

EPA is correct in stating that the mooring field permitted as part of the project has been removed from this application even though it was previously approved the Department of Planning and Natural Resources, Division of Coastal Zone Management. (“DPNR”). This idea, which was first suggested by National Marine Fisheries Service as a mitigation measure, and which would have helped abate on going impacts caused by poor mooring practices and unauthorized boating activities. While installation and management of a properly designed mooring field could greatly reduce the ongoing degradation currently occurring within Coral Harbor as a result of illegal moorings, there was strong public objection, especially by boaters within the bay. DPNR approval does not require construction of every component permitted, but is contingent on receipt of all other required permits. By removing the mooring field from the ACOE permit application, Summer’s End Group (“YCSE” or “Applicant”) will not be seeking to obtain the remaining permits that would be necessary for the installation of the mooring field. Likewise, the reference to improvements to the rip rap was removed to clarify that infrastructure improvements are not needed and that the Applicant intends only to enhance the rip rap with the installation of red mangroves to restore the mangrove fringe.

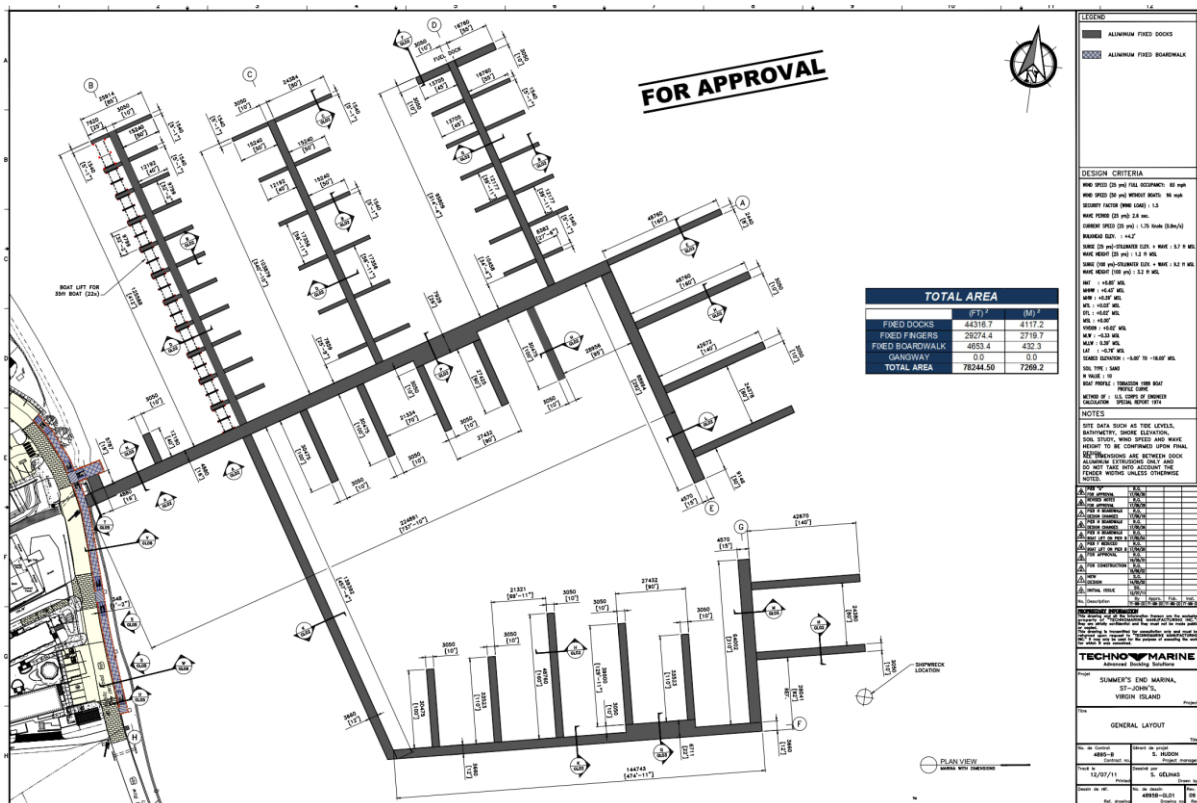
Coral Harbor has been designated for marine use by the Virgin Islands government and is zoned accordingly. The Applicant is not requesting a change of zoning from the approved designation.

EPA has expressed concerns regarding the scope of benthic habitat impacts based on the size of the project. Since EPA provided comments, modifications to the project design have resulted in the following reductions to impacts to benthic resources as follows:

- The dock permitted by CZM is 1.7 acres or 74,052 sq.ft., the new layout is 73,591.10 sq.ft., a reduction of 460.9 sq.ft. This has been accomplished through the narrowing of piers and removal of a finger pier.
- The previous marina design directly impacted approximately 2,500 ft² of seagrass due to the placement of approximately 1,333 piles ranging from 12-17” in diameters. Due to wave turbulence, seagrass will also be lost surrounding the piles. The previous dock design occupied 1.7 acres, of which 181 ft² will be over areas colonized with seagrass and coral rubble, 1,567 ft² will be located over area of sparse seagrass, 41,546.37 ft² will be located over areas with 30%-100% seagrass coverage, 27,072 ft² will be located over areas with 5-30% seagrass and algae coverage and 4,717 ft² will be located over areas with 5% seagrass/algae coverage. The dock would have resulted in a shading impact of 1.42 acres and with the use of the graded decking we assumed an approximate 46% survival rate based on NMFS studies, or stated differently, a 0.85 acre sea turtle foraging habitat loss due to shading. (Landry, 2008).
- The proposed slip count is now 144 and the dock design has been modified to reduce these impacts. The number of pilings has been reduced to 960, reducing the piling footprints to 1350 sq.ft. (there will still be additional seagrass loss due to wave turbulence). The revised dock square footage is 73,591.1sq. ft or 1.69 acres (dock less on shore boardwalk). Of this 66,021.8 sq. ft., or 1.51 acres has SAV. With a 46% survival rate, there will be a 0.81 acre loss of sea turtle foraging habitat loss due to shading.
- It is anticipated that vessels will occupy up to 5.65 acres for more than 2 weeks at the same time over the course of the year and this will result in the loss of additional seagrass through shading

and vessel movements. It is anticipated that in total the marina will result in the loss of 3.75 acres of seagrass.

	Previous	Current	Reduction
Dock Size	74052sf	73591.1sf	460.9sf
Slips	145	144	1
Pilings	1333	960	376
Direct Impact	2500sf	1350sf	1150sf
Shading	0.85acres	0.81acre	0.04acres



Proposed 2017 Marina Plan.



CZM Approved 2015 Marina Plan

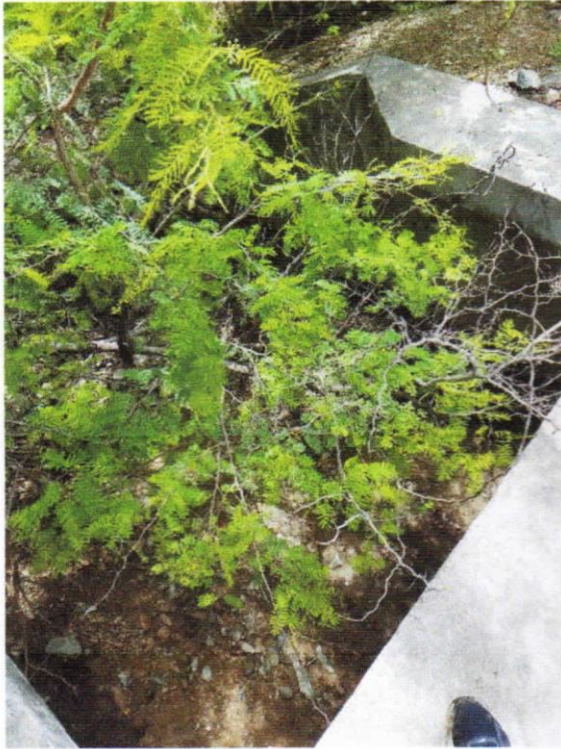
EPA questions the impact of the proposed project on the significant investments made by NMFS and EPA to support the development and implementation of watershed level management plans and actions directed to reduce land-based sources of pollution and improve water quality, seagrasses and corals within Coral Bay. Coral Bay Community Council has been involved in the development and implementation of a Watershed Management Program for Coral Bay and has received grants and awards from NMFS and EPA. These grants have been used to implement improvements in drainage with the aim to reduce sedimentation in to the bay.

The development of the marina will have impacts to submerged aquatic vegetation (“SAV”) and to water quality through construction impacts and operational impacts. YCSE is proposing to abate these impacts to the greatest degree possible by not dredging, by transplanting seagrass from piling footprints and by using grated decking to reduce shading impacts. Strict pump out requirements will be enforced and the marina will make pump out services available to other vessels in the bay.

As mitigation YCSE will be transplanting seagrass into an uncolonized area in the northwest corner of the harbor which now receives less sedimentation due to the work which was done by CBCC through their grants.

YCSE hopes to help advance the work which has been done by CBCC and others. One thing that has been lacking in the implementation of the watershed management plan is the maintenance of the Best Management Practices for storm water facilities which have been installed by Coral Bay Community

Council. As depicted below, because of lack of maintenance many of the installed devices have become inefficient and ineffective.



YCSE is proposing as one of the mitigation projects for YCSE to provide the needed maintenance on these storm water BMPs on an ongoing basis as well as make improvements onsite to improve water quality coming from upstream as it flows through the upland portion of the property before it reaches the sea. YCSE has prepared a detailed Mitigation Plan (Appendix D) to help augment and help maintain the steps already taken through funding of the federal agencies.

YCSE is also proposing to set up long-term water quality monitoring stations which will track changes in water quality during operation of the marina, providing much needed data to help guide future efforts to abate the terrestrial and marine impacts to the system.

EPA has raised numerous concerns related to water quality, sediment, archeological, marine and upland resources in the project area. It is the Applicant's belief that the availability of a marina may in fact reduce illegal and improper mooring activities by offering a viable, safer and more convenient option for boaters. The Applicant has also updated the archeological report to address and protect additional archeological resources. During the course of the studies and design of the marina, one of the main focuses has been on minimizing the environmental impact on both the benthic environment and on marine water quality. One of the first things that was determined was that no dredging would be undertaken. Due to the very soft silty nature of much of the seafloor, and due to the constricted nature of Coral Harbor, any dredging would suspend sediments and keep finer particles in the water column for years. Therefore, the marina is sited farther offshore so that no dredging is required. Seagrasses within piling footprints will be transplanted into an uncolonized area in the southwestern corner of the bay to accelerate recolonization of seagrass in Coral Harbor, and which once established, will stabilize the fine shallow sediments.

The marina will be using grated decking to minimize shading from the docks and minimize seagrass loss. While some seagrass loss is expected due to shading and propwash, every effort will be made to minimize those impacts to the greatest degree possible. The estimated boat shading, boat movement and construction impacts are described in the updated benthic analysis included in the response to National Marine Fisheries (Appendix A), it is anticipated that the project will result in the loss of 3.75 acres of seagrass.

Increased vessel movements will have the potential of re-suspending shallow sediments. The marina has been designed to keep the largest vessels with the deepest drafts in the deeper areas of the bay and the marina will be enforcing "No Wake" speeds within the marina. The marina will institute a strict no bilge pumping rule and will be providing pump out facilities for vessels both staying in the marina and for any other vessel wishing to pump out. Summers End will also prohibit any maintenance activities or work on vessels within the marina. These activities will help minimize potential impacts from marina operations on the harbor.

As noted by EPA, the overall impacts will include impacts caused by marina operations. The Applicant acknowledges that due to the number of vessels in the marina, it is probable that there will be some increase in turbidity and pollutants introduced into the harbor. In order to help compensate for this impact, Summers End is proposing to assume maintenance of the sediment and erosion control features which were installed utilizing ARRA funds from NOAA in the Coral Bay water shed and will be installing new measures in two drainage ways which currently are introducing sediment and pollutants into the

bay during rainfall events. Currently, the sediment and erosion control features are not being actively maintained and as a result are operating at less than optimum efficiency and functionality. The Applicant believes that providing a long-term solution to the maintenance needs will benefit the water quality in Coral Harbor. The detail of the maintenance work and new sediment controls are found in Appendix D, Mitigation Plans. These mitigative measures should help reduce the terrestrial input of sediments and pollutants and should offset the resuspension of existing seafloor sediments during construction or by vessels later during operation.

As acknowledged by EPA, the Applicant is providing pump out facilities. These facilities will be available for use by non-marina users. The Applicant also will prohibit discharges in the project area, which is roughly 25% of Coral Harbor. This active management of the area will reduce pollution and improve water quality in the Harbor. EPA has questioned the sizing of pump out facilities. The sizing takes into account the planned use for private haulers to maximize availability of waste storage capacity. The Applicant has received a permit from VIWMA stating that they have adequate capacity to treat the predicted pump out waste.

EPA has also noted the potential lack of solid waste disposal capacity at the public landfill. DPNR as part of the local permitting process determined that there is adequate public infrastructure to support the project. In the event recycling or other waste reduction programs are implemented by the government of the US Virgin Islands, the Applicant will take advantage of any program available on St. John or St. Thomas. The Applicant has received a letter from VIWMA stating that they have adequate capacity to handle the predicted refuse stream.

EPA has raised the concern regarding increased greenhouse gas emissions from upland development. The Applicant is minimizing increase in GHG by redeveloping existing structures to make them more energy efficient and all buildings will be permitted in accordance with USVI regulations.

EPA requested that the Applicant obtain a TPDES permit and in connection with the application, prepare a SWPPP. TPDES Permit # STT-SPWWDP-107-17 was issued on August 1, 2017 and the associated SWPPP has been approved by DPNR. Applicant's construction methods include use of silt fences and other best management practices to reduce sediment and runoff during the construction phase.

EPA questioned the impacts to the inland ghut and necessity of permitting those impacts. The Applicant acknowledges that such permits are required. DPNR provided approval as part of their previous approvals and federal approval of this work in the waters of the United States is also required. However, with the change in the upland parcels and design, the inland ghut is no longer within the project area and no change to waters of the US are proposed. The impact to upland areas has been significantly reduced as a result of the reduction of the upland project size.

EPA has questioned whether the potential impacts of climate change and sea level rise have been considered by the Applicant. Global sea level has risen approximately 18 centimeters (7.1 inches) in the past century (Douglas, 1997). Climate models predict an additional rise of 48 cm (18.9 in.) by 2100 (IPCC, 2002), which is more than double the rate of rise for the 20th century. The dock has been designed to accommodate more than a 2ft. rise in sea elevation over a period of the next 80 years based on the estimates provided by the U.S. Department of the Interior and the U.S. Geological Survey in their Coastal Vulnerability Assessment of Virgin Islands National Park (VIIS) to Sea-Level Rise by Elizabeth A.

Pendleton, E. Robert Thieler, and S. Jeffress Williams. Based on upland elevations, the building footprints are located outside of land projected to be inundated in the next 80 years.

Endangered SA listed species are discussed in detail in the response to NMFS' concerns. Surveys were updated due to the length of time since the original submittal, and impacts due to the reduction have been calculated. There are ESA listed species within the area. *Orbicella* and *Acropora* both occur approximately 0.1 miles to the east. ESA listed sea turtle species occur in Coral Harbor and along vessel transit routes and the Nassau grouper has been noted within the harbor.

The project will result in the loss of seagrass through pile driving, construction, shading by both the dock and the vessels and due to vessel movements. This will result in the loss of resources for animals who rely on seagrass for habitat and forage. To offset these losses Summer's End will be planting mangroves along the shoreline of the property restoring a portion of the mangrove fringe which was previously removed by unregulated development. Summer's End will also be placing 12 moorings within the project footprint to allow visiting vessels who do not wish to dock at the marina an opportunity to pick up a mooring rather than drop a hook in the dense seagrass found to the southeast of the project site. The Applicant will transplant all the seagrass within the piling footprints and will be conducting a cleanup of the remaining vessels which were not picked up as part of Coral Bay Community Councils clean up. Based on current conditions there are 14 vessels which are resulting in damage to seagrass.

The Applicant acknowledges that the biggest potential environmental impact to Coral Bay as a whole will be the increase in the number of vessels going into Coral Harbor. On the northern side of Coral Bay, Hurricane Hole and Round Bay enjoy the protection of being in National Park waters. The limited development and protections offered by the park have protected these waters from the impacts of development. Hurricane Hole offers a very unique environment with both corals and mangroves in the same habitat, something rarely seen. In St. John, US Virgin Islands, over 30 species of scleractinian corals are growing on and under mangrove prop roots in small bays located along the perimeter of a large bay, Hurricane Hole, within the Virgin Islands Coral Reef National Monument. This has been proposed as a potential refuge for corals with the changes that are being brought on by climate change (Yates, 2014). On a whole, the limited development along the northern arm of St. John has protected the benthic resources in the area.

The introduction of the marina will bring more boats through the area, increase the chances of groundings, animal strikes by vessels and potentially increased anchoring and damage to corals and seagrasses if anchors are thrown indiscriminately. Because vessels will be in Coral Harbor, and therefore Coral Bay, guests who would not otherwise venture into the Coral Bay area may choose to explore Hurricane Hole and Round Bay. Greater vessel traffic and higher numbers of visitors swimming, snorkeling and diving can result in seagrass loss and coral damage. Additional visitors and vessels could exceed the number of moorings and services the park currently has available.

The Applicant is working with the Park Service and other resources to alleviate this increased strain and the potential increase in impacts. The Applicant is proposing the following measures to address impacts:

- 1) The Applicant will add a fee to charges levied on each slip which will be dedicated to support of a third party independent research program on vessel strikes to sea turtles and marine

- mammals similar to the one NOAA is currently funding in St. Croix. Information gleaned from these studies and those in the future may one day help to minimize or alleviate strikes altogether.
- 2) The Applicant is proposing to install two informational buoys on the approach to Coral Bay as a means to help guide boaters and to prevent boaters from venturing into shallow waters and damaging seagrass and corals in park waters and within the National Monument.
 - 3) The Applicant is proposing to fund, on an ongoing basis, a part time position within the Park Service for an interpretive park ranger to educate and provide programming for marina guests regarding park resources and visitor practices.
 - 4) The Applicant is proposing to work with the Park Service to include a page on the Marina website, developed jointly with the Park Service to educate boaters in advance of visiting the marina about both the resources in the park and the rules and regulations governing activities in park waters.
 - 5) The Applicant is proposing to work with the Park Service to develop and deploy a mobile application sharing information about park resources, and means visitors can utilize to protect those resources consistent with park rules and regulations. The goal of this application will be to provide boaters with real time access to park information while they are within parks waters.
 - 6) As noted in the original application, the Applicant is proposing removal of derelict vessels within the project area as part of its mitigation plan. The mitigation details the methods that will be used to reduce and contain sediments and minimize other impacts during the removal process.. The Applicant welcomes the opportunity to partner with public agencies in the event derelict vessels outside the project area are being removed at some future date.

Like all other residents and businesses in Coral Bay, Summer's End will benefit from improving water quality and the environmental condition of the area. As review of the ACOE permit application continues, the Applicant looks forward to working with EPA to continue to identify opportunities to utilize development of the marina as a tool to improve Coral Bay.