

Re: *SAJ-2004-12518 (SP-JCM)*
St. John Marina Yacht Club

The Summer's End Group, LLC, Applicant
Response to the Corps request for additional information
by letter dated October 26, 2017

Exhibit "F"
Fueling Capacity



WE MEASURE OUR SUCCESS BY OUR CLIENT'S RESULTS.

St. John Marina,
The Yacht Club at Summer's End
5000 Estate Enighed, Suite # 63
St. John, U.S. Virgin Islands 00830

Re: Fuel consumption per vessel

To whom it may concern,

Marine Management and Consulting, the company that will be managing the proposed marina development on St. John, "The Yacht Club at Summer's End", and that currently manages marinas throughout the Caribbean has been asked to clarify the amount of fuel to be sold to each individual vessel we anticipate servicing.

Based on records from our other facilities and based on trends over the years we offer the following:

0 to 35 feet = 62 gallons per fill up
36 to 45 feet = 85 gallons per fill up
46 to 65 feet = 550 gallons per fill up
66 to 85 feet = 877 gallons per fill up
86 to 100 feet = 2875 gallons per fill up
101 to 150 feet = 3888 gallons per fill up
151 feet and upwards = 5900 gallons per fill up

As a rule of thumb, vessels try to maintain a reserve of no less than 50% between fuel fill-ups.

Puerta del Sol Plaza, Welfare Road #68, Ste. 301/302, Simpson Bay, St. Maarten
(across Kim Sha, above Avantika restaurant, 2nd floor)
Office: 721-545-2500 Fax: 721-545-2501
Email: receptionist@mmcnv.com Website: www.mmcnv.com



WE MEASURE OUR SUCCESS BY OUR CLIENT'S RESULTS.

Statistically, the tank size on these vessels varies from one vessel to another. See as follows an average time table:

0 to 35 feet equals 100 +/- gallons
36 to 45 feet equals 150 +/- gallons
46 to 65 feet equals 800 +/- gallons
66 to 85 feet equals 1500 +/- gallons
86 to 100 feet equals 4500 +/- gallons
101 to 150 feet equals 8000 +/- gallons
151 feet and upwards equals 14000 +/- gallons

As the managers for The Yacht Club at Summer's End facility, we can attest that we will be able to regulate the total amount of fuel to any one vessel to a maximum of 250 barrels (10,500 gallons) of fuel. This will be part of our fuel sales operational policies and will be strictly adhered to.

If further clarity is needed, please don't hesitate to contact me.

Respectfully submitted,

Jeff D. Boyd, Chairman and Managing Director
Marine Management and Consulting Group of Companies

Re: SAJ-2004-12518 (SP-JCM)
St. John Marina Yacht Club

The Summer's End Group, LLC, Applicant
Response to the Corps request for additional information
by letter dated October 26, 2017

Exhibit "G"
Compensatory Mitigation Plan

**COMPENSATORY MITIGATION PLAN
FOR
DEVELOPMENT OF THE
ST. JOHN MARINA
SUMMER'S END GROUP
U.S. VIRGIN ISLANDS**



**PREPARED FOR
SUMMER'S END GROUP**

PREPARED BY

**BIOIMPACT, INC.
P.O. BOX 132 KINGSHILL
ST. CROIX, U.S. VIRGIN ISLANDS 00851**

REVISED December 2017

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This plan follows the compensatory mitigation guidelines as set forth in 40 CFR Part 230, Compensatory Mitigation for Loses of Aquatic Resources: Final Rule. The fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to the waters of the United States authorized by Department of the Army permits.

I. INTRODUCTION

The Summer's End Group, LLC is proposing to construct a 144 wet slip, fixed dock marina with services including pump out, fueling and amenities for marina guests and the public. Also included are a Customs facility, retail stores, restaurants, and parking.

A total of 39,258.18 sf of docks are over areas with submerged aquatic vegetation (SAV), the majority of which have densities between 20% and 100%. Based on a 46% survival due to shading, since the Applicant is using grated decking, 21,199.42 sf (0.487ac) of seagrass may be lost. At the maximum capacity and at the maximum size boat in each slip, there will be 5.65 acres of shading due to vessels. It can be assumed that 50% of the seagrass in this footprint will be lost due to vessels being in place for more than 2 weeks at a time. There will be some survival due to angle of the sun and vessel types and some available light. There will be impacts due to spudding impact during construction which will probably account for between a 900-1020 sf of impact (6 sf per spudding event and between 150 and 170 relocations.

The project also has the potential of impacting SAV within an envelope of approximately 8 acres as vessels move around during the construction of the marina. The construction impact will be related to barge movements and spuds. This can be minimized through monitoring and delineating spudding and anchoring areas. Barge shading will be mitigated through the periodic relocation of barges to prevent shading impacts. The surrounding SAV may also be impacted by construction related turbidity impacts. This will be abated by the sediment and siltation control and through stringent monitoring. The operation of the marina will have an impact due to prop wash scour allowing for an additional 10% loss. In total, approximately 3.75 acres of seagrass may be lost as a result of the project.

The project will have the potential to impact *Acropora* and other Endangered Species Act ("ESA") listed species through vessel strikes. To minimize this impact, the applicant will be placing informational buoys delineating the shallow hard bottom areas at the entrance of Coral Harbor and will be providing information signage on the dock advising mariners to avoid shallow reefs while in transit and to avoid anchoring in areas of coral and seagrass.

In order to minimize the direct impact to seagrass caused by pilings, the seagrass within the piling foot prints will be transplanted and plugs will be used to seed the area in the northwest corner of the bay which has been impacted by the deposition of sediment. There are 960 piles that will be driven and these will impact an area of approximately 1350 sq. ft. Due to the hurricanes in September, 2017, the exact amount of seagrass present or that may recolonize the footprint is not known this time, but all the seagrass in colonized footprints will be transplanted.

The applicant will also provide pump out facilities and waste receptacles to encourage boaters to minimize impacts on water quality, thereby reducing the amount of refuse being tossed in the sea.

The applicant previously proposed engaging in a derelict vessel clean up and proposed the cleanup of any remaining sunken vessels that had not been removed during the Coral Bay Community Council clean up. Unfortunately, Hurricanes Irma and Maria sank or wrecked dozens of more boats within the bay.

The U.S. Coast Guard has engaged contractors in the removing those vessels. It is probable that the Coast Guard will remove all the vessels present so this proposed mitigation effort is no longer an option.

The applicant will be planting mangroves along the shoreline to recreate the shoreline's mangrove fringe.

The applicant also proposes to remove debris and restore the reef within greater Coral Bay. SEG proposes to pick up debris scattered by the hurricane from vessels and homes and repair corals within a 750 acre area in Coral Bay.

II. OBJECTIVES

The objective of this mitigation plan is to minimize the impact of the marina development on Coral Harbor and to improve the water quality and habitat function the harbor provides. In order to mitigate project impacts, seagrasses remaining within the area of direct impact will be transplanted, debris will be removed and corals repaired within a 750 acre area of Coral Harbor. Improvements will be implemented in the watershed to minimize the deposition of terrestrial sediments and mangroves will be planted to provide habitat along the shoreline.

III. SELECTION

The plan proposes to transplant the *Thalassia* and *Syringodium* found within the 1350 ft² of piling foot prints to an area in the northwestern corner of the harbor. Seagrass has been lost in this area due to the deposition of sediment. The Summers End Group will be undertaking improvements and maintenance of this drainage way that should significantly abate the input of terrestrial sediment in this area. The placement of sod units in this area should serve to accelerate the re-colonization of this area.

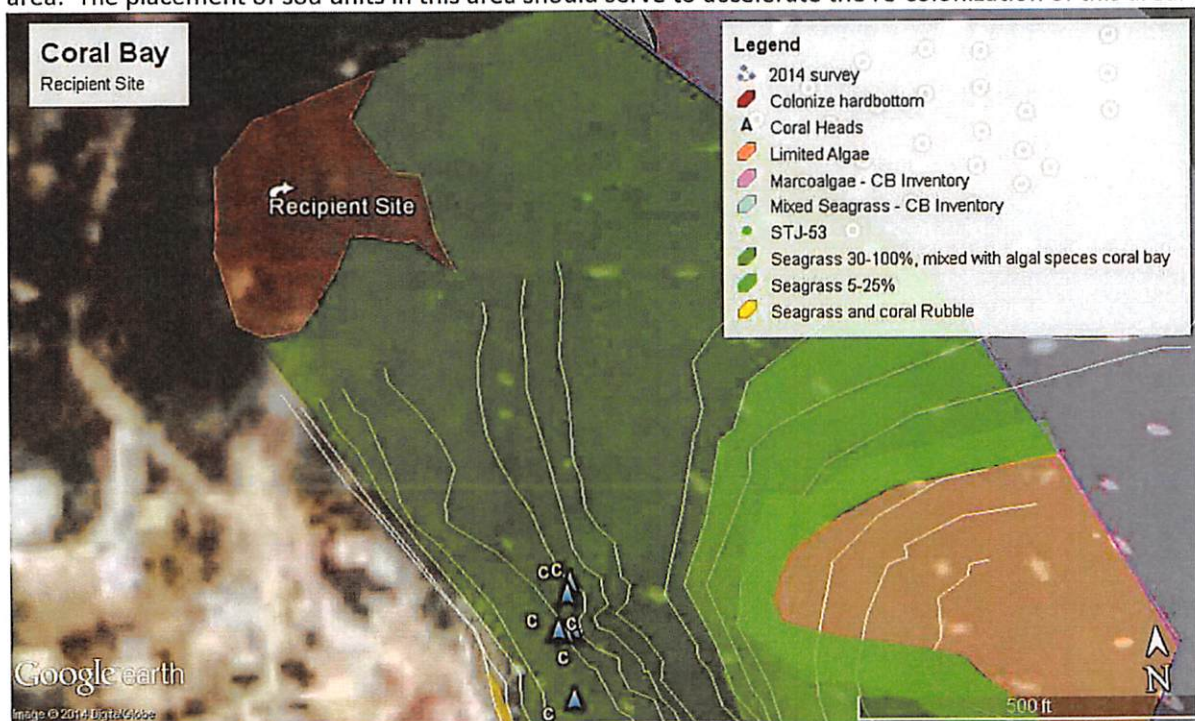


Figure 1. Location of seagrass Recipient Site

Mangroves will be planted along the shoreline seaward of the boardwalk and riprap. This planting effort will restore what may once have been an entirely mangrove line shoreline prior to early development of the area. Three hundred red mangrove (*Rhizophora mangle*) propagules will be placed along the 850 ft of waterfront. The area to the west is colonized by red mangroves and this will create a more continuous mangrove fringe.

IV. SITE PROTECTION INSTRUMENT

The recipient site is located in Coral Harbor, St. John. As these are sovereign submerged lands, both USACE and CZM permits would have to be obtained for any future alteration of this area; therefore, no Site Protection Instruments are necessary to protect the recipient area since it is already subject to protection. In order to protect the recipient area from inadvertent impacts, informational buoys will be placed to alert boaters of the shallow seagrass bed and the presence of the transplant recipient area.

IV. BASELINE INFORMATION

This project proposes alterations to the marine environment through the construction of a marina, will involve the driving of 960 piles that directly impact 1350 sq. ft. of seafloor and associated benthic community.

The project area is located on the eastern side of Coral Harbor within Coral Bay on the east end of the island of St. John. There were dense grass beds offshore with a shoreline of a mixture of muddy/cobble to the north and riprap to the south. There was a narrow band of muddy sand between the cobble shore seagrass beds to the north and a mixture of seagrass and cobble to the south. There were a few large coral heads offshore of the culvert discharge in the middle of the property. Dense seagrass, primarily *Thalassia testudinum*, were found in the offshore environment between 1 and 11 ft, after which they begin to diminish and algal species become more prevalent. *Syringodium filiforme* also becomes more prevalent with depth. The state of the seagrass beds and the corals are not known at this time due to the passage of hurricanes Irma and Maria and the continuance of poor water quality since that time.

In 2009 Paul Bologna presented the "Assessing Faunal Utilization of Seagrass and Mangrove Habitats in St. John" at the annual meeting of the International Marine Conservation Congress, George Madison University, Fairfax, Virginia. He stated that "results indicate that Coral Bay Harbor, the most anthropogenically impacted site, had the highest *T. testudinum* biomass, but the lowest floral diversity. Its faunal community was dominated by small polychaetes with significantly lower secondary production."

The area is heavily used for boat mooring and there are large scars associated with most of the moorings, including those with properly installed anchors. Ropes swinging from the moorings denude large areas of seagrass. The area has also been significantly impacted by two Category 5 hurricanes.

Benthic Community Survey Methods

In addition to the seagrass survey information provided in the initial application, the site was resurveyed in 2015, 2016 and most recently in May and June of 2017. The following data was generated prior to

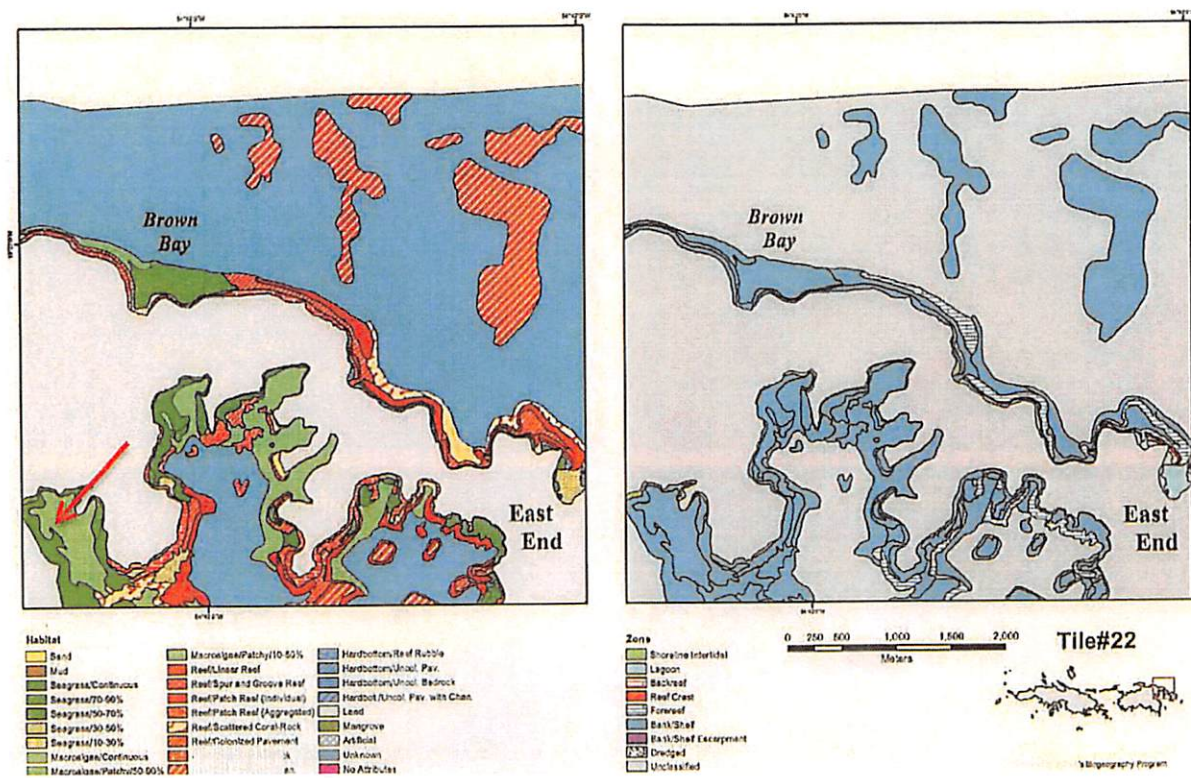
the two major hurricanes in September 2017. Due to extremely poor visibility due to runoff and vessel recovery efforts since the hurricanes, the area cannot presently be surveyed.

During the prior surveys, transects previously undertaken were revisited. The entire site, including the marina location, buoy locations and potential construction foot print and transit routes were surveyed. The changes noted included the appearance of *Halophila stipulacea* in the deepest areas with primarily macro-algal cover, regrowth in some areas where there were previously scars in seagrass beds from anchor and rope drags, and new areas had been disturbed by anchor and rope drags. The benthic map prepared in 2014 still accurately depicts the abundance and distribution of species. North of the culvert is a narrow muddy band of uncolonized sand which varies in width between 10 ft. and 25 ft. along the shoreline and *Syringodium filiforme* beds which grade into abundant *Thalassia testudinum*. The seagrass beds are dense and continuous offshore with occasional blow outs predominantly caused by debris, anchoring, or moorings. To the south of the existing stormwater culvert, there is riprap revetment along the shoreline and cobble amid the seagrass at a distance of 10 feet to 25 feet from shore. *Thalassia* dominates the grass beds into shore on the southern side of the property. These beds are extremely dense and are only broken by debris and anchor scars. There are six relatively large coral heads, *Solenastrea bournoni*, found offshore of the discharge point and all were located and are still healthy as of 2017. Small *Siderastrea radians* colonies were found on scattered debris and cobbles in the area.

The seagrass densities between depths of 1 ft. to 11 ft. range from 30% to 100%. The lower densities are found primarily in areas that are recolonizing from previous disturbances. *Thalassia* represents 80% of the seagrass and *Syringodium* approximately 20%. *Halodule beaudettei* is present in areas of regrowth. As depth increases, seagrass densities decrease and *Syringodium* becomes more abundant and represents a greater percentage of the seagrass present. At a depth of 11 feet to 13 feet, the seagrass densities fall to 5% to 30%. At a depth of 13 feet to 14 feet, the seagrass densities are no greater than 5% and macroalgae is the dominant colonizer. At 15 feet of depth, there is only an occasional *Thalassia* shoot, and macroalgae is the dominant colonizer and has colonized between 10% and 70% of the seafloor. *Halimeda* is the most common algae present. *Halophila stipulacea* is patchily abundant amid the algae. Also at this depth *Caulerpa*, *Udotea*, *Avrainvillea*, *Penicillus capitatus*, *Laurencia*, *Hypnea* and *Dictyota* are found. At a depth of greater 16 feet -19 feet, the macroalgae density decreases and only several small patches of *H. stipulacea* were present. The system is light limited at this depth. Beyond the inner harbor, dense seagrass is present at depths exceeding 25 feet.



100% coverage of seagrass at depths up to 10ft.

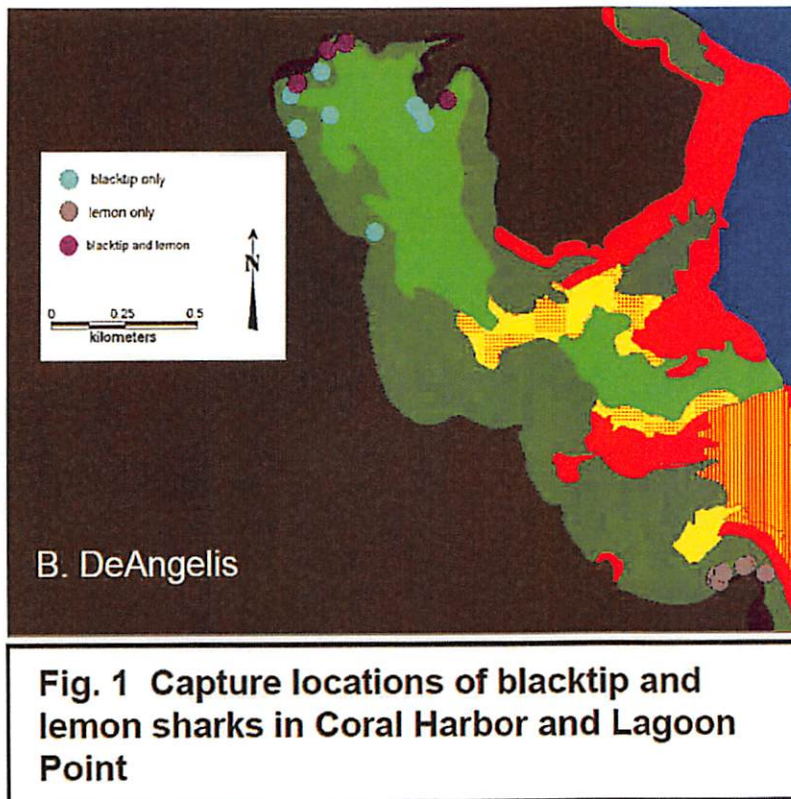


The NOS Benthic Habitat Map Tile 22.

Sea cucumbers (*Holothuria mexicana*) were common as were sea stars (*Oreaster reticulatus*), and several juvenile conch were noted during all surveys. Due to limited visibility, the number of fish that were seen was limited. Tarpon (*Megalops atlanticus*) and yellowtail jacks (*Lutjanus chrysurus*) were both seen, as well as juvenile black tipped shark (*Carcharhinus limbatus*).

The bay is a known shark nursery. The Coral Bay Community Council funded a study of the harbor and found the harbor is heavily used by lemon, black tip and nurse sharks.

The Figure below from their study shows the long line catch locations of sharks within the harbor.



At 13 ft. algae is become the dominant species



Seagrass still covers up to 25% at 12 ft.



At 11 ft. the transition happens and seagrass densities start to decline



At 15ft. algal species dominate



An occasional seagrass shoot can still be found at 14 to 15 ft.



Seagrass and algae at 13 ft.



Dense beds between 1 and 11 ft.



The seagrasses are thriving



Some area are highly mixed seagrass and algae



One of the large coral heads (24 inches in diameter)



Coral growing on debris



Sea star



Sea cucumber

VI. COMPENSATION FOR UNAVOIDABLE IMPACTS

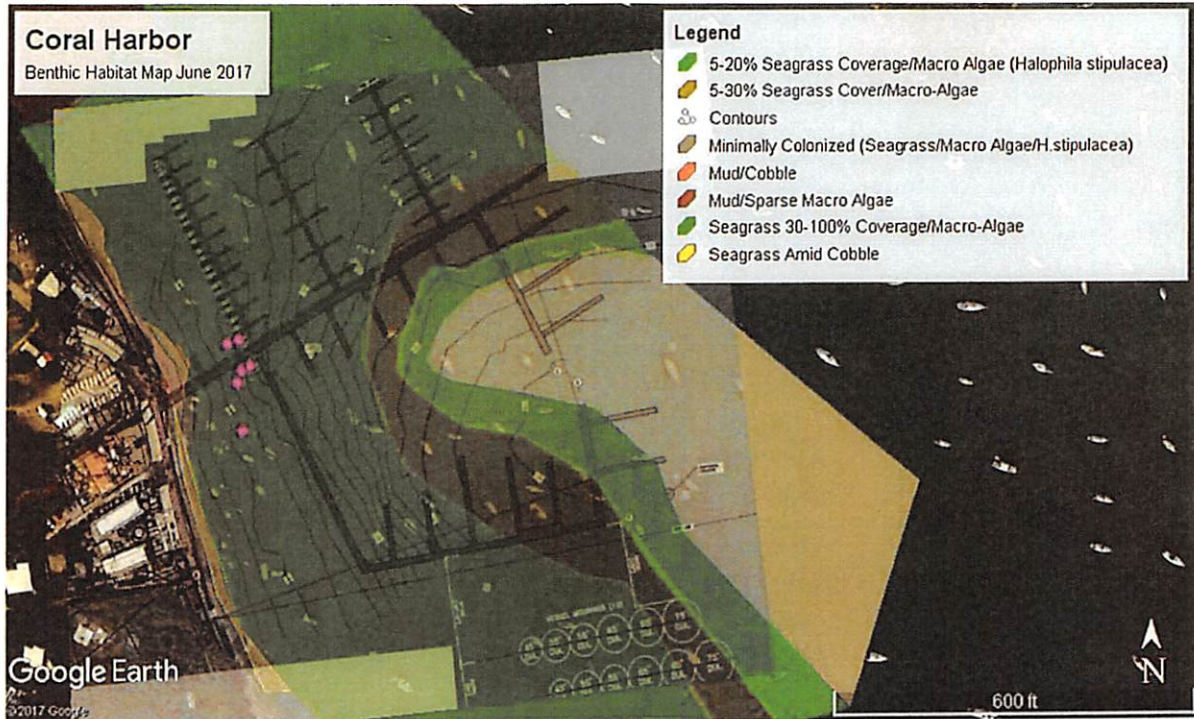
The marina has been positioned offshore to avoid dredging and to avoid the maximum amount of the densest seagrass while still allowing for access into the bay.

The project will directly impact approximately 1350 sq. ft. due to the placement of 960 piles ranging from 14 to 18 inches in diameter (66 14-inch square concrete, 457 14-inch round steel encased concrete, 437 18-inch round steel encased concrete).

The following calculations are based on seagrass densities prior to the hurricanes in September 2017.

Type	Habitat	Number	Acres	Sq. ft.
Moorings	30-100% Coverage Seagrass	9 (8 +0.5,0.5)		
Moorings	5-30% Coverage Seagrass	3 (1.5 + 1.5)		
	Total	12		
Docks			1.69	73,591.10
	Riprap (above MHW)		0.01	235.00
	Docks Less Above MHW		1.68	73,356.10
	Mud/Cobble		0.02	762.20
	30-100% Coverage Seagrass		0.90	39,258.18
	5-30% Coverage Seagrass		0.48	20,927.41
	5-20% Coverage Seagrass Macro-Algae		0.13	5,836.21
	Minimally Colonized		0.15	6,572.10
	Total		1.68	73,356.10

A total of 39,258.18 sq. ft. of docks are over areas with SAV, the majority having densities between 20 to 100%. We estimate a 46% survival of SAV since the Applicant is using grated decking. Accordingly, 21,199.42sf (0.487ac) of seagrass may be lost. At the maximum capacity and at the maximum boat size in each slip there will be 5.65 acres of shading within the marina due to vessels. It can be assumed that 50% of the seagrass under vessels will be lost due to vessels being in place more than 2 weeks at a time. There will be some survival due to angle of the sun and vessel types and some available light. There will be impacts due to spudding impact during construction which may account for 900 to 1020 sq. ft. of impact (6 sf per spudding event and between 150 and 170 relocations. The operation of the marina will also have an impact due to prop wash scour, resulting in an additional 10% loss. As a result of these anticipated impacts, the applicant estimates that approximately 3.75 acres of seagrass will be impacted as a result of the project.



Impacts of marina

VII. MITIGATION WORK PLAN

THALASSIA TRANSPLANT

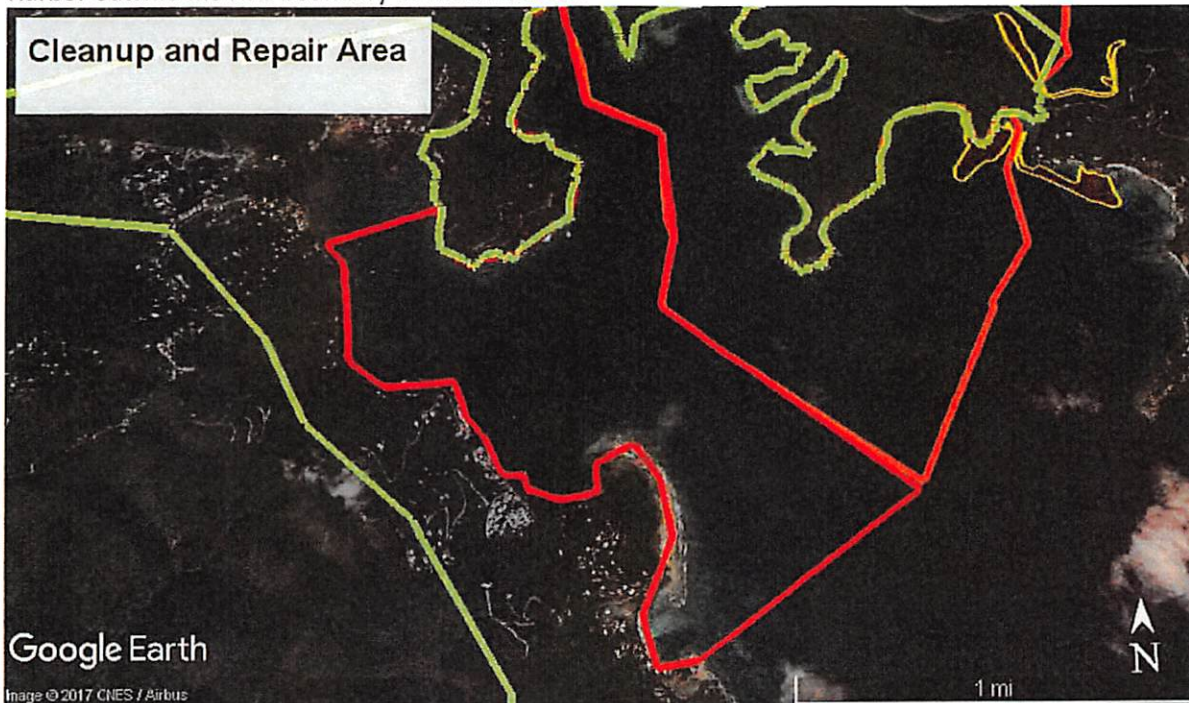
Prior to the start of the marina project the piling locations will be marked. *Thalassia* remaining in the piling footprints will be collected by divers in large sod units using trowels to cut completely through the root mass, the ideal unit size is approximately 1 sq. ft. and 8 to 10 inches in depth. The sod units will be place in underwater bins and carried to the transport tray which will be beneath the boat.

When the tray is full, the boat will move at idle speed to the recipient site in the northwest corner of the bay. The boat will watch depth and will not get so close that the tray will hit the bottom. The sod units will be removed from the tray and carried to the recipient area. A small depression will be made for each sod unit and, once fitted in place, the excavated sand will be back filled in around the unit, sea grass staples will be placed in each unit to aid in stability. The units will be evenly scattered across the recipient site to facilitate the re-colonization of the area.

Once the relocation is complete, five transect lines will be established and a baseline report will be prepared. The transects will be videoed and photographed on a monthly basis for a period of 2 years after transplant. After two years, the beds will be monitored on a quarterly basis for the next 3 years. Reports will be provided with the videos to the reviewing agencies within 30 days of each survey. All species utilizing the beds will be documented in the monitoring reports.

CLEAN UP OF DEBRIS AND REPAIR OF CORALS WITHIN 750 ACRES OF CORAL HARBOR

In order to provide sufficient mitigation for the impacts, surveys will be made of 750 acres of Coral Harbor outside the NPS boundary as shown below.



The cleanup area is shown in red. The park water boundaries are shown in orange.

Dives through various areas within the cleanup area have revealed large amounts of terrestrial and vessel related debris in the marine environment. Some of the debris is natural in origin such as trees and branches and much of it is roofing, chairs, cloth, and a variety of building materials. This debris is being found on the reef and within seagrass beds, smothering corals and seagrass. This material is subject to be moved in subsequent storms and has the potential of causing additional damage.

Divers will swim transects throughout the area collecting debris found on the reefs and in the seagrass beds. Photographs will be taken of the debris and the area once the debris is removed. Lift bags will be used to collect larger pieces of debris. All material will be collected and properly disposed of at the Bovoni Landfill in St. Thomas.

Divers will survey the reef and corals which have been knocked loose during the 2017 hurricanes will be re-attached to their substrate using two-part underwater epoxy (Splashzone). The base of each coral will be carefully cleaned with a wire brush and the substrate cleaned to remove algae and any other material which might interfere with the adhesion of the epoxy or cement. Each coral will be carefully placed and held until the epoxy or cement starts to set. Corals will be photographed prior and after re-attachment.

Divers will work systematically through the bay to ensure that all areas are covered.

MANGROVE PLANTING

Three hundred red mangrove propagules will be placed along the shoreline across the 850 feet of shoreline on approximate 3-foot centers. The mangroves will be carefully placed so that they have the greatest chance of survival.

PLACEMENT OF INFORMATIONAL BUOYS

The Summers End Group will be placing a total of seven buoys on the locations shown below. These informational buoys will warn boats of the presence of the resources and shallow areas on the approach to the Yacht Club at Summers End. The buoys will be located at: 18° 20.703'N; 64° 42.897'W; 18° 20.460'N; 64° 42.750'W; 18° 20.437'N; 64° 42.542'W; 18° 20.122'N; 64° 42.437'W; 18° 19.949'N; 64° 42.046'W; 18° 20.061'N 64° 41.409'W; and, 18° 19.819'N; 64° 40.709'W. The buoys will be placed with screw anchors and loaded lines in order to have no impact on the seafloor. Some buoys will be placed in sand and several will be in seagrass beds. Due to the use of the anchoring system, the buoys should be no impact on seagrass resources.

INFORMATIONAL SIGNAGE

Summers End Group will be providing information to those using the marina on the necessity of protection of resources and safe boating practices for all the boats using the marina. Signage will also be placed in conspicuous places on the docks showing nearby shallow areas, proper anchoring procedures and steps necessary to protect sea turtles and marine mammals.

DONATION TO RESEARCH

The applicant will add a fee to charges levied on each slip which will be dedicated to support a third-party independent research program on vessels strikes to sea turtles and marine mammals similar to the one NOAA is currently funding in St. Croix.

PUMPOUT AND WASTE FACILITIES

Currently, there are no pumpout or waste disposal facilities within the harbor and disposal of wastes are not policed. The marina will be providing these services to all boaters, not just those docking at the marina at minimal cost. This will help prevent the discharge of waste into the harbor, thereby lowering the nutrient input and improving water quality

VIII. MAINTENANCE PLAN

Once the project is complete, the recipient seagrass transplant site will be surveyed on a monthly basis for a period of two years. If grass rhizomes become unburied they will be reburied and if necessary seagrass staples will be utilized.

The mangroves will be surveyed on a biweekly basis for the first two months and then on a monthly basis for the first 2 years to ensure that they are stable and becoming well rooted. Propagules will be replaced as needed to create a continuous fringe within the restoration area.

IX. ECOLOGICAL PERFORMANCE STANDARDS

In order to objectively evaluate the mitigation projects, ecological performance standards must be established. The object of this mitigation is to minimize impact to benthic resources and provide high quality habitat to protected marine species. The performance standards will include viability of the transplanted seagrass, as well as their use by protected species.

It is the intent of this transplanting program to obtain a minimum of 80% survival of the transplanted seagrasses and have the uncolonized area repopulate. The Summers End Group is committed to putting forth the greatest effort to see that the seagrass relocation is successful and obtain the greatest potential survival of transplanted organisms.

The intent is to have survival of 300 mangroves across the front of the property.

X. MONITORING REQUIREMENTS

Monitoring the compensatory mitigation project sites is necessary to determine the project is meeting its performance standards, and to determine if additional measures are necessary to ensure that the compensatory mitigation projects are accomplishing their objectives.

As per the guidelines set forth in §230.96 the mitigation project will be monitored for a minimum of 5 years. The monitoring will include: the transplanted seagrasses, the mangrove planting area; the areas of coral and seagrasses that have been cleared of debris; and, the new mooring installations to determine the success of recolonization.

Once the seagrass relocation project is complete, five transect lines will be established and a baseline report will be prepared. The transects will be videoed and photographed on a monthly basis for a period of 2 years after the transplant. After two years the beds will be monitored on a quarterly basis for the next 3 years. Reports will be provided with the videos to the reviewing agencies within 30 days of the survey. All species utilizing the beds will be documented in the monitoring reports.

Five transects will also be established through areas where debris has been removed and corals have been reattached. These will be monitored concurrently to look for recolonization.

The mangroves will be counted on a monthly basis and replaced as necessary.

In order to determine the success of the cleanup and coral re-attachments, 100 locations will be marked and surveyed on an annual basis for a period of 5 years to determine the area recovers from being covered by debris and to assess the success of the re-attachment of the coral.

XI. LONG TERM MANAGEMENT PLAN

Navigational buoys will be placed at the recipient site notifying boaters of the presence of important resources and the need for caution while boating. Periodic monitoring of the bay will ensure that debris is removed if introduced.

The applicant will also be assisting in the maintenance of the best management practices within the watershed to help improve the quality of runoff water and reduce the input of terrestrial sediment.

The applicant is also undertaking a long term water quality monitoring program within the harbor to look at changes during the life of the marina. Twelve water quality stations will be established and monitored on a quarterly basis for turbidity (NTU), dissolved oxygen (DOmg/l), salinity (0/00), pH, and temperature. Sediment traps will also be monitored quarterly to look at changes in sediment deposition, and sediment samples will be taken every 5 years to look at changing characteristics. Photo quadrats will also be monitored which include seagrass and the nearest ESA coral species.

This data will help evaluate the BMP that has been installed and help determine additional measures to help improve water quality and the habitats in the bay. When negative changes are noted, measures can be developed to help abate and minimize degradation. Reports will be delivered to the agencies (NMFS, ACE, CZM and DEP) on a quarterly basis as monitoring is conducted.

XII. ADAPTIVE MANAGEMENT PLAN

In the event that there are difficulties with installing and maintaining the mitigation as planned, the Summers End Group is prepared to take additional steps to see that compensatory mitigation is achieved. If necessary, extended monitoring and maintenance or additional marking of the site will be undertaken in order to meet the mitigation goal.

If the mitigation goal of 80% survival at the end of five years is not met, the applicant will prepare a detailed report of why the mitigation was not successful and Summers End will meet with the permitting agencies and develop a plan for additional compensatory mitigation until the mitigation goals are met.

XIII. FINANCIAL ASSURANCES

Summers End Group will secure a performance bond in the amount of the cost mitigation program and subsequent monitoring throughout the implementation and monitoring period. The bond will follow the guidelines set out by the U.S. Army Corps of Engineers Regulatory Guidance Letter No. 50-1, 14 February 2005, SUBJECT: Guidance on the Use of Financial Assurances, and Suggested Language for Special Conditions for Department of the Army Permits Requiring Performance Bonds. The estimated mitigation costs are shown below.

		MITIGATION	
		One Time Cost	Recurring Annually
Seagrass Mitigation			
	Set up of stations	\$ 2,500.00	
	Baseline	\$ 6,000.00	
	Photoquadrat Baseline	\$ 12,000.00	
	Monitoring	\$ 36,000.00	
	Relocation of seagrass	\$216,612.50	
Mangrove Mitigation			
	Trees, Mangroves, Planting	\$ 20,500.00	
	Monitoring/Maintenance First 2 years	\$108,000.00	
	Monitoring/Maintenance Last 3 years	\$108,000.00	
Turtle Strike Mitigation			
	Turtle study funding 3rd Party		\$33,000.00
Seagrass/Coral Protection			
	Reef/Shallow Seagrass Informational Buoys	\$ 10,000.00	
Water Quality Improvement			
Watershed Enhancement	Repair of existing projects	\$ 75,000.00	
	Annual maintenance		\$25,000.00
Environmental Education			
In Conjunction with NPS	Part time resource officer fundinig		\$20,000.00
	Website and materials	\$ 20,000.00	
Dock signage	Education and Informational Placards	\$ 20,000.00	
Seagrass/Coral Protection within NPS waters			
	NPS informational buoys (4)	\$ 10,000.00	
Long-term Monitoring Water Quality			
	Water Samples		\$135,000.00
Environmental Restoration Coral Harbor			
	Boat removal	\$150,000.00	
	Diver Bay Clean-up/Location of Mooring Footprints	\$ 58,500.00	
		\$853,112.50	\$213,000.00