpact, Inc. is qualified to conduct and prepare both terrestrial and marine Environmental Assessment Reports required by the U.S. Virgin Islands Department of Planning and Natural Resources (DPNR), Division of Coastal Zone Management (CZM), and the U.S. Army Corps of Engineers (USACE).

Bioimpact, Inc. has wetland delineators certified by the National Wetland Science Training Cooperative to establish wetland jurisdictional limits for the USACE.

Bioimpact, Inc. is experienced in the creation and implementation of wetland mitigation programs.

Bioimpact, Inc. is experienced in developing and implementing marine water quality monitoring programs and long-term monitoring of the benthic environment.

Bioimpact, Inc. has water samplers and analysts certified by the DPNR Division of Environmental Protection (DEP).

Bioimpact, Inc. has successfully designed and implemented large scale coral and seagrass transplant programs.

Bioimpact, Inc. is experienced in cable landfall studies and the establishment of routes for undersea cables and monitoring of cable installations to minimize impact.

Bioimpact, Inc. is experienced in conducting endangered species surveys including corals listed under the Endangered Species Act (ESA) and terrestrial flora and fauna species surveys.

Bioimpact, Inc. is experienced in preparing Biological Assessments for the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS).

Bioimpact, Inc. is experienced in the transplant and monitoring of ESA-listed corals, as authorized under “Take Permits” from NMFS.

Bioimpact, Inc. is experienced in preparing Environmental Assessments for federal permitting and for federal issuance of a Finding of No Significant Impact (FONSI).

Bioimpact, Inc. is experienced in conducting Phase I Environmental Site Assessments as set forth in the ASTM International Standard Practice Designation E1527-21 and All Appropriate Inquires and Phase II Environmental Site Assessments as set for in ASTM E1903-11.

Bioimpact, Inc. is experienced in the development and implementation of sampling plans to detect and delineation hazardous materials and petroleum products.

Bioimpact, Inc. is experienced in conducting deep water remotely operated vehicle (ROV) surveys up to 1,250 feet and has all the necessary equipment to undertake these studies.

Bioimpact, Inc. has conducted environmental studies in the U.S. Virgin Islands, Puerto Rico, British Virgin Islands, as well as other parts of the Caribbean and in the Florida Keys.

PARTIAL JOB LIST
Updated March 31, 2022

MONITORING LARGE SCALE PROGRAMS

- 2021 – Present** Watershed and Stormwater Sampling on St. Croix and St. Thomas as a Subcontractor to Watershed Consulting Associates LLC.
- 2021 – Present** Development and Implementation of a Water Quality and Environmental Monitoring Plan for Construction of a Private Dock in Chocolate Hole, St. John.
- 2021 – Present** Development and Implementation of a Water Quality Monitoring Plan for the Reconstruction of the Marriott Frenchman’s Reef Dock and Minor Dredging.
- 2020 – Present** Monitoring for the Virgin Islands Tree Boa at the Donoe Housing Redevelopment Site.
- 2019 – Present** Development and Implementation of the Water Quality and Environmental Monitoring Plan for the Installation of a Single Point Mooring at Limetree Marine Terminals, St. Croix.
- 2013 – Present** U.S. Virgin Islands Ambient Water Quality Monitoring Program, Sampling for St. Croix.
- 2018 – 2021** Development and Implementation of the Water Quality and Environmental Monitoring Plan for the Construction of the Veterans Drive Project on St. Thomas for the U.S. Virgin Islands Department of Public Works (VIDPW).
- 2016** Development and Implementation of the Water Quality Monitoring Plan for the West Indian Company Limited (WICO) Emergency Bulkhead Replacement on St. Thomas.
- 2014 – 2018** Development and Implementation of the Environmental Monitoring Plans for the Conversion of U.S. Virgin Islands Water and Power Authority (VIWAPA) to Liquid Petroleum Gas (LPG) for Vitol on St. Croix and St. Thomas.
- 2014 – 2018** Development and Implementation of the Environmental Monitoring Plans for the Creation of a Dolphin Exhibit at Coral World (VI), Inc. on St. Thomas.
- 2013 – 2018** Development and Implementation of the Water Quality and Environmental Monitoring Related to the Dredging of the Crown Bay Marine Terminal and Turning Basin on St. Thomas.
- 2013 – Present** Development and Implementation of the Monitoring Plans for the VIDPW’s Improvements to Veterans Drive on St. Thomas.

- 2013 – 2018** Development and Implementation of the Monitoring Plans for the U.S. Virgin Islands Port Authority's (VIPA) Maintenance Dredging of Crown Bay Marina on St. Thomas.
- 2013 – 2018** Development and Implementation of Monitoring Plans for the Westin Resort's Dock Permit and Improvements of Stormwater Drainage on St. John.
- 2013 – 2015** Implementation and Monitoring of a Wetland Created as Mitigation for the Development of the U.S. Virgin Islands Waste Management Authority's (VIWMA) Transfer Station on St. Croix.
- 2012 – 2018** Development and Implementation of the Monitoring Plans for the Virgin Islands Next Generation Network's (viNGN) Fiber Optic Cable System in the USVI.
- 2011 – 2019** Development and Implementation of a Water Quality and Environmental Monitoring Plan to Assess Impacts of an Increase in Discharge from the Marriott Frenchman's Reef Hotel on St. Thomas.
- 2010 – 2012** Development of the Water Quality and Environmental Monitoring Program for the Development of Thatch Cay with a Special Emphasis on ESA-listed Corals.
- 2009 – 2015** Environmental Monitoring for the Development of Oil Nut Bay and the Yacht Club Costa Smeralda (YCCS) for Victor International on Virgin Gorda, British Virgin Islands (BVI).
- 2009 – 2010** Development and Implementation of a Water Quality Monitoring Plan for the Construction of the Dock at Frenchman's Cove for Marriott Vacation Club, Inc on St. Thomas.
- 2009** Establishment of the Baseline for the Dredging of Charlotte Amalie Harbor and Entrance Channel, and the and the Disposal of Dredged Materials in the Historic Dredging Hole in Lindbergh Bay, St. Thomas for WICO.
- 2008 – 2009** Environmental Monitoring of the Development of Scrub Island in the BVI for Mainsail Lodging and Development.
- 2007 – 2010** Water Quality Monitoring for the Development of the Calabash Boom Affordable Housing Complex for Reliance Housing in Estate Calabash Boom on St. John.
- 2007 – 2009** Water Quality and Environmental Monitoring for Flamboyant Real Estate of a Subdivision of Seventy-seven Acres in Hansen Bay, St. John.
- 2006 – 2008** Water Quality Monitoring for the Dredging of a Sand Channel in St. Croix for VIWAPA.

- 2006 – 2007** Water Quality Monitoring for the Renovations of the Ritz-Carlton Hotel on St. Thomas for the Ritz-Carlton.
- 2006 – 2010** Environmental Monitoring for the Placement of Undersea Cables at the Global Crossing Cable Station in St. Croix for Global Crossing Network, Alcatel, and Tyco Electronics Subsea Communications (now SubCom).
- 2005 – 2007** Water Quality Monitoring for the Dredging of Crown Bay, St. Thomas for VIPA.
- 2005 – 2006** Water Quality and Environmental Monitoring for Improvements to the Redhook Marine Terminal for VIPA.
- 2004 – 2011** Water Quality and Environmental Monitoring for the Construction of the Pond Bay Resort for First American Development Group on St. John.
- 2004** Benthic Habitat Survey of Crown Bay and Gregerie Channel to Supplement the USACE Feasibility Report for VIPA.
- 2003 – 2006** Water Quality Monitoring for the Construction of the Enighed Pond Marine Terminal on St. John for VIPA.
- 2003 – 2004** Water Quality Monitoring for the Development of the Crown Bay Marine Terminal on St. Thomas for VIPA.
- 2002 – 2008** Water Quality and Environmental Monitoring for the Development of Marine Amenities on the Island of Lovango for the Joseph Markus Trust.
- 2002 – 2005** Water Quality Monitoring for the Improvements to the Gallows Bay Marine Terminal on St. Croix for VIPA.
- 2001 – 2008** Coral Transplant Monitoring for the Enighed Pond Marine Terminal on St. John for VIPA.
- 2001 – 2006** Coral Transplant Monitoring for the Mangrove Lagoon Sewage Treatment Plant Outfall on St. Thomas for VIDPW.
- 2001 – 2002** Water Quality Monitoring for Improvements to the Tropical Shipping Dock in Crown Bay, St. Thomas for Meisner Marine.
- 2000 – 2006** Seagrass Transplant Monitoring of the Seagrass Transplanted for the Dredging of Charlotte Amalie Harbor on St. Thomas for VIPA.
- 2000 – 2003** Water Quality Monitoring for the Dredging of Charlotte Amalie Harbor on St. Thomas for VIPA.

- 1999 – 2006** Water Quality Monitoring for Repairs to the Frederiksted Pier on St. Croix for VIPA.
- 1999 – 2002** Water Quality Monitoring for the Construction of Cable Stations at Estate Northside on St. Croix for Global Crossings.
- 1997 – 2005** Development of a Water Quality Monitoring Program for the Construction of the Christiansted Boardwalk on St. Croix Prepared for the Government of the U.S. Virgin Islands.
- 1997 – 2005** Wetland Monitoring of the Tren Urbano, Puerto Rico (PR) 5 and PR 22 Mitigation Sites under Subcontract to Nutter & Associates, Inc. for the Puerto Rico Highway Authority.
- 1997 – 2002** Wetland Monitoring of the Airport Mitigation Site at the Henry E. Rohlsen Airport on St. Croix for VIPA.
- 1997 – 2002** Wetland Monitoring for the Fairplains Mitigation Site at the Henry E. Rohlsen Airport on St. Croix for VIPA.
- 1996 – 1998** Water Quality Monitoring for the Expansion of the Molasses Pier at the Third Port on St. Croix for the VIPA.
- 1996** Development and Implementation of a Water Quality Monitoring Program for the Expansion of, and Improvements to, the Redhook Marine Terminal on St. Thomas for VIPA.
- 1996** Development and Implementation of a Water Quality Monitoring Program for the Creation of the Enighed Pond Marine Terminal on St. John Prepared for the Maguire Group, Inc. and VIPA.
- 1995** Water Quality Monitoring for the Construction of the AT&T Cable Landing Facility in Estate Northside, St. Croix for AT&T Submarine Systems.
- 1992 – 1994** Development and Implementation of a Water Quality Monitoring Program for the Reconstruction of the Frederiksted Pier on St. Croix for VIPA.
- 1992 – 1993** Conducted a Baseline Assessment and Developed a Long-term Monitoring Plan for VIWAPA of the Benthic Community Potentially Impacted the Outfall from the Richmond Power Plant on St. Croix
- 1992 – 1993** Development and Implementation of a Monitoring Plan to Study Algal Blooms within the Alumina Cooling Pond Discharge and Strategies to Alleviate Runoff for V.I. Alumina Corporation LLC (VIALCO) on St. Croix.

1990 – 1992 Water Quality Monitoring for Dredging Christiansted Harbor on St. Croix for VIPA.

1989 Development and Implementation of a Turtle Monitoring Program for Manchineel Beach on St. Croix.

LARGE SCALE MITIGATION PROGRAMS

- 2021 – Present** Removal and Relocation of 209 Corals for the U.S. Coast Guard Aids to Navigation (ATON) Replacement Project on St. Croix and Routine Monitoring of a Subset of Corals.
- 2020 – Present** Development and Implementation of the Compensatory Mitigation Plan for the Transplant of 1,700 corals, the Repair of 500 Corals of Opportunity, and the Outplanting of 3,000 ESA-listed corals for Limetree Bay Terminal’s Single Point Mooring on St. Croix.
- 2018 – Present** Development and Implementation of a Compensatory Mitigation Plan for the Relocation of 1.25 Acres of Seagrass and 631 Corals from the Impact Footprint of the Veterans Drive Project on St. Thomas, and the Repair of Damaged Corals on Triangle Reef for VIDPW.
- 2016 – 2020** Development and Implementation of a 190-Coral Transplant for the Stabilization of the Seawater Intake Line for the Marriott Frenchman’s Reef Hotel on St. Thomas.
- 2016 – 2020** Development and Implementation of a Coral Transplant to Minimize the Impacts of Construction for LPG Improvements at VIWAPA Facilities on St. Croix and St. Thomas.
- 2015 – 2021** Development and Implementation of the Mitigation Plan for the Relocation of 10,000 Corals Off the WICO Bulkhead in Havensight for WICO on St. Thomas.
- 2014 – Present** Development and Implementation of a Coral and Seagrass Transplant for Coral World (VI), Inc. in Association with the Development of the Dolphin Exhibit on St. Thomas; 250 Corals were Transplanted and More Than 500 Corals were Repaired after the 2017 North Atlantic Hurricane Season.
- 2014 – 2019** Development and Implementation of the Mitigation Plans for VIPA’s Maintenance Dredging of Crown Bay Marina on St. Thomas.
- 2013 – 2018** Development and Implementation of the Mitigation Plans for the Westin Resort’s Dock Permit and Improvements of Stormwater Drainage on St. John.
- 2013 – 2015** Creation of a Herbaceous Wetland for VIWMA as Mitigation for the Construction of the Transfer Station at the Anguilla Landfill on St. Croix.
- 2009** Transplantation of 300 Corals for Victor International Coral for Impacts Associated with the Development of an Access Ramp and Dock at Oil Nut Bay in the BVI.

- 2008 – 2009** Transplantation of 3,000 Corals for Mainsail Lodging and Development for Impacts Associated with the Development of the Scrub Island Resort in the BVI.
- 2006 – 2011** Planting of 1 Acre of Mangrove Wetland for VIDPW as Mitigation for the Construction of the Mangrove Lagoon Sewage Treatment Plant on St. Thomas.
- 2003 – 2008** Planting of 2.8 Acres of Mangrove Wetland for VIPA as Compensatory Mitigation for the construction of the Enighed Pond Terminal on St. John.
- 2003 – 2008** Removal and Relocation of 3,000 Corals Outside the Area of Impact for the Development of the Crown Bay Marine Terminal on St. Thomas for VIPA.
- 2002 – 2007** Development and Implementation of the Mitigation Plans for VIPA’s Dredging of Crown Bay Marine Terminal and Turning Basin on St. Thomas.
- 2002 – 2007** Transplantation of 50,000 Corals for VIPA Outside the Area of Impact for the Enighed Pond Marine Terminal Project on St. John.
- 2002** Creation of Artificial Coral Reefs and *Acropora spp.* Thickets for Joseph Markus Trust as Mitigation for the Construction of a Barge Landing Facility on the Island of Lovango.
- 2000 – 2005** Transplantation of 2 Acres of Seagrass for VIPA to an Area Outside the Dredging Footprint of the Charlotte Amalie Harbor on St. Thomas.
- 2000 – 2001** Transplantation of 7,000 Corals for VIDPW Outside of the Area of Impact for the Placement of the Mangrove Lagoon Sewage Treatment Plant Outfall on St. Thomas.
- 1999 – 2004** Transplantation of 300 Corals for VIPA Outside the Area of Impact for the Mooring Improvements to the Frederiksted Pier on St. Croix.
- 1997 – 2003** Planting of ½ Acres of Mangroves for VIPA/VIDPW as a Mitigation Project for the Construction of the Molasses Dock Road on St. Croix.
- 1997 – 2002** Creation of a 1-Acre Herbaceous Wetland for VIPA as Mitigation for Henry E. Rohlsen Airport Construction on St. Croix.
- 1997 – 2002** Development of a Mitigation Plan for VIPA for the Creation of a 16,000-square Foot Wetland at Manning Bay to Address the Impact Incurred in Fairplains Gut on St. Croix.
- 1996** Development of a Mitigation Plan for VIPA for the Creation of 4.1 Acres of Wetland as Mitigation of the South Shore Power Plant, Third Port on St. Croix.

1994 Development of a Mitigation Plan for Green Cay Resort for the 12 Acres of Wetland Impacted by the Construction of the Resort on St. Croix.

ENVIRONMENTAL ASSESSMENT REPORTS
2020– PRESENT

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement most of the environmental assessment reports listed.

Water Island Development, Water Island Development Corporation, Environmental Assessment Report for the Development of a Resort and Marina, Water Island

Villa Olga Shoreline Revetment, Olga’s Fancy, Environmental Assessment Report for the Restoration and Revetment of the Shoreline, St. Thomas

Expansion of Yacht Haven Grande Marina, IGY, Environmental Assessment Report for the Expansion of the Existing Yacht Haven Grande Marina, St. Thomas

Sapphire Bay Marina Dredging and Installation of Sargassum Barriers and Shoreline Revetment, SBMCOA, LLC, Environmental Assessment Report for Dredging of the Marina, Revetment of the Shoreline, and Installation of Sargassum Barriers, St. Thomas

Ritz-Carlton Shoreline Preservation Plan, Ritz-Carlton Club, Assessment Report for the Installation of Sargassum Barriers and Geotubes, St. Thomas

St. Croix Yacht Club, St. Croix Yacht Club, Environmental Assessment Report to Permit the Existing Facility and to Allow for Repair and Maintenance, St. Croix

Container Port, Golden Grove and Midland Road Underground Projects, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of Underground Power Systems to Improve Resiliency, St. Croix.

Flamingo Bay Eco-Resort, BBK Development, Environmental Assessment Report for the Development of the Small Eco-Resort, Water Island.

Pearl Landfill and Recycling Facility, V.I. Waste Management Authority, Environmental Assessment Report for the Development of a Solid Waste Facility in Estate Pearl, St. Croix.

Charlotte Amalie Harbor Dredging, V.I. Port Authority, Environmental Assessment Report and HUD Environmental Assessment for the Dredging of the Charlotte Amalie Harbor Channel, Turning Basin, and WICO Inner Berth, St. Thomas.

Crown Bay and East Gregory Channel Dredging, V.I. Port Authority, Environmental Assessment Report and HUD Environmental Assessment for the Dredging of Portions of Crown Bay and East Gregory Channel, St. Thomas.

Frenchman's Reef and Morningstar, Beach Enhancement and Shoreline Stabilization, CREF3 (Formerly Diamond Rock), Environmental Assessment Report for the Revetement of the Shoreline, the Installation of Offshore Breakwaters and Sand Renourishment, St. Thomas.

Emergency Response Dock and Shoreline Revetment at the Harley Plant, V.I. Water and Power Authority, Environmental Assessment Report for the Construction of an Emergency Fuel Spill Response Dock and the Revetment of the Eroded Shoreline, St. Thomas.

Consolidated Permit for Randolph E. Harley Power Plant, V.I. Water and Power Authority, Environmental Assessment Report to Bring All Components into Compliance including those Pre-dating CZM, St. Thomas.

Underwater Memorial Park, Virgin Islands Underwater Memorial Park, Environmental Assessment Report for the Creation of an Underwater Park to Intern Ashes into Reef Building Structures, St. Thomas.

Mooring and Operation of a Bar and Restaurant in the Pillsbury Sound, Cowgirl Bebop, LLP, Environmental Assessment Report for the Installation of Moorings for Vessels and Patrons in the Pillsbury Sound, St. John.

Cruz Bay Underground, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of an Underground Power Cable System in Cruz Bay Feeder 7E, St. John.

Tropical Marine Expansion, Tropical Marine, Environmental Assessment Report to Combine Docks at Mangrove Marine and Off Plot 28 and the Expansion of the Existing Dock, St. Thomas.

Limetree Resort, Wyndham Bluebeard's Beach Club, Environmental Assessment Report for the Renovation and Expansion of the Existing Limetree Resort, St. Thomas.

Repair to Cruz Bay Visitor Center, Docks, and Surrounding Grounds Impacted by Hurricanes Irma and Maria, Croft Engineering/National Park Service, Environmental Assessment Report for Dredging the Basin and Repairs to the Bulkhead and Renovation and Upgrades to the Existing Visitor Center, St. John.

Latitude 18 Marina, Jack Rock EA-C LLC, Environmental Assessment Report for the Development of a Marina and Management of a Mooring Field and Dry Storage for Vessels, St. Thomas.

Green Cay Marina, St. Croix Financial Center, Environmental Assessment Report for the Expansion of the Existing Marina, Maintenance Dredging, and Beach and Shoreline Improvements, St. Croix.

King Christian Dock, USVI Opportunity Fund LLC, Environmental Assessment Report for the Reconstruction and Expansion of a Hurricane-Damaged Dock, St. Croix.

Renovations and Expansion of an Existing Dock, Inter-Island Ferry Service, Environmental Assessment Report for the Expansion and Extension of an Existing Dock to Better Accommodate Vessel Dockage, St. Thomas.

Repair of a Hurricane Damaged Dock, Margaritaville, Environmental Assessment Report for the Reconstruction of the Damaged Dock (modified to include a reverse osmosis line extension), St. Thomas.

Boat Building Facility and Dock, Gold Coast Yacht, Inc., Environmental Assessment Report for a Boat Building Warehouse and a Launch and Outfitting Dock, St. Croix.

Turquoise Bay Resort, VIPM LLC, Environmental Assessment Report for a Glamping Resort and Restaurant, St. Croix.

Christiansted National Historic Site Existing Wharf Replacement, HDR, Inc. and National Park Service, Environmental Assessment Report for the Replacement of the Failing Sheet Pile Wall and Bulkhead (and Acoustic Monitoring Plans), St. Croix.

Lovango Cay Beach Club and Resort, Lovango Island Holdings LLP, Environmental Assessment Report to Permit the Development of a Beach Club and Resort and Mooring Installation, Lovango Island.

Wave Attenuation System, LSJ LLC, Environmental Assessment Report for the Installation of Wave Attenuation Systems, Little St. James.

Installation of Access Docks, and Barge Landing Facility, Great St. James, Great St. Jim LLC. Environmental Assessment Report for the Development of a New Dock, the Renovation of an Existing Dock, and the Construction of a Barge Landing, Great St. James.

Installation of a Single Point Mooring at the Limetree Bay Terminal on St. Croix, Limetree Bay Terminals LLC, Environmental Assessment Report for the Installation of an Undersea Pipeline, Pipeline End Manifold (PLEM), and Buoy System at a Depth of 650 Feet, St. Croix.

St. Croix Sports Complex, Coastal Systems, Environmental Assessment Report for the Construction of the Paul. E. Joseph Stadium, Wetland Delineations, and Endangered Terrestrial and Marine Species Assessments (and Development of a Sea Turtle Lighting Mitigation Plan), St. Croix.

Installation of a Submarine Cable System, V.I. Water and Power Authority, Environmental Assessment Report for Submarine Cable Routing and Beach Landfall, St. Thomas.

Maintenance Dredging of Krause Lagoon Channel, V.I. Port Authority, Environmental Assessment Report for the Dredging of the Cross-Channel into the Container Port and Molasses Dock, St. Croix.

Installation of New Reverse Osmosis Discharge and Intake Line, Westin Resort, Environmental Assessment Report for the Installation of a Saltwater Intake Line Over 2000 Feet Offshore, St. John.

Shoreline Stabilization Project for Buccaneer Hotel, The Buccaneer, Environmental Assessment Report for the Placement of a Shoreline Stabilization Structure to Protect the Eroding Shoreline, St. Croix.

VIWAPA's Conversion to LPG, VITOL and V.I. Water and Power Authority, Environmental Assessment Report for the Installation of LPG conversion Equipment and Fuel Dock Expansion (and Offshore Deep-Water Buoy Permit for LPG Ships), St. Croix and St. Thomas.

ENVIRONMENTAL ASSESSMENT REPORTS 2014 – 2019

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement many of the environmental assessment reports listed.

viNGN Submarine Cable Network, Alcatel-Lucent for viNGN, Environmental Assessment Report for the Installation of an Inter-Island Cable System (including a Cable Beach Routing and Landfall Study), U.S. Virgin Islands.

Improvements to the Frederiksted Pier, V.I. Port Authority, Environmental Assessment Report for the Installation of a New Tender Landing, St. Croix.

Improvements to the Red Hook Marine Terminal, V.I. Port Authority, Environmental Assessment Report for the Construction of a New Customs Building and Shoreline Improvements, St. Thomas.

Offshore Windmills, Ocean Energy, Inc., Environmental Assessment Report for the Installation of Offshore Turbines, a Submarine Cable, and Cable Landing (including a Bird Study), St. Thomas.

St. John Marina, Summers End Group, Environmental Assessment Report for the Development of a Marina and Associated Upland Facilities, St. John.

Maintenance Dredging of the Schooner Channel, V.I. Port Authority and HUD/V.I. Housing and Finance Authority (VIHFA), Environmental Assessment Report for the Dredging of the Schooner Channel (including an Evaluation of Alternative Alignments), St. Croix.

Remediation of Hydrocarbon Contamination at the V.I. Seaplane Ramp, V.I. Port Authority, Environmental Assessment Report for the Installation of Restorative Sheet Piles to Restore (and

the Containment of Hydrocarbon-contaminated Soil from a Leaking Underground Storage Tank [LUST]), St. Croix.

Maintenance of the Existing Bulkhead and Maintenance Dredging of Charlotte Amalie Harbor, CH2M Hill and WICO, Environmental Assessment Report for the Replacement of the Sheet Pile in the Inner Berth (including the Development of a Coral Transplant Mitigation Plan), St. Thomas.

ENVIRONMENTAL ASSESSMENT REPORTS

2009 – 2013

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement each of the environmental assessment reports listed.

Dredging of Crown Bay Marine Terminal and Turning Basin, V.I. Port Authority, Environmental Assessment Report for the Dredging of the Crown Bay Marine Terminal and Basin, St. Thomas.

Maintenance Dredging of Crown Bay Marina, V.I. Port Authority, Environmental Assessment Report for the Dredging of Crown Bay Marina (including a Seagrass and Coral Mitigation Plan), St. Thomas.

Improvements to Bordeaux Road, V.I. Department of Public Works and Federal Highway Administration in Collaboration with Parsons Brinkerhoff, Environmental Assessment Report for a Finding of No Significant Impact, St. Thomas.

Improvement to Spring Gut Road, V.I. Department of Public Works and Federal Highways Administration in Collaboration with Stanley Engineer, Environmental Assessment Report for Improvements to Spring Gut Road for a Finding of No Significant Impact, St. Croix.

Coral World's Dolphin Exhibit, Coral World (VI), Inc., Environmental Assessment Report for the Construction of an Offshore Dolphin Pen and Viewing Dock (and ESA Corals Monitoring and Mitigation Plan), St. Thomas.

Expansion of the Spratt Bay Homeowners Dock (SBHOA), Spratt Bay Homeowner's Association, Environment Assessment Report for the Expansion of the SBHOA Dock, Water Island.

Expansion of Veterans Drive, V.I. Department of Public Works and Federal Highway Administration in Collaboration with Parsons Brinkerhoff, Environmental Assessment Report for a Finding of No Significant Impact and Drafting the USACE Statement of Findings, St. Thomas.

Chiller Cooling System, BaHaMar and HDR, Inc., Environmental Assessment Report for the Placement of a Saltwater Intake Line at the BaHaMar Resort, Grand Bahama.

Reverse Osmosis Facility, V.I. Water and Power Authority, Environmental Assessment Report for the Installation a New Reverse Osmosis Facility at the St. Thomas Power Plant, St. Thomas.

Submarine Power Cable, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Submarine Power Cable between the Islands of St. Thomas and St. John, Pillsbury Sound, St. Thomas and St. John.

Chiller System and Dock Repairs at the Marriott Frenchman's Reef, Diamond Rock, Environmental Assessment Report for the Installation of Saltwater Intake Line and Dock Repairs (and Larval Study for Intake), St. Thomas.

Expansion of Heavy Materials Krum Bay Facility, Heavy Materials St. Thomas, Environmental Assessment Report for the Expansion of Heavy Materials Concrete Facility in Krum Bay, St. Thomas.

Thirty-three-Megawatt Waste-to-Energy Plant, Alpine Energy Group, Inc., Environmental Assessment Report for the Construction of a 33-Megawatt Waste-to-Energy Plant (including Conducting a Survey of Endangered V.I. Tree Boas in the Area), St. Thomas.

Eighteen-Megawatt Waste-to-Energy Plant, Alpine Energy Group, Inc., Environmental Assessment Report for the Construction of an 18-Megawatt Waste-to-Energy Plans (including a Wetland Delineation), St. Croix.

Reverse Osmosis Facility on St. John, V.I. Water and Power Authority, Environmental Assessment Report for the Construction of a Reverse Osmosis Facility, St. John.

Seven Hills Development, Robin Bay Partners, Environmental Assessment Report for the Development of Seven Hills Residential Community (including a Wetland Delineation), St. Croix.

Improvements to the Molasses Dock, V.I. Port Authority, Environmental Assessment Report for Dredging and Improvements to the Molasses Dock Roll-on Roll-off Facility (and Mitigation Plan for the Mangrove Shoreline), St. Croix.

Dredging of the Charlotte Amalie Harbor Channel and the Filling of Lindbergh Bay, The West Indian Company Limited, Environmental Assessment Report for the Dredging and Widening of the Charlotte Amalie Harbor to Accommodate Oasis Class Ships at WICO Docks and the Disposal of Dredged Materials in the Historic Dredging Hole in Lindbergh Bay, St. Thomas.

Fueling Station, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Vehicle Fueling Station in the Richmond Plant Terminal Facility License, St. Croix.

ENVIRONMENTAL ASSESSMENT REPORTS
2005 – 2008

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement each of the environmental assessment reports listed.

Port of Mandahl, MSJ Realty, Environmental Assessment Report for the Development of the Marina and Resort in Estate Mandahl, St. Thomas.

North Sound Yacht Club, Victor International, Environmental Assessment Report for the Development of a Marina and Yacht Club in North South, Virgin Gorda, BVI.

Reconstruction of the Frenchman's Cove Dock, Marriott Vacation Club, Environmental Assessment Report for the Reconstruction and Expansion of a Damaged Dock in Charlotte Amalie Harbor, St. Thomas.

Thatch Cay Development, Thatch Cay LLC, Environmental Assessment Report for the Development of a Resort Community and Marine Infrastructure on Thatch Cay, St. Thomas.

Smith Bay Development, Smith Bay Developers, Inc., Environmental Assessment Report for a Condominium Complex, St. Thomas.

Subdivision of Great St. James, Christian Kejer, Environmental Assessment Report for The Development of a Residential Community on Great St. James including Marine Access Infrastructure, Great St. James Island, St. Thomas.

Subdivision of Inner Brass, Green Island Developers, Environmental Assessment Report for the Development of a Residential Community on Inner Brass including Marine Access Infrastructure, Inner Brass Island, St. Thomas.

Subdivision of Inner Brass, Bryan Family, Environmental Assessment Report for the Subdivision of Lots for a Residential Community on Inner Brass and the Development of a Dock for Access. Inner Brass Island, St. Thomas.

Cabrita Point, Cabrita Point Partners and Lionstone LLC, Environmental Assessment Report for the Development of a Resort Community, a Mitigation and Monitoring Plan for the Endangered V.I. Tree Boa and a Monitoring Plan for a Reverse Osmosis Intake Line, Dock and Swimming Platform, St. Thomas.

Subdivision of 77 Acres in Hansen Bay, St. John Flamboyant Realty, Environmental Assessment Report for the Development of Roads and a Subdivision in Hansen Bay, St. John.

Subdivision of 14 Acres in Hansen Bay, St. John Hansen Bay Development Group, Environmental Assessment Report for the Development of Roads, and a Subdivision in Hansen Bay (including a Wetland Delineation), St. John.

Expansions and Improvements to the Ritz-Carlton Hotel, William Karr and Associates, Environmental Assessment Report for the Expansion and Renovation of the Ritz-Carlton Hotel, St. Thomas.

Modification to Carden Beach Condominiums, TK Properties, Inc., Environmental Assessment Report for the Development of Zero Lot Line Homes at the Carden Beach Property, St. Croix.

Development of Betty's Hope, V.I. Port Authority, Environmental Assessment Report and Wetland Delineations for the Development of the South Shore Property for Commercial and/or Residential Use, St. Croix.

Expansion of the Compass Point Marina, Margate Management, Environmental Assessment Report for the Addition of Docks at the Compass Point Marina in Benner Bay, St. Thomas.

Improvements, Expansions and Maintenance of HOVENSA Petroleum Refinery, HOVENSA LLC, Environmental Assessment Reports for the 1) Construction of Maintenance Buildings and Replacement of Existing Stacks, 2) Construction of a Low Sulfur Fuels (LSF) Facility, 3) Construction of Modular Buildings, and 4) Construction of Housing in Estate Blessing (including Permitting of an Existing Borrow Pit), St. Croix.

Installation of a Permanent Barge Landing Facility on Lovango Cay, Joseph Markus Trust, Environmental Assessment Report for the Development of a Permanent Barge Landing Facility (including a Compensatory Mitigation Plan for Endangered Coral Species), Lovango Cay.

Barge Landing, Swim Dock and Beach Enhancement on Little St. James, LSJ LLC, Environmental Assessment Report for the Relocation of the Existing Barge Landing and the Construction of a Swim Dock and Beach Enhancing Devices, Little St. James.

Development of Affordable Housing in Calabash Boom, Reliance Housing, Environmental Assessment Report for the Development of Affordable Housing in Calabash Boom (and Territorial Pollutant Discharge Elimination System [TPDES] Permits), St. John.

Demineralized Water System and Storage Tank Upgrades, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a New Storage Tank and Demineralizer, St. Croix.

Development of a Pizza Bar and Miniature Golf Course, Divi Carina Bay Resort, Environmental Assessment Report for the Development of Amenities at the Divi Carina Bay Resort and Casino, St. Croix.

Placement of Fuel Pipelines on the Ann E. Abramson Pier, Royal Caribbean Cruise Lines, V.I. Port Authority, Environmental Assessment Report for the Installation of Fuel Lines on the Frederiksted Pier, St. Croix.

Development of a Marina and Related Infrastructure, Coral Bay Marina LLC, Environmental Assessment Report for the Dredging and Development of a Marina in Coral Bay (including an Alternative Analysis to Reduce Impacts for the USACE), St. John

Development of a Marine Mammal Encountered Facility, Coral World (VI), Inc., Environmental Assessment Report for the Development of a Sealion Encounter Facility, St. Thomas.

Improvements to The Randall “Doc” James Racetrack, TRAXCO, Environmental Assessment Report for Improvements to the “Doc” James Racetrack Facility (including Wetland Delineations), St. Croix.

Maintenance Dredging and the Permitting of Permanent Moorings, Westin Resort, Environmental Assessment Report for Maintenance Dredging of the Existing Channel and around the Dock, and Mooring Installations, St. John.

ENVIRONMENTAL ASSESSMENT REPORTS

2000 – 2004

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement each of the environmental assessment reports listed.

Compass Point Marina Expansion, Compass Point Marina in Collaboration with Springline Architects, Environmental Assessment Report for the Expansion of the Existing Compass Point Marina, St. Thomas.

Emergency Electrical Cable St. Thomas-St. John, V.I. Water and Power Authority, Environmental Assessment Report for the Placement of a New Submarine Power Cable between St. Thomas and St. John, St. Thomas.

Richmond Sand Channel Dredging, V.I. Water and Power Authority, Environmental Assessment Report for Maintenance Dredging of the Richmond Sand Channel, St. Croix.

Hassel Island Electrical Cable Replacement, V.I. Water and Power Authority Environmental Assessment Report for the Installation of a New Submarine Cable between St. Thomas and Hassel Island, St. Thomas.

Golden Resorts Golf Resort, Casino & Conference Center, Golden Resort, Environmental Assessment Report for the Development of Golden Resorts Golf Resort, Casino, and Conference Center (including a Wetland Delineation), St. Croix.

Crown Bay Marine Terminal Improvements, V.I. Port Authority in Collaboration with Adams, Inc., Environmental Assessment Report for Improvements to the Crown Bay Marine Terminal, St. Thomas.

Global Crossings Point of Presence, Global Crossings, Environmental Assessment Report for the Placement of a Point of Presence Communications Tower in Frederiksted, St. Croix.

Burial of Fiber Optic Cables, Innovative Telephone, Environmental Assessment Report for the Burial of Fiber Optic Cables on the North Shore, St. Croix.

Burial of Fiber Optic Cables on the West End of St. Croix, Innovative Telephone, Environmental Assessment Report for the Burial of Fiber Optic Cables on the West End, St. Croix.

Callaloo Club Blowing Point, Callaloo Club Peninsula, Environmental Assessment for the Development of a Marina on the Island of Anguilla, British West Indies.

Installation of a Waterline between St. Thomas and St. John, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Waterline between St. Thomas and St. John, St. Thomas.

Installation of a Submarine Cable to Little St. James, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Utility Line between St. Thomas and Little St. James, Little St. James.

South American Crossing Cable Station, Global Crossing, Environmental Assessment Report for the Construction of the South American Crossing Cable Station at Estate Northside, St. Croix.

Water Island Ferry Dock, V.I. Department of Public Works, Environmental Assessment Report for the Construction of a Ferry Dock on Water Island, Water Island.

CuisinArt Golf Resort & Spa Beach Enhancements, CuisinArt, Environmental Impact Assessment Report for Beach Renourishment, Anguilla, British West Indies.

Cinnamon Reef Resort, Cinnamon Reef, Environmental Impact Assessment Report for the Development of a Marine Facility, Anguilla, British West Indies.

Frederiksted Pier Improvements, V.I. Port Authority, Environmental Assessment Report for Improvements to the Existing Frederiksted Pier, St. Croix.

Construction of a Private Dock on Little St. James, LSJ LLC, Environmental Assessment Report for the Construction of a Private Dock on the Island of Little St. James, Little St. James.

Phase II of the Christiansted Boardwalk, Government of the Virgin Islands Environmental Assessment Report for Phase II of the Christiansted Boardwalk, St. Croix.

Construction of a Headquarters, Beal Aerospace, Environmental Assessment Report for the Construction of Beal Aerospace's World Headquarters in Estate Great Pond, St. Croix.

ENVIRONMENTAL ASSESSMENT REPORTS 1988 – 2000

Hurricane Damaged Dock Reconstruction, Divi Carina Bay Resort, Environmental Assessment Report for the Reconstruction of a Dock after Damage Associated with Hurricane Hugo at the Divi Carina Bay Resort and Casino, St. Croix.

Global Crossing Cable Terminal, Global Crossing, Environmental Assessment Report for the Construction of a Cable Terminal Building and Corridor for Eight Submarine Fiber Optic Cables (including a Landfall Study) in Frederiksted, St. Croix.

Construction of a Coker and Coker Dock at the HOVENSA Petroleum Refinery, HOVENSA LLC, Environmental Assessment Report for the Construction of a Coker and Coker Dock, St. Croix.

Frederiksted Pier Mooring Dolphin, V.I. Port Authority, Environmental Assessment Report for the Construction of a Mooring Dolphin at the Frederiksted Pier, St. Croix.

Seaplane Terminal, V.I. Port Authority, Environmental Assessment Report for the Development of a Seaplane Terminal at the Old Seaplane Ramp, St. Croix.

Forest Bay Marina, Forest Bay Group, Environmental Assessment Report for the Development of a Marina and Related Facilities in Forest Bay, Anguilla, British West Indies.

Dolphin Lagoon, META Resorts, Environmental Assessment Report for the Development of a Dolphin Lagoon at Meads Bay, Anguilla, British West Indies.

Construction of the Christiansted Boardwalk, Government of the Virgin Islands, Environmental Assessment Report for the Construction of a Boardwalk in Christiansted, St. Croix.

Runway Extension of the Henry E. Rohlsen Airport, V.I. Port Authority in Collaboration with LPA Group, Environmental Assessment Report for the Runway Extension at the Henry E. Rohlsen Airport, St. Croix.

Red Hook Marine Terminal Expansion, V.I. Port Authority, Environmental Assessment Report for the Expansion of the Red Hook Marine Terminal (including the Development and Implementation of Mitigation and Monitoring Plans), St. Thomas.

Enighed Pond Marine Terminal, V.I. Port Authority, Environmental Assessment Report for the Creation of the Enighed Pond Marine Facility (including the Development and Implementation of Mitigation and Monitoring Plans), St. John.

Submerged Land Renewal, Coral World (VI), Inc., Environmental Assessment Report for the Renewal of the Submerged Land Lease for the Coral World Facility, St. Thomas.

Construction of a Seawall, Cowpet Bay, Environmental Assessment Report for the Modification of an Existing Permit to Construct a Seawall, St. Thomas.

Riprap Revetment Installation, Watergate East Villas, Environmental Assessment Report for the Construction of a Rip-Rap Revetment, St. Thomas.

Improvements to the Fuel Dock, V.I. Water and Power Authority, Environmental Assessment Report for Improvements to the Fuel Dock at the Power Generating Facility, St. Thomas.

Subdivision of Estate Misgunst, La Domaine, Environmental Assessment Report for the Subdivision of 40 Acres of Land in Estate Misgunst, St. Thomas.

Expansion of the Alexander Hamilton Airport and Highway 64 Relocation, V.I. Port Authority, Environmental Assessment Report for the Expansion of the Alexander Hamilton Airport Terminal and Highway 64 Relocation (including a Wetland Delineation, and Development and Implementation of a Wetland Mitigation Plan), St. Croix.

AT&T Cable Landing Facility, AT&T, Environmental Assessment Report for the Cable Landing Facility at Estate Northside (including a Beach Landfall Study, a Cable Routing Study, and the Development of a Water Quality and Environmental Monitoring and Mitigation Plan), St. Croix.

Dredging of the Sand Channel, DEVCON, Environmental Assessment Report for the Dredging of the Christiansted Sand Channel, St. Croix.

Expansion of the Red Mud Storage Ponds, VIALCO, Environmental Assessment Report for the Expansion of the Red Mud Storage Ponds at the VIALCO Alumina Facility, St. Croix.

Stormwater Drainage System, VIALCO, Environmental Assessment Report for the Creation of a Stormwater Drainage System at the VIALCO Alumina Facility, St. Croix.

Permitting of a Caliche Mine, VIALCO, Environmental Assessment Report for the Mining of Caliche at the VIALCO Alumina Facility, St. Croix.

Molasses Dock Expansion, V.I. Port Authority Subcontracted by Frank Torrez, Environmental Assessment Report for the Molasses Dock Terminal at the Third Port Facility, St. Croix.

**ENVIRONMENTAL ASSESSMENT REPORTS (SELECTED)
1988 – 1993**

Beach Renourishment, St. Croix by the Sea, Environmental Assessment Report for a Beach Renourishment and Jetty Construction at St. Croix by the Sea, St. Croix.

Vieques Shrimp Farm, Vieques Shrimp Mariculture Project, Environmental Assessment Report for the Creation of a Shrimp Farm in Puerto Ferro, Vieques, Puerto Rico.

Marine Spill Response Corporation (MSRC) Dock, Hess Oil Virgin Islands (HOVIC) Petroleum Refinery, Environmental Assessment Report for the Construction of a Pier in the HOVIC West Turning Basin, St. Croix.

Construction of Eden Beach Hotel and Condominiums, Eden Beach, Environmental Assessment Report for the Proposed Construction of Eden Beach Hotel and Condominiums, St. Croix.

Expansion of the Tamarind Reef Hotel, Tamarind Reef, Environmental Assessment Report for the Proposed Reconstruction and Expansion of the Tamarind Reef Hotel, St. Croix.

Construction of Gas Turbines at the Third Port, V.I. Water and Power Authority, Environmental Assessment Report and USACE Application for the Construction of Two Gas Turbines at the Third Port Site, St. Croix.

Subdivision of Lovango Cay, Joseph Markus Trust, Environmental Assessment Report for the Creation of a Subdivision on Lovango Cay and Placement of a Private Dock, Lovango Cay.

Well Water Collection System, VIALCO, Environmental Assessment Report for the Construction of a Well Water Gathering System for Wells at the VIALCO Alumina Facility, St. Croix.

Crawl Cay, Monroe County, Environmental Assessment Report, Wetlands Delineation and Hammock Studies of Crawl Cay, Florida.

Jack's Bay Subdivision, Jack's Bay Development Company, Environmental Assessment Report for the Subdivision of Approximately 300 Acres into 64 Lots at Estate Jack Bay and Estate Isaac Bay, St. Croix.

Bauxite Building, VIALCO, Environmental Assessment Report for the Expansion of the Bauxite Building at the VIALCO Alumina Facility, St. Croix.

Carambola Beach Club Improvements, Danested, Environmental Assessment Report for the Repair and Improvement of the Carambola Beach Club Facilities, St. Croix.

Salt River National Park, National Park Service, Environmental Impact Statement for the Proposed National Park at Salt River, St. Croix.

Desalination Unit, V.I. Water and Power Authority, Environmental Assessment Report for the Construction of a Desalination Unit on St. John, St. John.

Construction of Estate Turner Hole Condominiums, Carmel by the Sea, Environmental Assessment Report for the Construction of a 95-unit Condominium at Estate Turner Hole, St. Croix.

Very Long Baseline Array (VLBA) Observation Station, NASA, Environmental Assessment Report and Landscaping Plan for the Construction of a VLBA, St. Croix.

Buccaneer Hotel Room Expansion, Buccaneer Hotel, Environmental Assessment Report for a 20-room Addition to the Buccaneer Hotel, St. Croix.

Construction of a Ritz-Carlton Hotel, Environmental Assessment Report and Zoning Application for a 350-room Ritz-Carlton Hotel in Estate Davis Bay, St. Croix.

Frederiksted Pier Expansion, V.I. Port Authority, Environmental Assessment Report for the Construction of a Second Pier in Frederiksted, St. Croix.

Construction of the Kingston Hotel, Kingston Hotel, Environmental Assessment Report for the Construction of a Hotel and Condominium in Kingston, Tortola, BVI.

Construction of an Airport Warehouse, V.I. Port Authority, Environmental Assessment Report for Construction of a Warehouse Facility at the Alexander Hamilton Airport, St. Croix.

Development of the Great Pond Resort, St. Croix, Environmental Assessment Report, for Golden Gaming, Zoning Application, and USACE Permit Application for a Hotel and Condominium Project at Estate Great Pond, St. Croix.

**ENVIRONMENTAL ASSESSMENT REPORTS
1986 – 1988**

St. Croix

St. Thomas

St. John

Columbus Landing, St. Croix	Blue Beards Beach, St. Thomas	Concordia, St. John
Grapetree Beach, St. Croix		
St. Croix by the Sea, St. Croix		
Ensenada, St. Croix		
Virgin Grand, St. Croix		
Sugar Bay, St. Croix		
Turtle Run, St. Croix		
Palm Shores, St. Croix		
Baobab, St. Croix		
Reflection Bay, St. Croix		
Coakley Bay, St. Croix		
Green Cay, St. Croix		
Turquoise Bay St. Croix		
Eagle Bay, St. Croix		
Granard, St. Croix		
Concordia, St. John		

Wider Caribbean

Southeast Peninsula, St. Kitts
Divi Dive Canal, Nassau, Bahamas

ENVIRONMENTAL CONTAMINATION ASSESSMENTS

1990 – PRESENT

2022 – Present Sampling for Heavy Metals Contamination of the Soil in Estate Donoe, St. Thomas.

2000 – Present Sampling for Chemical Contamination in Cisterns as a Result of a Hydrocarbon Release in the Air, St. Croix.

1994 – Present Periodic Sampling of the Leaking Underground Storage Tanks (LUSTs) at the V.I. Port Authority Seaplane Ramp, St. Croix.

2019 Sampling for Mold at the Renaissance Hotel, St. Thomas.

2016 – 2022 Sampling of Underground Storage Tanks (USTs) for Gasoline Service Stations on St. Thomas and St. Croix.

2012 – 2016 Sampling for Recognized Environmental Conditions in Estate Anna's Hope, St. Croix.

2006 – 2016 Sampling for Petroleum Product Contamination at Gasoline Stations and Industrial Sites, St. Croix.

1990 – 2002 Sampling of Residential and Commercial Properties on St. Croix, St. Thomas, St. John and Puerto Rico for Recognized Environmental Conditions.