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CZM Act Consistency Review



CZM Consistency Analysis and Environmental Impact Analysis
for Applications CZJ-3-14(L) and CZJ-4-14(W)
by Summer's End Group LLC,
Marina and Associated Facilities in Coral Bay, St. John

Submitted By

Coral Bay Community Council

29 August 2014

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INTRODUCTION

This analysis of CZM consistency and mitigation of environmental impacts was prepared by a Coral Bay Community Council board member with ten years of experience in reviewing development applications for Coastal Zone consistency. The board of CBCC endorses this analysis and is submitting it as part of the institutional review of the CZM Permit Application.

SCOPE OF THE PROPOSED DEVELOPMENT

The "St John Marina" proposed by the Summer's End Group is a large project by any standard. However, due to ambiguities and lack of clarity in the application documents, it isn't perfectly clear exactly how large the project is, and what the scope of the application covers.

There are two permits which the applicants require from the CZM at this stage: a Major Land permit for the land-based development activity within Tier 1 of the coastal zone, and a Major Water permit for the construction of the marina. These are both "Section 910" permits. Since the marina will be built upon submerged lands in Coral Bay harbor, the applicant also requires a "Section 911" permit (the relevant language states: "12 V.I.C. § 911: No person shall develop or occupy the trust lands or other submerged or filled lands of the United States Virgin Islands without securing a coastal zone permit which includes, in addition to the elements of a section 910 permit, a permit or lease for the development or occupancy of the trust lands or other submerged or filled lands." So this can be viewed as a separate permit, or as an extension of the Section 910 Major Water permit.

THE MOORING FIELD

The scope of the Major Water permit for the development of the trust lands is unclear from the application, in at least two very significant regards. First, the applicant has mentioned in numerous places a Letter of Intent with DPNR for management of the so-called "Mooring Field" described in general terms in the application documents. Clearly some accommodation needs to be made for the 115 boats which are, for the most part, moored on DPNR approved moorings and a large portion of which are within the footprint of the proposed marina and would be displaced if this project were to proceed.

However, the Mooring Field is only vaguely mentioned in the application: there are no detailed engineering drawings or calculations to support the density and structure of the field, there are no analyses of the potential environmental impacts of its construction, there is no discussion of how this facility will be managed, the fees that would be charged, and so forth. The only thing the applicant has done is submit a non-binding, expired Letter of Intent, and make the claim that the relocation of 115 vessels into this managed mooring field will mitigate the severe impacts to the marine meadows stemming from construction of the marina. In effect, the applicant has chosen to use the highly prospective mooring field to serve their own purposes in the Major Water application, without explicitly including the Mooring Field in the scope of the application. This major flaw in the scope of the application needs to be addressed: either the Mooring Field is part of the application, in which case its

design, impacts, and mitigations need to be fully discussed, or it is not part of the application, in which case it should not even be mentioned.

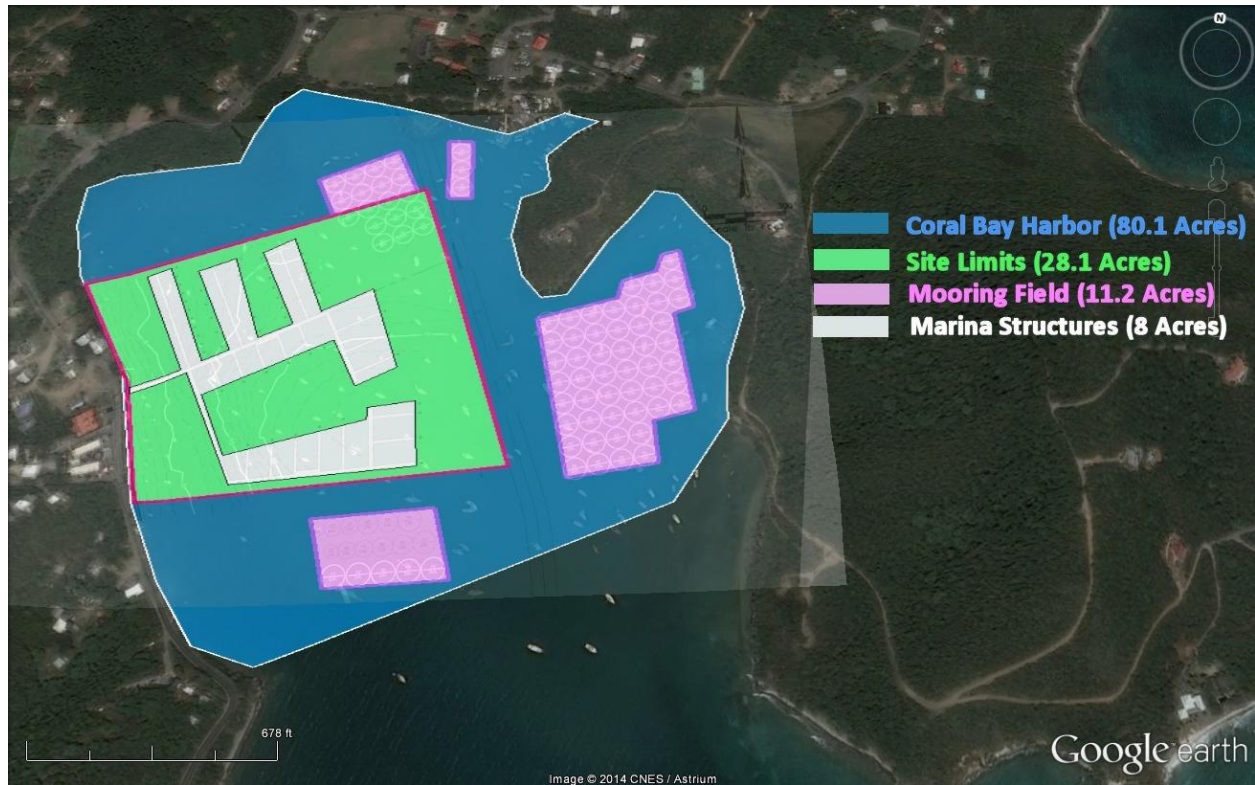
One final point on mooring fields is in order. According to the Table of Permitted Uses in the zoning code (29 V.I.C. § 228) marinas (such as proposed by Summer's End Group) are permitted in the W-1 and W-2 waterfront zoning districts. However a "mooring field" appears nowhere in the Table of Permitted Uses, in any zone. The allocation and regulation of moorings is a responsibility assigned explicitly to DPNR (25 V.I.C. § 401). The code explicitly requires DPNR to implement a mooring plan (25 V.I.C. § 404: "The Department shall develop and implement a mooring plan, subject to the approval of the Legislature's Committee on Planning and Natural Resources.") Furthermore, 25 V.I.C. § 404 states: "Until such time as a water use plan is developed, the Department shall administer programs in a manner consistent with the goals and objectives of this chapter and in a manner responsive to social and environmental needs."

Based on the forgoing, it appears as though SEG overstepped the limits of the zoning code by including a discussion of the prospective "Mooring Field" in their application. They cannot claim any compensatory mitigation from this activity since it is outside the scope of the application.

SIZE OF PROJECT AREA - THE SITE LIMITS

Second, we have been unable to find any explicit mention of the acreage of trust lands which the applicant seeks to utilize for the marina structure. The only area figures which we have been able to find in the Major Water EAR are 1.42 acres for the physical footprint of the marina, and 5.7 acres for the water coverage by boats, and the statement on page 5-4 where the development is described as an "approximate 8 acre project area." All of these figures are repeated in multiple places, particularly in any discussion of environmental impacts. This would lead one to believe that the size of the water-based project is 8 acres.

However, all of the drawings which depict the "Site Limits" are at odds with this figure. Take, for example, Sheets Number 02, 03 and 04 of the Army Corps of Engineers Permit Drawings, which all delineate the same "Site Limit" boundaries. The area within the Site Limits is not even close to 8 acres - it is approximately 30 acres. If one includes the area covered by the Mooring Field (multiple locations), then this adds an additional 11.1 acres to the project coverage. The illustration below is a current aerial photograph of Coral Bay Harbor (from Google Earth) with the physical marina structure, the marina site limits, and the mooring field areas all highlighted.



It would appear, and this needs to be confirmed with the applicant, that the 8 acres described as the "project area" is actually only the finally developed portion of the site, and the entire site which is within the Site Limits is around 30 acres. If the Mooring Field regions are added, the entire site is approximately 40 acres, covering most of the navigable water of Coral Bay Harbor, and around 50% of the entire harbor acreage.

If it was an unintended oversight not to mention the total site acreage then this can be corrected in the application, and it should be resubmitted with this acreage forming the basis for the EAR and impact studies on the marine meadows. If the mooring field is intended to be within the formal scope of the project then this too needs to be added and the application amended. If the total acreage was intentionally omitted then this is a serious matter which should be dealt with administratively.

SCOPE OF THIS REVIEW

Although many members of the community may view the CZM permit hearing as an opportunity to comment and critique specific details of the proposed marina project, that is not, and should not be the focus of the public hearing, public comments, and the deliberation of the commission following this public hearing. The role of the CZM in this process is clearly spelled out in the Virgin Islands Code (VIC), and can be found in Title 12, Chapter 21, Section 910. This section says, in relevant part:

"any person wishing to perform or undertake any development in the first tier of the coastal zone ... shall obtain a coastal zone permit in addition to obtaining any other

permit required by law from any public agency prior to performing or undertaking any development. A permit shall be granted for a development if the appropriate Committee of the Commission or the Commissioner ... finds that

(A) **the development is consistent with the basic goals, policies and standards provided in sections 903 and 906 of this chapter;** and

(B) the development as finally proposed **incorporates to the maximum extent feasible mitigation measures to substantially lessen or eliminate any and all adverse environmental impacts of the development;** otherwise the permit application shall be denied. The applicant shall have the burden of proof to demonstrate compliance with these requirements"

This language is central to the Coastal Zone Management Plan and is found in virtually all coastal management plans in the United States and its Territories. The burden placed on the Commission is to assess the consistency of the proposed development with the goals and policies of the management plan, and to determine whether the plan incorporates the maximum feasible mitigation measures to lessen or eliminate any and all adverse environmental impacts. For this reason, the process we are currently in is generally known as a "Coastal Consistency Review".

The second purpose of this application review pertains to the part of the development plan which is built upon submerged lands of the Virgin Islands. In this case, that includes the entire multi-acre fixed marina facility. Such lands can only be used pursuant to a lease agreement with the Territory, implemented through an act of the Legislature. The CZM is required under Section 911 to adopt specific findings in order to approve such use of submerged lands. These findings are:

(1) that the application is **consistent with the basic goals of section 903 and with the policies and standards of section 906 ...**

(2) that the grant of such permit will clearly **serve the public good**, will be in the public interest and will not adversely affect the public health, safety and general welfare or cause significant adverse environmental effects;

(3) that the occupancy and/or development to be authorized by such a permit will **enhance the existing environment** or will result in minimum damage to the existing environment;

(4) that **there is no reasonably feasible alternative to the contemplated use or activity which would reduce the adverse environmental impact upon the trust lands** or other submerged or filled lands;

(5) that there will be **compliance with the United States Virgin Islands territorial air and water quality standards;**

(6) that the occupancy and/or development will be **adequately supervised and controlled to prevent adverse environmental effects;** and

(7) that in the case of the grant of an occupancy or development lease, an occupancy or development permit for the filled land is not sufficient or appropriate to meet the needs of the applicant for such lease. The burden of proving such insufficiency or inappropriateness shall be upon the applicant.

The law here is very clear and precise: the Commission must adopt these seven findings in order to approve a CZM application which includes development on trust lands or submerged lands. So the work of this commission includes not only the Coastal Consistency determination but six additional specific findings required under the law.

So, with this as background, we would now like to offer observations on the consistency of the St John Marina proposal with the goals, policies and standards of the Virgin Islands Coastal Zone Management Plan.

COASTAL CONSISTENCY REVIEW

The methodology for conducting a Coastal Consistency Review is fairly straightforward but it does require a considerable level of judgment on the part of the review agency. The goals and policies are contained within the CZM law in Section 903 (Goals) and Section 906 (Policies). These goals and policies cover an extremely broad range of possible activities, including such disparate projects as subdivisions, hotels, fishing, dredging, sand and gravel mining, and so forth, many of which are simply not relevant to any particular application. So the review begins by identifying the goals and policies which are relevant to a particular application, and then analyzing the application and reaching an analytical conclusion as to whether the proposed development is consistent with the explicitly stated goal or policy. The analysis is based on data supplied by the applicant and any other data which the CZM deems relevant.

With the assistance of one of our board members who has extensive experience in Coastal Zone consistency analysis, we have performed such a review on the St John Marina application and would like to share our findings with the Commission. We begin with the Section 903 Goals, and then proceed to the Section 906 Policies. The data is presented in tabular fashion to assist in the presentation. The table consists of three columns: the first column is the verbatim language of the Goal or Policy, excerpted from the VI Coastal Zone Management Act, the second column is a brief discussion of relevant aspects of the proposed development which have a direct bearing on the consistency with the stated goal or policy. The third column is the finding of consistency for this goal or policy - simply stated as a YES, or a NO, or N/A (Not Applicable).

CONSISTENCY WITH SECTION 903 GOALS

CZMA Goal	Commentary	Consistency
<p>(1) protect, maintain, preserve and, where feasible, enhance and restore, the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the scenic and historic resources of the coastal zone for the benefit of residents of and visitors of the United States Virgin Islands;</p>	<p>The applicant proposes to build an extensive marina complex situated above lush marine meadows and within critical habitat of federally protected endangered species (corals and marine turtles). This activity cannot be construed to be protecting, maintaining, preserving, enhancing or restoring the quality of the natural environment in the coastal zone, since, by the applicant's own statements, "seagrasses are impacted after approximately 2 weeks of shading (and) this will result in the loss of seagrass with in the marina due to vessel shading. This will probably be seen as loss of density as well as denuding of some areas especially around larger boats which are permanently moored." (Major Water EAR, Page 5-4)</p> <p>The goal also speaks of protecting the man-made, scenic and historical resources of the coastal zone. This proposed development will dramatically change the viewshed of Coral Bay Harbor, as clearly indicated in the renderings of the finished project prepared by the applicant. Such changes do not maintain or preserve scenic resources of the coastal zone.</p> <p>The applicant may claim that this project will "enhance the overall quality of the environment" and specifically refer to the man-made resources therein. However "quality" is not an objectively defined term, and the vast majority of Coral Bay residents have said that this project will degrade, not enhance, the quality of the man-made environment.</p>	<p>NO</p>
<p>(2) promote economic development and growth in the coastal zone and consider the need for development of greater than territorial concern by managing: (1) the impacts of human activity and (2) the use and development of renewable and nonrenewable resources so as to maintain and enhance the long-term productivity of the coastal environment;</p>	<p>The applicant states that this project will result in significant economic benefits for the Coral Bay community and for the island of St John. If these projections prove to be true then the application is consistent with this goal.</p> <p>Although possibly outside the scope of a coastal consistency review, we should note that the financial projections by the applicant, including the construction costs for the marina complex, put into question whether the project will be financially viable.</p>	<p>YES</p>
<p>(3) assure priority for coastal-dependent development over other development in the coastal zone by reserving areas suitable for</p>	<p>This application is not being proposed in an area which was reserved for coastal development and suitable for commercial use. The Virgin Islands Coastal Management Program and Final Environmental Impact Statement (VICMP)</p>	<p>NO</p>

<p>commercial uses including hotels and related facilities, industrial uses including port and marine facilities, and recreation uses;</p>	<p>submitted by the USVI to NOAA in 1979 has the following guidance on Marine Meadows (Grass Beds): "Priority uses for marine meadows and algal plains are conservation (with limited fishing) and carefully monitored mariculture. Any uses in or adjacent to marine meadows and algal plains that create chronic, heavy turbidity or otherwise impede sunlight penetration, or cause perturbation, should be prohibited." (page 119) By the applicants own statements, we know that the proposed development will cause significant shading resulting in loss of multiple acres of sea grass.</p> <p>Furthermore, the "Coastal Land and Water Use Plan" which was adopted by reference in the 1978 CZMA, includes a map of St John that identifies precisely two places on St John "suitable for commercial uses ... including marine facilities". These two places are Enighed Pond and the Creek in Cruz Bay Harbor. Conversely, the western shore of Coral Bay Harbor north of Pen Point is identified on the same map as suitable for "Preservation" or "Conservation".</p> <p>Finally, Table 7-1 of the VICMP identifies the characteristics of regions suitable for marina development as having the following traits: "developed shorelines and waters, sand bottoms". This site, with its sparsely developed shoreline and extensive marine meadows, is not suitable for marina development.</p>	
<p>(4) assure the orderly, balanced utilization and conservation of the resources of the coastal zone, taking into account the social and economic needs of the residents of the United States Virgin Islands;</p>	<p>The purpose of this goal is to balance utilization with conservation, in the best interests of the residents of the USVI.</p> <p>This project is proposed as a development with significant community involvement and local ownership. Assuming this is true, then the application would appear to be at least partially consistent with this goal. The applicant has proffered a letter commitment for non-VI funding of \$35 million which does lead one to question whether ownership will ultimately vest with the land owners, or with the debt holders, however the applicant is representing that the landowners and Virgin Island resident investors will benefit economically from the project.</p> <p>Notwithstanding the above, a large number of USVI residents in the Coral Bay area have produced statements that the project is not in their social or economic interests. It will likely harm villa rentals (at least in the short term) and small business owners (who may be displaced from their premises). So it would appear that the economic benefits will accrue to a relatively small number of residents,</p>	<p>NO</p>

	<p>whereas a large number of residents will not have their interests (either socially or economically) furthered by this proposed development.</p> <p>A benefit which accrues to a small number of individuals, while much larger numbers of residents are harmed, and while the environment is severely harmed, does not appear to constitute "orderly, balanced utilization and conservation."</p>	
<p>(5) preserve, protect and maintain the trust lands and other submerged and filled lands of the United States Virgin Islands so as to promote the general welfare of the people of the United States Virgin Islands;</p>	<p>The proposed marina will occupy over half of the entire area of inner Coral Bay Harbor, all of which is trust lands of the United States Virgin Islands. By transferring such a large portion of Coral Bay into private control, this goal is clearly not achieved - the trust lands are not preserved and protected, and the project does not promote the general welfare. In fact, many long-term users of DPNR approved moorings will be displaced by this project, in favor of a privately owned and operated facility. Several experienced boaters in Coral Bay have expressed serious doubts that the existing boats, on DPNR approved moorings in Coral Bay, will be able to fit within the "mooring field" depicted by the applicant.</p> <p>Furthermore, it does not appear as though the proposed "mooring field" is a formal part of the present application. There are no details on its construction, its environmental impacts, its usage policies, or any other information necessary to assess its feasibility. There is an expired "Letter of Intent" and the applicant claims mitigation of sea grass based on construction of this mooring field, but it does not appear to be part of the application. As such, the impact on existing users of Coral Bay Harbor cannot be quantified or assessed, and the application is clearly inconsistent with the goal promoting the preservation of the trust lands for the general welfare of the people of the USVI.</p>	<p>NO</p>
<p>(6) preserve what has been a tradition and protect what has become a right of the public by insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines consistent with constitutionally-protected rights of private property owners</p>	<p>The applicant will provide public access to the shoreline.</p>	<p>YES</p>
<p>(7) promote and provide affordable and diverse</p>	<p>Not applicable - the current application is not for a public recreational facility.</p>	<p>N/A</p>

<p>public recreational opportunities in the coastal zone for all residents of the United States Virgin Islands through acquisition, development and restoration of areas consistent with sound resource conservation principles;</p>		
<p>(8) conserve ecologically significant resource areas for their contribution to marine productivity and value as wildlife habitats, and preserve the function and integrity of reefs, marine meadows, salt ponds, mangroves and other significant natural areas;</p>	<p>This development, by the applicants own estimates, will result in the destruction of at least 2.8 acres of pristine marine meadows. It is quite possible that if the marina is successful with high occupancy rates, then the loss of marine meadows could be as high as 8 acres, in some of the most lush and dense marine grass in St John. This clearly does not conserve ecologically significant resource areas.</p> <p>The total acreage of the marina is unclear from the applicant's documents. The ACE drawings delineate an area designated as the "Site Limits" which surrounds the entire marina structure. If one assumes that it is the entire Site Limits which the applicant is seeking to lease from the trust lands of the VI, then it is this entire area which becomes potentially subject to environmental degradation. The area within the Site Limits is approximately 30 acres, most of which is marine meadows. Turbidity from propeller wash, shading from large "mega yachts" and toxic compounds from boat bottoms will inevitably degrade most of the marine meadows within the 30 acre site limits.</p>	<p>NO</p>
<p>(9) maintain or increase coastal water quality through control of erosion, sedimentation, runoff, siltation and sewage discharge;</p>	<p>Applicant states that surface water catchment will be adequate to reduce sediments entering Coral Bay Harbor. There is some concern that the engineered rainfall limits may be inadequate for this side of Bordeaux Mountain. The pump-out facility will reduce sewage discharge.</p>	<p>YES</p>
<p>(10) consolidate the existing regulatory controls applicable to uses of land and water in the coastal zone into a single unified process consistent with the provisions of this chapter, and coordinate therewith the various regulatory requirements of the United States Government;</p>	<p>Not directly applicable.</p>	<p>N/A</p>
<p>(11) promote public participation in decisions affecting coastal planning conservation and development.</p>	<p>The applicant claims to have consulted with many public groups, and CZM is convening this public hearing, both of which are supportive of this goal.</p>	<p>YES</p>

CONSISTENCY WITH SECTION 906 POLICIES

Policy	Commentary	Consistency
<i>DEVELOPMENT POLICIES</i>		
<p>(1) to guide new development to the maximum extent feasible into locations with, contiguous with, or in close proximity to existing developed sites and into areas with adequate public services and to allow well-planned, self-sufficient development in other suitable areas where it will have no significant adverse effects, individually or cumulative, on coastal zone resources;</p>	<p>The western shore of Coral Bay Harbor in the vicinity of the proposed project is an area of very low density commercial development - three restaurants, two bars, and one convenience store make up the primary commercial activity in the area. In addition there are several small jewelry and handicraft stores, a pottery studio, a chiropractic office, an interior decorator and a computer repair service. All businesses are locally owned and operated. The seaward portion of the proposed development is on undeveloped underwater Trust Lands.</p> <p>The landward portion of the project is largely on developed parcels, however the density of the developed areas is far less than is planned in the present application. The applicants agree that public services are inadequate and will need to be enhanced (solid waste disposal, sewage treatment, police and public safety, potable water). The intent of this policy is to guide development into areas which are "ready to be developed" in the sense that the new project should be an extension of what is already present and not be something fundamentally new and requiring new public services. This project fails to meet the objective of the policy.</p> <p>By locating a high density marina in a sparsely occupied portion of Coral Bay Harbor, offshore from a sparsely developed residential and commercial neighborhood, this policy is explicitly violated. A far lower density marina project might be deemed consistent, however this project, with its extensive land-based parking and commercial development, and its 145 slip marina accommodating 10,000 linear feet of boat, is in blatant disregard for this development policy. There are currently 115 boats moored in Coral Bay, with an average boat length of around 30 feet, for a total of around 3500 linear feet of boat. The proposed marina places an additional 10 thousand (10,000) feet of boat into the harbor, an increase of 300%.</p> <p>This proposed development cannot be deemed to be a "well-planned, self-sufficient development" where it will "have no significant adverse effects ... on coastal zone resources." By the applicants own admission the marina will have significant</p>	<p>NO</p>

	adverse effects on marine meadows, a critical coastal zone resource.	
(2) to give highest priority to water dependent uses, particularly in those areas suitable for commercial uses including resort hotels and related facilities, industrial uses including port and marine facilities, and recreation; to give secondary priority to those uses that are water-related or have special siting needs; and to discourage uses which are neither water-dependent, water-related nor have special siting needs in areas suitable for the highest and secondary priority uses;	The current proposal is clearly water dependent, in that it is a marina.	YES
(3) to assure that new or expanded public capital improvement projects will be designed to accommodate those needs generated by development or uses permitted consistent with the Coastal Land and Water Use Plan and provisions of this chapter;	Not applicable: this is not a public capital improvement project.	N/A
(4) to assure that all new subdivisions, in addition to the other requirements contained in this chapter and in the Virgin Islands Zoning and Subdivision Law, are physically suitable for the proposed sites and are designed and improved so as to avoid causing environmental damage or problems of public health;	Not applicable: this is not a subdivision.	N/A
(5) to encourage waterfront redevelopment and renewal in developed harbors in order to preserve and improve physical and visual access to the waterfront from residential neighborhoods and commercial downtown areas;	This policy guides the Commission to encourage redevelopment in developed harbors. Coral Bay is not a developed harbor, and the project does not improve visual access to the waterfront from residential neighborhoods.	NO
(6) to assure that development will be sited and designed to protect views to and along the sea and scenic coastal areas, to minimize the alteration of natural land forms, and to be	The near-shore area of the proposed marina consists of mangroves and open space. The offshore area is largely seagrass meadows and public moorings which have been in place for at least 25 years. This project will dramatically alter the views to and along the sea. It will not be at all visually compatible with the character of the	NO

<p>visually compatible with the character of surrounding areas;</p>	<p>surrounding area. There are many historic structures which are currently within the viewshed from the shoreline where the marina is proposed to be built: the Moravian Church, the Customs House on Usher Cay, and the Battery at Fortsberg. It is likely that this entire viewshed will be eliminated by virtue of placement of the marina, large boats, and additional buildings in close proximity to the shoreline.</p>	
<p>(7) to encourage fishing and carefully monitor mariculture and, to the maximum extent feasible, to protect local fishing activities from encroachment by non-related development;</p>	<p>Although this project will result in the removal of an informal local fish market, it proposes to replace it with a new local fish market.</p>	<p>YES</p>
<p>(8) to assure that dredging or filling of submerged lands is clearly in the public interest; and to ensure that such proposals are consistent with specific marine environment policies contained in this chapter. To these ends, the diking, filling or dredging of coastal waters, salt ponds, lagoons, marshes or estuaries may be permitted in accordance with other applicable provisions of this chapter only where there are no feasible, less environmentally-damaging alternatives and, where feasible, mitigation measures have been provided to minimize adverse environmental effects, and in any event shall be limited to the following: (i) maintenance dredging required for existing navigational channels, vessel berthing and mooring areas; (ii) incidental public service purposes, including but not limited to the burying of cables and pipes, the inspection of piers and the maintenance of existing intake and out-fall lines; (iii) new or expanded port, oil, gas and water transportation, and coastal dependent industrial uses, including commercial fishing facilities, cruise ship facilities, and boating facilities and marinas; (iv) except as restricted by</p>	<p>According to the definitions within the CZMA, "filling" includes the installation of pilings on the sea floor: "Fill" means earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area. (12 V.I.C. § 902)</p> <p>The SEG application, as specified, requires installation of 1,333 pilings to support the fixed marina structures. According to the CZMA definition cited above, the pilings constitute "fill" and their installation is "filling". Therefore CZMA Development Policy (8) applies to this application. In particular, the clause which states: "filling ... may be permitted ... only where there are no feasible, less environmentally-damaging alternatives" is applicable to the marina application.</p> <p>The applicant has not performed a LEDPA (Least Environmentally Damaging Practicable Alternative) analysis as required by this policy. Without such an analysis, including the "No Action" alternative (i.e. not constructing a marina in this location), the LEDPA cannot be determined, and the filling cannot be permitted.</p> <p>Furthermore, the applicant's statement on page 6-16 of the "Major Water EAR" that "no dredging or fill is proposed" is clearly in error, given that the definition of "fill" in the CZMA (quoted above) includes pilings.</p>	<p>NO</p>

<p>federal law, mineral extraction, including sand, provided that such extraction shall be prohibited in significant natural areas; and (v) restoration purposes;</p>		
<p>(9) to the extent feasible, discourage further growth and development in flood-prone areas and assure that development in these areas is so designed as to minimize risks to life and property</p>	<p>The project is within an existing flood plain. In recent years there have been several extensive floods in the area, severe enough to alter the shoreline and impede access for several days. The area is known to take the brunt of tropical force weather, including storm surge and tidal and wave induced erosion. There is significant concern that a concentration of over 100 watercraft in this particular location would be disastrous in the event of a typical strong hurricane, resulting in significant loss to property and possible loss of life. If, in the event of a hurricane, multiple boats were to be beached on the shoreline and the roadway, then this could impede traffic and emergency services for the entire residential population south of the marina. Their only means of access to the rest of St John is to pass through the proposed marina complex. Note that New Buildings 8, 9, 10 and 11 on Site Plan Drawing C200 are all within the delineated FEMA 100 year flood plain.</p>	<p>NO</p>
<p>(10) to comply with all other applicable laws, rules, regulations, standards and criteria of public agencies.</p>	<p>To the best of our knowledge, the application is compliant with all other applicable laws and regulations.</p>	<p>YES</p>
<p>ENVIRONMENTAL POLICIES</p>		
<p>(1) to conserve significant natural areas for their contributions to marine productivity and value as habitats for endangered species and other wildlife;</p>	<p>By the applicants own estimates, the current proposal envisions loss of 2.8 acres of marine meadows, including sea grass beds which are habitat for endangered sea turtles. If the occupation levels at the marina reach 75%, as envisioned by the applicants' marketing plan, then the loss of sea grass from boat shading will amount to a minimum of 6.5 acres of some of the finest sea grass beds in the territory. The Site Limits for the marina encompass approximately 30 acres of submerged lands, the majority of which is marine meadows. Nowhere in the EAR is this total acreage mentioned, nor is the possibility that the entire acreage might be lost due to combination of turbidity, shading, and toxic chemical leaching from boat bottoms. Permitting this scale of marina in this site is clearly inconsistent with the</p>	<p>NO</p>

	environmental conservation policy.	
(2) to protect complexes of marine resource systems of unique productivity, including reefs, marine meadows, salt ponds, mangroves and other natural systems, and assure that activities in or adjacent to such complexes are designed and carried out so as to minimize adverse effects on marine productivity, habitat value, storm buffering capabilities, and water quality of the entire complex;	<p>The installation of 1333 pilings, and the shading created by 300,000 sq ft of piers and watercraft, will severely impact the existing marine meadow in the footprint of the proposed marina. Marine meadows are specifically called out for protection in this policy, as well as elsewhere in the Coastal Zone Management Plan approved by NOAA.</p> <p>Given the probable adverse impact to 3-7 acres of marine meadows and the compensatory mitigation of approximately 0.06 acre (2500 sq ft) this application cannot be deemed to "protect complexes of marine resource system ... including ... marine meadows". In fact it will lead to very significant loss of highly valuable habitat.</p>	NO
(3) to consider use impacts on marine life and adjacent and related coastal environment;	<p>As far as we can tell, the applicant has not considered the use impacts on the adjacent coastal environment. However, since the EAR does identify the marine life in the vicinity of the proposed development, and does identify some measures to mitigate potential threats to marine life, they can be deemed to be consistent with this policy which simply requires that the applicant "consider use impacts." It would have been preferable if the applicant had considered the use impacts on adjacent protected waters, including Hurricane Hole.</p> <p>Migratory whales are found just outside the project area (humpback whales) and pile driving is known to be harmful to the health of this species, as well as marine turtles. The applicant states (Major Water EAR, page 5-5) "sonification of the marine environment can have a negative impact on sea turtles, marine mammals and fish." To mitigate this impact, the applicant states "the marina will be primarily constructed from the waterside using barge-mounted equipment to drive the dock and mooring piles with a vibratory hammer, where possible" however there is NO data supplied on the geological characteristics of the seabed where the 1333 pilings are proposed to be installed. Without knowing the depth to bedrock it is impossible to ascertain whether installation using a vibratory hammer is possible. If it is not possible to install using vibratory hammer then the sonic impacts might result in significant adverse impacts to these protected species.</p>	YES
(4) to assure that siting criteria, performance standards, and activity regulations are stringently enforced and upgraded to reflect advances in	The Army Corps of Engineers Wetlands Research Program (WRP) has published guidelines for design of piers to minimize impacts on sea grass. See "WRP Technical Note VN-RS-3.1, June 1999, Design and Construction of Docks to Minimize Seagrass	NO

<p>related technology and knowledge of adverse effects on marine productivity and public health;</p>	<p>Impacts" as one example of these siting criteria reflecting the latest empirical research on the effects of shading on sea grasses. This document provides the following guidance for dock design: Docks less than 2 m wide, oriented within 10 deg of north-south, and at least 3 m above the bottom will have the least impact to seagrasses. An additional 0.4 m in height should be added for each additional meter increment in width. If the alignment is more than 10 deg from north-south, the dock should be 0.2 m higher for each additional 10-deg increment. The drawings submitted for ACE approval do not conform to these guidelines, and hence do not reflect the most current standards and criteria for marina construction over sea grasses.</p>	
<p>(5) to assure that existing water quality standards for all point source discharge activities are stringently enforced and that the standards are continually upgraded to achieve the highest possible conformance with federally-promulgated water quality criteria;</p>	<p>The applicant states that there will be no point source discharge activities resulting from this project. This claim needs to be verified.</p>	<p>YES</p>
<p>(6) to preserve and protect the environments of offshore islands and cays;</p>	<p>Not directly applicable.</p>	<p>N/A</p>
<p>(7) to accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect marine resources and navigation.</p>	<p>Not applicable.</p>	<p>N/A</p>
<p>(8) to assure the dredging and disposal of dredged material will cause minimal adverse affects to marine and wildlife habitats and water circulation;</p>	<p>Not applicable. The applicant has not applied for a dredging permit.</p>	<p>N/A</p>
<p>(9) to assure that development in areas adjacent to environmentally-sensitive habitat areas, especially those of endangered species, significant natural areas, and parks and recreations areas, is sited and designed to prevent impacts which would significantly degrade such areas;</p>	<p>The destruction of between 2.8 and 8.0 acres of marine meadows, which is habitat for endangered sea turtles, is not consistent with this policy. The measures proposed to prevent vessel strikes with coral and endangered marine mammals and turtles is to post signage with guidelines for avoiding impacts with sensitive marine life. This does not constitute "assurance" that the development will "prevent impacts" and is inadequate to meet the standards of this policy.</p>	<p>NO</p>
<p>(10) to assure all of the foregoing, development</p>	<p>The applicant has proposed a sediment and erosion control plan to be implemented</p>	<p>YES</p>

<p>must be designed so that adverse impacts on marine productivity, habitat value, storm buffering capabilities and water quality are minimized to the greatest feasible extent by careful integration of construction with the site. Significant erosion, sediment transport, land settlement or environmental degradation of the site shall be identified in the environmental assessment report prepared for or used in the review of the development, or described in any other study, report, test results or comparable documents</p>	<p>during land-based construction, as well as storm water management during and after construction. Assuming these plans are implemented properly then the development should meet this policy goal.</p>	
<p>AMENITY POLICIES</p>		
<p>(1) to protect and, where feasible or appropriate, enhance and increase public coastal recreational uses, areas and facilities;</p>	<p>This proposed development does increase coastal recreational uses and facilities, albeit in a private context. It is unclear whether this policy is specifically about public use, or simply about recreational use in general. We will assume the latter, in which case the application is consistent with this policy.</p>	<p>YES</p>
<p>(2) to protect and enhance the characteristics of those coastal areas which are most valued by the public as amenities and which are scarce, or would be significantly altered in character by development, or which would cause significant environmental degradation if developed;</p>	<p>The existing anchorage in Coral Bay is highly valued by the boating community as a protected anchorage. This proposal would not only eliminate the public anchorage sites in up to 30 acres of Coral Bay Harbor (see the "Site Limits" on the USACE Permit Drawings) but it would also create significant navigational hazards due to the maneuvering of mega-yachts in and out of the dock facility. The risk to life and property resulting from a collision between a mega-yacht and a small dinghy or kayak is extreme.</p> <p>Open coastlines with easy access from public roadways are fairly rare, and the coastline adjacent to the roadway opposite Aquabistro is one of the few places where tourists, hikers, and residents can sit at the water's edge and contemplate the view without having to negotiate a trail or steep embankment. This amenity will be lost entirely if the proposed marina is developed.</p>	<p>NO</p>
<p>(3) to preserve agricultural land uses in the coastal zone by encouraging either maintenance of such present agricultural use or use as open-</p>	<p>This application does not impact agricultural uses.</p>	<p>N/A</p>

space areas;		
(4) to incorporate visual concern into the early stages of the planning and design of facilities proposed by siting in the coastal zone and, to the extent feasible, maintain or expand visual access to the coastline and coastal waters;	<p>Although the applicant does express "visual concern" within their application documents, their vision of a beautiful harbor is not consistent with the views of numerous long time residents of Coral Bay. Their project certainly does not "expand visual access to the coastline" and, in fact, their land-based construction plans, particularly for Phase 2, will impede visual access to the water.</p> <p>The shoreline at the precise location identified by the applicants for the landward portion of the proposed marina is one of the very few areas on the western shore of Coral Bay where a scenic vista of the entire harbor may be enjoyed. Views of historic structures, such as Fortsberg (listed on the National Register of Historic Places), the Emmaus Moravian Church (also listed on the National Register), and the Customs House on Usher Cay are all possible from this location, and possibly nowhere else easily accessible by tourists. The construction of the landward portion of this project as proposed would destroy these scenic shoreline views which are an amenity valued by the public.</p>	NO
(5) to foster, protect, improve, and ensure optimum access to, and recreational opportunities at, the shoreline for all the people consistent with public rights, constitutionally-protected rights of private property owners, and the need to protect natural resources from overuse;	<p>The applicant intends to plant a line of red mangroves on either side of the main entrance to the marina pier. The shoreline in this area is currently open for public access, and is frequently accessed by users of dinghies and kayaks as a safe and convenient place to enter or leave the water, to access restaurants and grocery stores, and for general leisure use. The planting of the mangroves is justified by the applicant on the basis of erosion control, although it appears as though the existing rip-rap revetment is functioning adequately.</p> <p>The ACE Permit Drawing Sheet Number 03 depicts two lines of mangroves, one on either side of the main pier entrance. These total approximately 600 feet in length (300 feet on either side) and up to 25 feet in width.</p> <p>These plantings will have the effect of completely blocking access to the shoreline and the water beyond. It will, in effect, become a living fence along the coastline. This, combined with the locked access to the main pier, will make the entire shoreline inaccessible to the public, in express contradiction to this policy.</p>	NO
(6) to ensure that development will not interfere	There are approximately 50 boats on DPNR-approved moorings within the footprint	NO

<p>with the public's right of access to the sea where acquired through customary use, legislative authorization or dedication, including without limitation the use of beaches to the landward extent of the shoreline;</p>	<p>of the proposed marina. Many of these boats have utilized the same mooring location for many years. Displacing almost half of the legally moored vessels in Coral Bay Harbor and relocating them into densely packed mooring fields with substantially less privacy and greater risk of collision with neighboring vessels is clearly not consistent with this CZMA goal.</p> <p>Additionally, the proposed "mooring field" does not have appropriately designed facilities to accommodate the vast majority of vessels currently utilizing Coral Bay Harbor. This plan effectively monopolizes the entire harbor to the benefit of one private group, and is clearly not consistent with the letter or the intent of this policy. Furthermore, as detailed elsewhere, there is considerable doubt as to the legality of a private developer constructing and managing a public mooring field; this responsibility is specifically assigned to DPNR under the VI Boating code.</p>	
<p>(7) to require, in the discretion of the appropriate Committee of the Commission, that public access from the nearest public roadway to the shoreline be dedicated in land subdivisions or in new development projects requiring a major coastal zone permit.</p>	<p>There appears to be public access to the shoreline.</p>	<p>YES</p>

Consistency is not simply a matter of tallying "YES" and "NO" votes in the various policies and goals. Consistency requires use of judgment to assess whether, on balance, the proposed development is in line, to the maximum extent practicable, with the guidance provided by all of the goals and policies, and whether those areas in which the proposal is not consistent may be excused on the basis of infeasibility or some other objective standard. In fact, in the case of federal consistency with state and territorial Coastal Zone Management laws, "coastal consistency" is defined as "consistent to the maximum extent practicable" - and this is generally the standard adopted by state and local Coastal Zone Management boards.

Inconsistency with a single goal or policy is sufficient grounds to deny a consistency determination and deny a coastal zone permit. In the case of the Summer's End Marina application, there are numerous goals and policies which are totally ignored by the proposal, and this is more than sufficient cause for the Coastal Zone Management board to deny the requested permit.

SECTION 910(a)(2)(A) CONCLUSIONS

Based on the information submitted in the application by the Summer's End Group for a Major Land, Major Water, and Trust Lands Occupancy CZM permit for the "St John Marina" the following conclusions must be reached:

- The proposed development is **not consistent** with CZMA Section 903 Goals 1, 3, 4, 5 and 8, and
- The proposed development is **not consistent** with CZMA Section 906 Development Policies 1, 5, 6, 8 and 9, and
- The proposed development is **not consistent** with CZMA Section 906 Environmental Policies 1, 2, 4 and 9, and
- The proposed development is **not consistent** with CZMA Section 906 Amenity Policies 2, 4, 5 and 6.

The application does not, therefore, meet the coastal consistency standards required by Section 910 for issuance of a CZM permit and the permit(s) must be denied.

ADVERSE ENVIRONMENTAL IMPACTS AND MITIGATIONS

As stated earlier, the criteria for issuance of a CZM permit hinges on two clearly defined tests: first, whether the development is consistent with the goals and policies of the Coastal Zone Management act, and second, of equal importance, whether "**the development as finally proposed incorporates to the maximum extent feasible mitigation measures to substantially lessen or eliminate any and all adverse environmental impacts**" (12 V.I.C. § 910). Mitigation is not a "nice to have", it is an essential and required element of every plan in order to qualify for a CZM permit. This is the clear and unambiguous law.

Furthermore, the standard for mitigation is set quite high in the code. It is not sufficient to "do something" - what is required is sufficient mitigation to "**substantially lessen or eliminate any and all adverse**" impacts. If 3 out of 4 impacts are mitigated, this is not sufficient because it is not "any and all". If a mitigation is proposed which is unproven, or which provides only partial relief, this is not sufficient unless it is proven by the applicant that it "substantially lessens or eliminates" the impact. This is the law.

Finally, the "environment" is defined quite broadly in the CZMA: "Environment" means the physical, social and economic conditions which exist within the area which will be affected by a proposed project. (12 V.I.C. § 902). There are several significant environmental impacts identified by the applicant in this proposal. We will discuss just two of these, one of which was addressed by the applicant, and one of which was not:

1. the impact of the proposed development on the physical environment, specifically the sea grass beds, also known as marine meadows
2. the impact of the proposed development on the social environment stemming from viewshed impairment

IS THE MOORING FIELD PART OF THIS APPLICATION?

There is a serious defect in the Major Water Permit application, relating to the so-called "Mooring Field". The applicant has produced an expired, non-binding Letter of Intent, signed by the ex-head of DPNR and dated March 14, 2014 which indicates a desire to reach a formal agreement on management of the mooring field within 90 days. This time period has obviously lapsed, and absent any other information one must conclude that there is no further documentation on the possibility or probability of this aspect of the project.

The defect is this: one cannot discern from the available SEG application materials, whether the Mooring Field is within the scope of the requested permit, or not. If it IS within scope, then the application is deficient in not providing any engineering details (other than rough location maps), no environmental impact analysis of the construction of the field or removal of existing moorings, no evidence that it will support the existing boat population, and no evidence that it is a viable design from a navigational standpoint. All of this material one would expect, to the same level of detail as the applicant has submitted for the fixed marina facility, if the mooring field is a component of this application.

Furthermore, given its density, we would expect the mooring field to be included in the Army Corps of Engineers permit application, or at least a request for a determination from ACOE that no permit is required. It is nowhere to be found in the USACE appendix to the Major Water Permit.

Finally, given that there is no definitive agreement submitted by the applicant to demonstrate legal authority for construction and management of the mooring field, it is questionable how it could even be a part of the application. A "mooring field" is not a Permitted Use in any of the existing VI Zoning

Districts. The applicant has omitted ANY mention of the mooring field in the formal CZM Permit application (L&WD-2 Permit Application) which describes the project as follows (answer to question 7: "The Summer's End Group, LLC proposes to install a 145 wet slip, fixed dock marina with services including pump out, proper fueling, and other amenities for marina guests and the public. Also included are land based U.S. Customs facility, retail, restaurant, parking, and other services through the upgrade and renovation of existing buildings and property."

Based on all of the foregoing, perhaps the applicant does not consider the mooring field to be a part of the current application. However the term "mooring field" appears no less than 28 times in the Major Water EAR, and the applicant is claiming significant mitigation stemming from the construction of the mooring field. Clearly, one cannot claim mitigation for an activity which is speculative, not within the scope of the current permit application, and for which no material analysis has been performed. Mitigation must be a direct consequence of activities undertaken by a developer pursuant to a permit application.

This lack of clarity on whether the mooring field is intended to be within the scope of the permit application, or not, is a critical matter to resolve before the application can be properly reviewed.

MARINA IMPACT ON LEGALLY MOORED VESSELS

There are, at recent count, approximately 115 boats currently moored in Coral Bay Harbor. Of these, approximately half are on DPNR approved and registered mooring facilities. About half of the remainder have applied for DPNR approval and are awaiting processing of applications and/or inspection by DPNR.

Within the "Site Limits" of the Summer's End Marina, as shown on the aerial photographs of their application, there are approximately 54 vessels on moorings.



Summer's End has made the following statement regarding vessels within the marina site: "Construction of the marina will result in a decrease in available mooring within the immediate footprint of the marina. Based on a recent inspection perhaps up to 6 permitted vessels may be required to move." It is difficult to reconcile that statement with their aerial photograph, unless they are claiming that roughly 46 of the 54 vessels are not permitted. We do not believe this to be the case.

Nevertheless, it is clear that some number, perhaps a large number of individual moorings will be displaced by the construction of the proposed marina. Clearly the owners of these vessels cannot be displaced until alternative suitable arrangements have been made.

The allocation and regulation of moorings is a responsibility assigned explicitly to DPNR (25 V.I.C. § 401). The code explicitly requires DPNR to implement a mooring plan (25 V.I.C. § 404: "The Department shall develop and implement a mooring plan, subject to the approval of the Legislature's Committee on Planning and Natural Resources.") Furthermore, 25 V.I.C. § 404 states: "Until such time as a water use plan is developed, the Department shall administer programs in a manner consistent with the goals and objectives of this chapter and in a manner responsive to social and environmental needs."

Why is this relevant? The current Major Water Permit by Summer's End Group would result in loss of approximately 30 acres of mooring space in a harbor of only 80 acres. It would result in the loss of approximately 54 currently established mooring locations. Until DPNR, through the mechanisms prescribed in the VI Code, establishes a mooring plan for Coral Bay Harbor, any approval of the Major Water Permit and trust lands lease will severely restrict the options which DPNR has to implement its duties under the law.

A "Letter of Intent" for a "Mooring Field" does not relieve DPNR of its responsibilities. Furthermore, we do not believe that the CZM Committee has the authority to tacitly endorse a mooring plan. Summer's End Group wishes to claim mitigation of sea grass impacts by virtue of this highly speculative, probably non-functional, and generally unacceptable mooring field. The applicant has no authority to implement a mooring field - an authority solely vested in DPNR itself.

It is our conclusion that the Major Water CZM Permit application must be revised to omit any mention of a "Mooring Field" since this is not a facility which any private entity can construct - it is not even a permitted use under the zoning law. And any mitigation of environmental impacts stemming from the speculative "Mooring Field" must also be removed from the application.

BENTHIC MITIGATION PLAN - MARINE MEADOWS

The applicant has submitted, as Appendix C to the Major Water Permit application, a "Benthic Mitigation Plan" which aims to demonstrate compliance with the mitigation standards of the CZMA. The Benthic Mitigation Plan, as its title indicates, focuses exclusively on adverse environmental impacts to the physical benthic environment.

DESCRIPTION OF ADVERSE IMPACTS

A mitigation plan must begin with a description of the environment, which the applicant has supplied. We have no reason to doubt the accuracy of their description. The seabed in the vicinity of the proposed marina is primarily marine meadow colonized by sea grasses (*Thalasia*) of varying density and composition.

For reference on *Thalasia* sea grass (also known as turtle grass), the following excerpt from <http://seagrassrecovery.com> provides useful data on its physical structure, some of which is not found in the application:

"Turtle grass (*Thalassia*) is distinguished by its broad ribbon like leaves. Of all the locally found seagrass species, it has the **largest and most complex rhizome and root system** and the widest blades. Blades can grow up 14 inches long and approximately 4.5-10mm wide. Its robust rhizome system extends deeper into the substrate than other Florida seagrasses. **The strong rhizomes stabilize the sea floor during large storms making Turtle grass very important in the prevention of coastal erosion.** Turtle grass is typically found in clear, shallow waters, but has

been observed in Florida in depths down to 18m. **1 It requires stable salinity, high light availability and stable sediments...**"

The next component of a mitigation plan is a description of the probable source of adverse impacts. In the case of benthic flora, the primary impact of this development is the sunlight depletion resulting from the shadows cast by the fixed marina structures, the shadows cast by transient boats, and the increased turbidity of the water column resulting from propeller wash. Although there may well be other impacts, such as toxic substances leaching from bottom paints, the applicant has not offered any data on these, and for the purposes of mitigation analysis the shading impacts are sufficient to analyze the adequacy of the proposed mitigation.

QUANTIFICATION OF HABITAT LOSS

The applicant has quantified the impact using the following methodology and assumptions:

1. The total area of the fixed marina structures is 1.42 acres. The horizontal portions (decks and piers) of the marina are constructed using what the application calls "graded decking" - We believe this is a typographical error and what is meant is grated decking.
2. The applicant cites references to support an estimate of 46% survival for the sea grass beneath the fixed marina, equivalent to a loss of 54% or 33,402 square feet of sea turtle foraging habitat.
3. There are 1,333 pilings required for construction of the marina, and the applicant estimates each piling will directly impact a little less than 2 square feet, for a total loss of 2500 square feet of sea turtle foraging habitat.
4. The boats, at full occupancy, shade an additional 5.7 acres. The Benthic Mitigation Plan makes the following statement regarding the shading of the boats: "The slips will be occupied on average 47% of the year as that (sic) seagrasses are impacted after approximately 2 weeks of shading this will result in the loss of seagrass with in the marina due to vessel shading. This will probably be seen as loss of density as well as denuding of some areas especially around larger boats which are permanently moored. It is probable that as much as 2 acres of seagrass which is turtle forage habitat may be lost." There is no further reference cited, nor computation provided to explain the methodology for computation of the "as much as 2 acres" figure. We believe it is incorrect for several reasons.
5. Nonetheless, based on the applicant's own computations, the total habitat loss amounts to the sum of 2500 square feet (pilings), 33400 square feet (fixed marina) and 87120 square feet (boats). This is a total of 123,020 square feet of habitat loss.

The computation of habitat impact from boat shading is particularly troubling as it is inconsistent with the applicants own data elsewhere in the application, and inconsistent with the scientific data supplied by the applicant. The "Marketing Plan" submitted by Summer's End as a component of their application offers the following forecast of slip occupancy during the first year of operations:

Thus, due to tremendous unsatisfied demand, research shows that in its first year of operation, The St. John Marina will reach a minimum occupancy of 62.5 percent by non-seasonal users, with boats up to 60 ft, and 27.5 percent by seasonal guests, whose yachts exceed 60 ft, in their 145 available slips, not including the facility's 12 moorings.

The applicant is, according to their own estimate, forecasting 62.5% occupancy for non-seasonal (year round) users in their slips up to 60 ft, and 27.5% occupancy for the seasonal mega-yacht slips.

Elsewhere, in the Army Corps permit drawings, the slip mix and boat capacity for the proposed marina are explicitly tabulated (Sheet Number 03, Appendix E - USACE Permit Drawings):

<i>St. John Marina Slip Mix</i>		
<i>Slip Size (ft)</i>	<i>Number</i>	<i>Linear Feet</i>
North Club		
25	25	625
40	33	1,320
50	11	550
45	14	630
55	11	605
Side Tie*	2	225
Total	96	3,955
South Club		
90	2	180
100	11	1,100
110	3	330
120	1	120
130	1	130
140	10	1,400
160	6	960
210	1	210
Side Tie*	14	1,621
Total	49	6,051

To compute shading from boats, we will use an average figure for the beam (width) of the boats in the two clubs. For the boats between 25 and 55 feet in length we will assume an average beam of 15 feet. For the boats from 90 to 210 feet in length we will assume an average beam of 25 feet. Both of these

figures are conservative estimates based on a sample of listings in yachtworld.com (an online yacht brokerage).

Using these figures, the total shade created by boats in the North Club (if fully occupied) would amount to 59,325 square feet, and the total shade in the South Club would amount to 151,275 square feet. The total of these two figures is 4.8 acres, slightly less than the 5.7 acre figure provided by the applicant. One possible explanation for this discrepancy is the estimate of the average beam - the applicant has apparently used a higher figure than our calculations.

The shade cast by boats on the surface of shallow water is dense and complete shading. The shade cast by boats on lifts is still dense but there might be some small amount of diffused or reflected light entering into their shadow. The applicant cites scientific references which demonstrate that sea grasses are impacted by shading in as little as 2 weeks.

So, based on the applicants own data, the following conclusions can be drawn:

1. The North Club, at 62.5% non-seasonal occupancy, will shade 59,325 square feet of habitat, and the shade will be essentially year-round, resulting in complete loss of marine meadow habitat in the impacted region.
2. The South Club, at 27.5% seasonal occupancy, will shade 151,274 square feet of habitat, with most of the shading occurring during peak season. Since the occupancy is almost certainly distributed fairly uniformly across all available slips (i.e. not 27% of the slips occupied and 73% unoccupied all season), we can assume that each slip will be occupied for 27.5% of the season, on average, or roughly 50 days based on an 180 day season.
3. The shadow cast by a mega-yacht in 10-15' of water is total, with only very minimal opportunity for diffusion or reflection. The resulting habitat loss is rapid (2 weeks until impact is noticeable). The applicant has estimated that the mega-yacht slips will be occupied for roughly 7 weeks every season (50 days). So a reasonable estimate for the impact to this habitat resulting from shading would be 100% habitat loss, if not in the first year, certainly with 2-5 years. Note that the occupancy estimates were "minimum first year occupancy". The loss is therefore 151,274 square feet due to boat shading in the South Club.
4. These figures add to 4.8 acres, which is more than double the applicant's estimate of "up to 2 acres." The applicant supplied no methodology for computing their figure.

SUMMARY: CRITICAL HABITAT LOSS

Based on the foregoing computations, it is estimated that a minimum of 228,584 square feet (5.66 acres) of critical habitat for endangered species will be lost as a result of the construction and operation of the marina facility. Note that this does not include the 12 "Vessel Moorings" which are planned as

part of the "South Club" and for which no data on anticipated boat size was provided. The table below summarizes this data:

Source of Shading Impact	Square Feet of Habitat Loss
Marina Pilings	2,500 square feet
Fixed Marina Structures	33,402 square feet
"North Club" Boats	59,325 square feet
"South Club" Boats	151,275 square feet
TOTAL HABITAT LOSS	228,584 sf (5.66 acres)

COMPENSATORY MITIGATION

The applicant is offering two sources for compensatory mitigation of habitat loss: replanting of sea grass plugs taken from the footprint of the marina pilings, and an estimate of the potential for sea grass restoration stemming from moving all existing boats in the harbor to new and improved moorings. We will discuss each of these below.

The mitigation plan for the sea grass plugs is described in some detail, and it involves transplanting pieces of "sod" from the seabed under the marina to an alternative location at the north end of the harbor where the applicant claims most sea grasses have died off due to sediment runoff from the uplands. The applicant seems familiar with the principles and practice of *Thalassia* transplant with sod units. This mitigation will apply to the 2500 square feet directly impacted by the installation of pilings.

No other direct mitigation is offered.

There is considerable doubt whether the applicant is entitled to claim mitigation from an action which is not part of the current application - namely the prospective "Mooring Field". There is no guarantee this plan will be approved. There is no data supporting the claimed extent of scouring by existing moored vessels (the applicant claims between 300 and 400 square feet per vessel but has provided no evidence whatsoever to support this claim). There is no data supplied on the potential impact stemming from the installation of the proposed new mooring field other than the undocumented claim that it will have "negligible impact on the sea floor" (Benthic Mitigation Plan, Section VI).

In fact, the single piece of evidence to support the claim of impact from existing moorings seems at odds with the applicant's own data. Three photographs (lacking dates, lacking coordinates, and lacking linear scale) were provided to support the claim of seagrass scouring from moorings. The photograph labeled "common footprint" is shown below (from Benthic Mitigation Plan, Section VII):



Although no ruler is provided to estimate the size of the bare patch, the blades of *Thalassia* provide a reasonable measuring aide. *Thalassia* blades are typically around one foot in length (see reference cited above). Using this as a yardstick, the patch depicted in the photograph appears to be roughly ten feet in diameter (ten blades). This is equivalent to an area of less than 100 square feet. The applicant, however has made the following unsubstantiated claim: "There are currently 115 boats anchored or moored within the bay and these conservatively impact an area of between 34,500 and 46,000 sq. ft. based on their anchor drag and rope swing impacts." The figures 34,500 and 46,000 apparently are based on average impacts of 300 square feet ($300 \times 115 = 34500$) and 400 square feet ($400 \times 115 = 46000$) per boat. As the prior analysis indicates, the photograph supplied by the applicant demonstrates a "typical" scouring area of less than 100 square feet.

Given that at least half of the 115 boats currently moored in the harbor are on DPNR registered, inspected and approved moorings, utilizing essentially the same technology as Summer's End proposes for the managed mooring field (helical anchors and shackles), it is surprising that they can claim such mooring practices typically scour 300-400 square feet when installed by a boater, but negligible impact when installed by Summer's End. The reality is that seabed scouring is caused by line or chain drag, and this can be eliminated through use of floats or other devices to keep the lines off of the seabed.

The mitigation claimed for the prospective, out-of-scope mooring field is thoroughly inappropriate to be considered in this application. Alternatively, if the applicant wants this mitigation to be considered by the CZM Committee, then the Mooring Field must be included in the application, together with the engineering, EAR, and legal authority for its construction. Frankly, that would be impossible.

The total mitigation which this applicant has demonstrated is 2,500 square feet.

RECIPIENT SITE SELECTION AND PROBABILITY OF SUCCESS IN HABITAT RESTORATION

The applicant has proposed a recipient site at the north end of Coral Bay Harbor. The target site was once covered in sea grass but much of the vegetation has been lost due to sediment accumulation from upland overland sediment sources.

The plan proposes to transplant the *Thalassia* and *Syringodium* from the 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 and should significantly abate the input of terrestrial sediment. The area once had thriving seagrass beds. The placement of sod units in this area should serve to accelerate the re-colonization of this area.

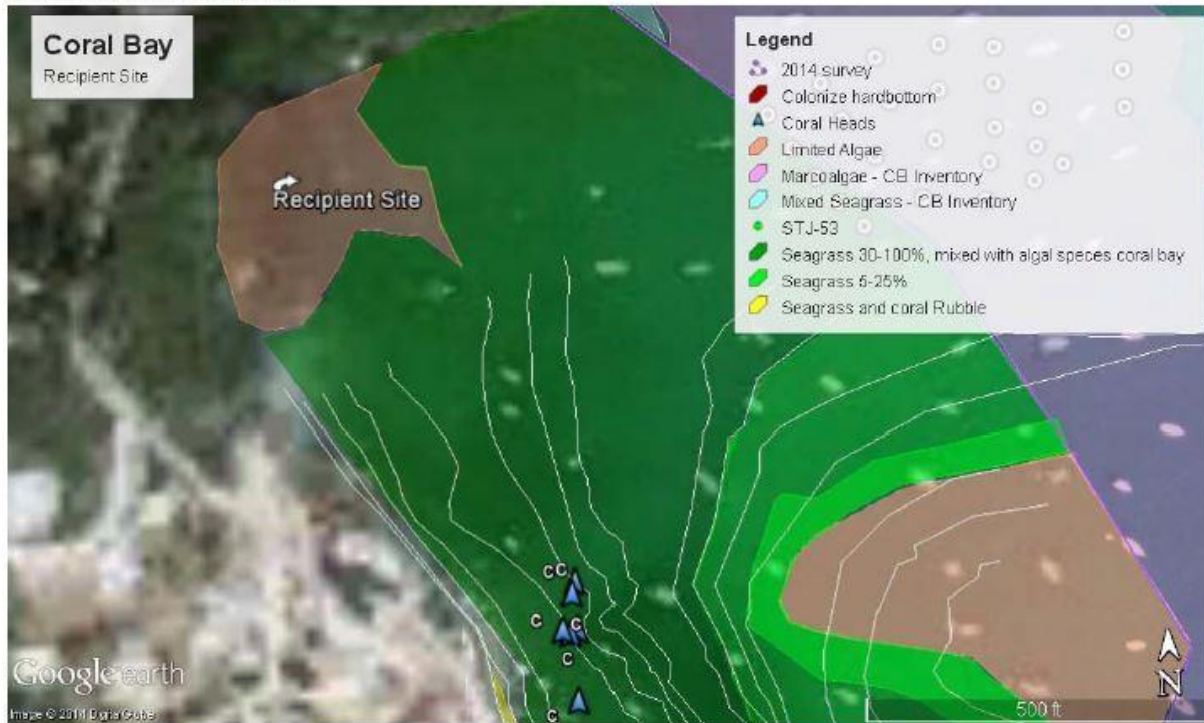


Figure 1. Location of seagrass Recipient Site

However, contrary to the claims made by the applicant, there is nothing in this application to mitigate those sources of sediment, which primarily stem from Kings Hill Road, the main Carolina ghut, the Johnny Horn Road, and the ghut near the fire station. All of the applicants efforts at removing sediment from upland sources apply to the surface water runoff approaching the marina itself, not the runoff which has impacted the seagrass in the designated Recipient Site. Efforts are being made (by others, not SEG) to reduce those sources, but nothing in the current application is relevant to that effort. It is highly likely that the 2500 individual sod plugs will not survive a single season.

HABITAT COMPENSATORY MITIGATION RATIOS

The standards for mitigation ratios (the area of restored habitat compared to the area of impacted habitat) vary widely depending on the locale, the species, and other variables. However, in all cases the mitigation ratio is something greater than 1:1 since it is widely recognized that there will be significant losses in the restored habitat. In order to simply remain habitat-neutral, the restoration ratio is often in

the range of 2:1 to 3:1. One reference to support these figures is from NOAA, Office of Habitat Conservation, Habitat Protection Division - "Developing Defensible Wetland Mitigation Ratios", Dennis M. King, Ph.D. and Elizabeth W. Price, M.S., University of Maryland, Center for Environmental Science, September 30, 2004. That reference cites compensation ratios in the range between 1.9 : 1 to 2.7 : 1 for "concurrent restoration." This is equivalent to 190% to 270%.

This applicant has provided a Benthic Mitigation Plan which offers a habitat compensation ratio of 2500 square feet for 228,500 square feet - somewhere around 1% when the standards and best practices call for 200-300%.

MITIGATION REQUIREMENT OF THE VI CZMA

The mitigation requirement of the CZMA for issuance of a Section 910 CZM permit is found in 12 V.I.C. § 910: "A permit shall be granted for a development if the appropriate Committee of the Commission or the Commissioner, whichever is applicable, finds that (A) the development is consistent with the basic goals, policies and standards provided in sections 903 and 906 of this chapter; **and (B) the development as finally proposed incorporates to the maximum extent feasible mitigation measures to substantially lessen or eliminate any and all adverse environmental impacts of the development; otherwise the permit application shall be denied.**" (emphasis added)

The standard for mitigation is "to the maximum extent feasible" in order to "substantially lessen or eliminate". This application absolutely and totally fails this test.

The applicant acknowledges the feasibility of utilizing sod transplant for habitat restoration, and includes this as their proposed mitigation in their plan. However, if it is feasible to transplant 2500 square feet, then it is feasible to transplant 228,000 square feet, provided an adequate receptor site is identified. The applicant cannot claim infeasibility.

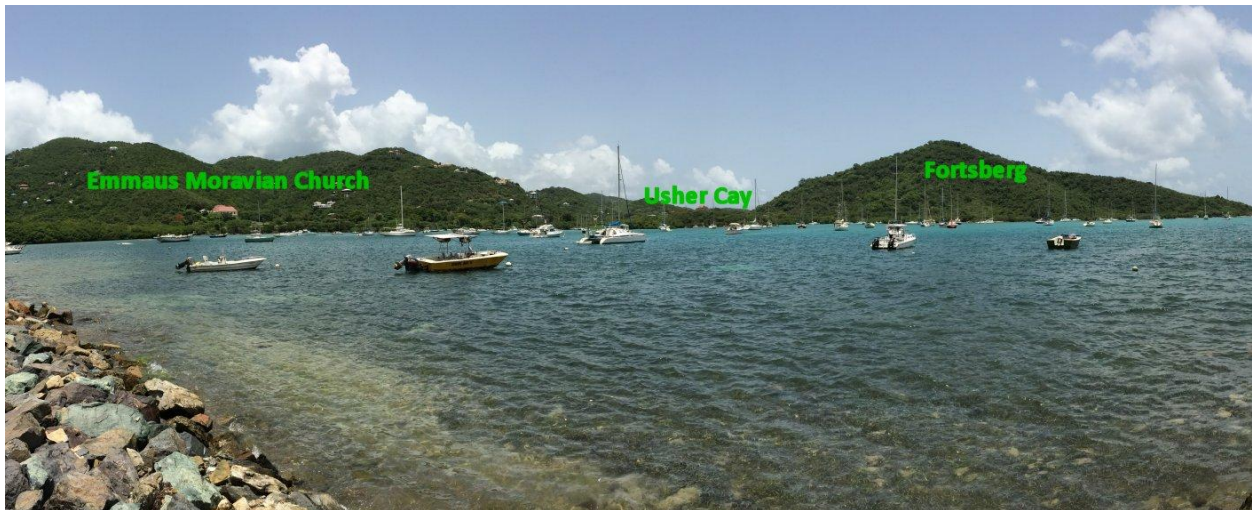
The standard specified in the code for the end result of mitigation is "to substantially lessen or eliminate any and all adverse environmental impacts." It should be obvious that 1% (the applicant's most optimistic mitigation result, assuming complete success of the transplants), is not even remotely acceptable under the CZMA standard. It does not substantially lessen or eliminate the impact to the seagrass beds.

THE SOCIAL ENVIRONMENT - HISTORIC VIEWSHEDS

The CZMA explicitly defines "environment" to include the social environment - the manmade components of a site which help to define its character. This includes historical monuments, social institutions, scenic views enjoyed by the public, and all other aspects which give a site its unique "personality" apart from that which nature provided.

The photograph below was taken on August 8, 2014. The photographer was standing on the rip-rap shoreline directly across the road from the Cocolobo complex. This is almost exactly at the point where the main marina pier meets the shoreline. It is a scenic vista enjoyed by residents and visitors countless times, almost every day of every year.

Three historic structures are visible on the opposite shore: The Emmaus Moravian Church, The Customs House on Usher Cay, and the Battery at Fortsberg. Two of these structures are listed on the National Register of Historic Places.



Rather than attempt an artist's rendering, we will simply assert that a 100' yacht docked approximately 180 feet offshore and parallel to the shoreline (as shown on the applicants permit drawings) as well as around 412 feet of lifts, supporting twenty-two 25' boats, again parallel to and about 180 feet offshore, would obliterate most of this viewshed.

This impact to the social environment has not been identified or addressed by the applicant. If it had been, then mitigation might consist of avoidance - locating the main pier north of the open viewshed, by slip arrangements leaving open spaces so as not to obliterate the entire horizon, or other architectural approaches to minimize, to the maximum extent feasible, the impact to this environmental resource. This is the requirement of the law.

CONCLUSIONS

Pursuant to the requirements for issuance of a CZM Permit, as stated in 12 V.I.C. § 910, it is our opinion that the applications by Summer's End Group, LLC, for a Major Land CZM Permit and a Major Water CZM Permit must both be denied. The applications are **not consistent with** the goals provided in 12 V.I.C. § 903 and the policies and standards provided in 12 V.I.C. § 906. Furthermore, the development as finally proposed **does not** incorporate to the maximum extent feasible mitigation measures to substantially lessen or eliminate any and all adverse environmental impacts of the development.

Respectfully submitted,

Sharon Coldren

President, Coral Bay Community Council

18 August 2014