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MyFWC.com

November 10, 2009

Steve Andrews, Jr.
Department of the Army
Jacksonville District Corps of Engineers
Pensacola Regulatory Office
41 North Jefferson Street, Suite 111
Pensacola, FL 32502
Stephen.w.andrews@usace.army.mil

Re: USACOE Permit Application No. 20091019-SAJ-2008-03187; Santa Rosa
County Board of County Commissioners; Navarre Beach Nearshore Gulf
Snorkeling Artificial Reef

Dear Mr. Andrews:

The Division of Marine Fisheries Management of the Florida Fish and Wildlife
Conservation Commission (FWC) has coordinated agency review of the referenced
document. The FWC provides the following comments pursuant to the Fish and
Wildlife Coordination Act.

Project Description

The proposed project involves placing thirty artificial reef modules known as "Walter Eco-reef" units in the nearshore environment in the littoral zone of the Gulf of Mexico, immediately seaward of the surf zone. Based upon the engineering drawings provided, these fabricated units are proposed to be placed in three parallel rows of ten units each with the most shoreward units about 340 feet from Santa Rosa Island's shoreline at Mean Lower Low Water (MLLW). The most seaward units would be placed about 550 feet offshore. The reported long axis of each ten-unit row is in a north-south direction, approximately perpendicular to the shore line of Navarre Beach, southern Santa Rosa County. Each five-foot diameter, circular, three-tiered reef module unit in the row would be 20 feet from its nearest neighbor, with the rows similarly 20 feet from the edge of the units in the adjacent row. The units would be placed on 25-foot centers. Minimum navigational clearance over the units would be at least six feet at MLLW and the approximate vertical relief of the units would be four feet. The seafloor depth at proposed placement locations is described as ranging from about -10 to -11 feet at MLLW. The permit area in which these 30 units would be placed is reported to be 82.0 feet wide (east-west) by 275.0 feet long (north-south). The proposed project is reported to be about 2000 feet east of the new Navarre Beach Fishing Pier.

A heavy-duty polypropylene rope with high-visibility floats is proposed to be strung east-west between two dolphin pilings for a distance of 170.5 feet. It would lie at the surface, eighty-five feet seaward of the seaward (south) end of the permit zone for the rectangular reef module. The floats and line are intended to provide a visible barrier to entry into the snorkeling area. The emergent dolphins are proposed to serve as platforms for an encased, solar, rechargeable 12-volt deep-cycle marine

battery placed on a four-foot by four-foot fiberglass grate bolted with stainless steel fasteners to the pilings and powering a continuous red warning light. An eight-foot by four-foot aluminum warning sign bolted to the dolphin pilings would face seaward. The sign is proposed to state in six-inch reflective lettering: "Warning - Swimming Area - No Watercraft Beyond this Point." The total height of the dolphin and lighting system above the water is proposed to be eleven feet. Each of three concrete pilings comprising each dolphin is 12 inches by 12 inches. The two dolphins with warning signs are proposed to be placed about 700 feet seaward of the shoreline at an approximate MLLW depth of -11.0 to -11.5 feet.

Local residents voiced interest in a Navarre Beach Gulf of Mexico snorkeling reef, protected from watercraft intrusion, as long ago as 2003. In response to local snorkeling reef interest, the Florida Park Service, which managed the beach area at the time, evaluated a conceptual snorkeling-reef project. The conceptual engineering design proposed a field of several dozen evenly spaced subsurface concrete pilings. The Florida Park Service then subsequently proposed a seaward shift of the area to 1000-1500 feet offshore to a depth of 30 feet. They elected not to pursue the project in 2004 due to lack of funding and liability concerns. The uplands title of the adjacent beach was later turned over to Santa Rosa County, the current applicant.

Potentially Affected Resources

Potentially affected resources include approximately 0.52 acres of nearshore Gulf of Mexico seafloor reported to be devoid of submerged aquatic vegetation and exposed hard bottom. The substrate is reported to be medium to coarse-grained sands with a surficial layer of microalgae/cyanobacteria.

Potential Effects of the Proposal

Effects of the proposal include possible localized changes in alongshore sand transport in the vicinity of the artificial reef module field, slight changes in bottom contour and depth at the immediate location of the individual modules where sand may accumulate on one side of the units and localized scouring around the base of the units may occur.

Physical placement of pilings to secure the 30 individual modules is expected to result in very localized direct mortality to the benthic invertebrates and possibly short-term sediment suspension. Secondary impacts include very minimal reduced open-sand bottom forage opportunities for benthic fish and invertebrates.

The modules are expected to attract primarily juvenile, reef-dependent and reef-transient fishes, including belted sandfish, blennies, damsel fish, juvenile angel fish, triggerfish, wrasses, lizardfish, and smaller individuals in the grouper snapper complex. Highest species and individual numbers of fishes are expected to be chiefly present during warmer, calmer water months with declines in species and biomass in winter colder, rougher water periods. Invertebrate fouling on upper portions of the

modules, not subject to continuous scouring, can be expected to proceed in a successional manner similar to that found on pilings on the nearby Navarre Beach pier.

Issues and Recommendations

Issue #1: There is no unique name provided for this specific project, and it is difficult to differentiate all of the artificial reefs in Santa Rosa County without unique names.

Recommendation #1: We have temporarily called this particular project "Navarre Beach Nearshore Gulf Snorkeling Artificial Reef," but we prefer that unique names be attached to this and future artificial reef projects to facilitate the public notice, application review, permitting, and potential future reauthorization processes.

Issue #2: No unit was provided for the project coordinates in the public notice.

Recommendation #2: Please confirm that the format of the latitude and longitude coordinates in the public notice is in decimal degrees (DD.dddd). We would request that the final permit include coordinates that are formatted in both decimal degrees (DD.dddd), and degrees, decimal minutes (DD MM.mmm). This will facilitate correct interpretation by marine contractors and observers, and be consistent with other U.S. Army Corps of Engineers' permits.

Issue #3: Although use of a specific, possibly patented module design, the Walter Eco-Reef, is proposed, detailed engineering specifications of this unit have not been provided.

Recommendation #3: Please provide a scale engineering diagram of the Walter Eco-Reef. Please include in the diagram information on the number of the circular tiers or layers in each module, their thickness, composition of the layers, including any materials added to increase surface rugosity; whether or not the layers are reinforced with steel or fiberglass, how the layers are mounted or fitted on the pilings, the separation distance between the layers, the composition and diameter of the piling, whether the piling is hollow (if so specify piling wall thickness) or solid, and the depth below the substrate the piling will extend as well as how far above the top circular tier the piling will extend.

Issue #4: The permitted area of 22,550 square feet (82 feet by 275.0 feet) is a relatively small, discrete area encompassing a very specific design pattern of 30 units placed on 25-foot centers. There is minimal room for placement error with less than twenty feet from the edge of the easterly and westerly rows from the nearest permit boundary. One engineering drawing shows precise module placement to the nearest tenth of a foot in three precisely laid out rows. Another engineering drawing, however, makes a disclaimer that "Reef materials may be deployed in a **different configuration** [emphasis added] than shown on the drawing." We have concerns that the drawings as shown does not correctly depict the anticipated actual outcome of the as built installation and that the necessary level of engineering expertise and

associated technology will not be available for the installation of this project to properly place the modules as described in the application, nor keep the modules within the permit area.

Recommendation #4: Please provide a detailed explanation of the specific installation technique to secure the units to the seafloor, how the vessel deploying platform would maintain position to deploy the modules, how the individual module locations would be marked to guide the contractor, and how the permit boundaries would be accurately delineated during the deployment to enable the contractor to ensure he is operating within the permitted area.

Issue #5: Structural durability and stability are key components of a successful artificial reef. Exposed open northwestern Florida Gulf beaches have had a history of hurricane/major storm caused structural damage or movement inflicted on piers, other inshore reefs (e.g., Pensacola Beach snorkeling reef), and other structures placed in a shallow water marine environment. The proposed modules have historically previously used in calmer-water bay environments and under docks, and have not been used in an open Gulf environment at the depth proposed (10 to 11 feet) just outside a high-energy surf zone whose width can be expected to expand seaward in a hurricane/major tropical storm event.

Recommendation #5: Please provide engineering data that these units can survive a 30-year return interval storm event at the depth placed.

Issue #6: We are concerned that construction of the artificial reef may precede the placement of appropriate Private Aids to Navigation (PATN), and that the described PATN may not be appropriate for this type of project. We are concerned that the permit holder may not be prepared to maintain, repair, or periodically replace in perpetuity the aids to navigation devices and signage described in the public notice. Loss of permanent lighting on concrete pilings jutting nine feet out of the water in water depths often traversed by water craft running parallel to the beach is a potentially serious safety hazard.

Recommendation #6: We request that the applicant provide confirmation that all applicable U.S. Coast Guard and FWC permits have been/will be obtained for the installation of PATNs, and also provide confirmation that PATNs will be in place prior to any artificial reef construction where the intent is to draw surface swimmers from shore to the structures. Please request that the applicant contact the FWC Boating and Waterways Section to consult on permitting requirements: anchoring.mooring@myfwc.com (850) 410-0656, ext. 17169

Issue #7: The physical structures of two emergent three pile concrete dolphins appear to be 87.5 feet south of the identified southeast and southwest artificial reef construction area corners and entirely outside the delineated permitted area.

Recommendation #7: We recommend that the permit area be expanded to include these permanent three dimensional dolphin structures.

Issue #8: Due to the shallow water depth of this project, we would like to review the bottom survey and survey methodology that was conducted.

Recommendation #8: Request that the applicant provide the FWC with a copy of the bottom survey and survey methodology, and afford us the opportunity to review and comment on the survey information.

Issue #9: The longitudinal difference between the NE corner and the NW corner and SW and SW corners of the project don't appear to reflect the listed linear distance of 82.0 feet but rather a slightly greater distance of about 93-94 ft.

Recommendation #9: Please double check all four-corner coordinates to ensure they reflect the appropriate distances between corner points as described in the engineering diagram and its relation to the shoreline of Santa Rosa Island. Please confirm that the latitude and longitude units are in degrees, decimal degrees in the absence of any degree, minutes, or seconds symbols.

Issue #10: The Site Location Map reproduced poorly, and the Directions to the Site indicates a County line east of the Site showing the county line as the Escambia County/Santa Rosa County line. We were under the impression the snorkel site was in Santa Rosa County. The snorkel reef site location is barely readable on this map.

Recommendation #10: Please provide a more readable site location map. Please confirm that the listed County line east of the snorkel site is the Santa Rosa/Okaloosa County Line as opposed to the listed Escambia County/Santa Rosa County line and that the site is in Santa Rosa County.

Issue #11: Pursuant to Chapter 379.249, Florida Statutes, transport and deployment of all artificial reef materials deployed off Florida require a cargo manifest. The public notice does not identify how a pre-deployment notice and a cargo manifest will be recorded and reported for each proposed deployment.

Recommendation #11: Include a pre-deployment and cargo manifest reporting of artificial reef deployments as a specific condition of the permit. Please see the attached "Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification," which is the form we request that the permittee send to us within 30 days of completion of each deployment day. The form should be sent to the attention of Jon Dodrill, FWC Artificial Reef Program, 620 S. Meridian Street, Box 4B2, Tallahassee, FL 32399, or via email to artificialreefdeployments@myfwc.com.

Issue #12: Pursuant to Chapter 379.249, Florida Statutes, the Division of Marine Fisheries Management is mandated to track all artificial reef deployments state-wide. The public notice does not identify how post-deployment coordinates would be notified to our office.

Recommendation #12: Include post-deployment reporting of artificial reef deployments as a specific condition of the permit. Please see the attached "FWC Material Placement Report," which is the form we request that the permittee send to

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us within 30 days of completion of each deployment day. The form should be sent to the attention of Jon Dodrill, FWC Artificial Reef Program, 620 S. Meridian Street, Box 4B2, Tallahassee, FL 32399, or via email to artificialreefdeployments@myfwc.com.

We appreciate the opportunity to provide input on this project application. If you have any questions, please contact Lisa Gregg at 850-487-0554, ext. 210, or by email at lisa.gregg@MyFWC.com.

Sincerely,



Mary Ann Poole
Commenting Program Coordinator

map/lg
ENV 1-5-2
Santa Rosa Artificial Reef_2454_110909
Enclosures

EXPLANATION SHEET FOR THE ARTIFICIAL REEF MATERIALS CARGO MANIFEST FORM

The attached artificial reef cargo manifest has been developed in compliance with subsection 370.25 (6)(b), Florida Statutes, which states that:

"It is unlawful for any person to: store, possess or transport on or across state waters any materials reasonably suited for artificial reef construction and stored in such a manner providing ready access for use and placement as an artificial reef, unless a valid cargo manifest issued by the commission or a commission-certified inspector is onboard the transporting vessel. The manifest will serve as authorization to use a valid permitted site or land-based staging area, which will validate that the type of artificial reef construction material being transported is permissible for use at the permitted site, and will describe and quantify the artificial reef material being transported. The manifest will also include the latitude and longitude coordinates of the proposed deployment location, the valid permit number, and the copy off the permit conditions for the permitted site. The manifest must be available for inspection by any authorized law enforcement officer or commission employee."

This requirement for a cargo manifest became part of the statutory revision of the artificial reef program statute Section 370.25 Florida Statutes (F.S.), modified during the 2000 State of Florida Legislature. The statutory language allows a "commission certified inspector" to complete and approve the artificial reef materials cargo manifest. Therefore, we are providing the attached cargo manifest form to all local coastal government artificial reef coordinators and eligible non-profit corporations who may physically construct artificial reefs with the approval of the permit holders.

INSTRUCTIONS

A separate cargo manifest form is to be completed for each load to be transported offshore (i.e., one manifest per voyage). The manifest is to list all, and only, the reef materials onboard.

The top of the form is to be filled out by the reef builder with his/her contact information and the information about the proposed reef materials to be deployed written into the boxes. If several materials are identical but have different tag numbers, please write "SAME" in the box for the other materials. Also put "SAME" under additional coordinates if all materials are going to the same deployment site.

The shaded portion of the form at the bottom is to be filled out by the materials inspector. The cargo manifest must be completed by an entity representing the holder of the applicable artificial reef permit to assure that all materials meet the requirements of the permit.

Completion of the artificial reef materials cargo manifest is required for all construction activities.

The requirement to complete this document is not intended to be an undue burden on entities wishing to legally construct artificial reefs within permitted sites, but is a tool to assist law enforcement personnel in preventing the illegal construction of artificial reefs without the knowledge of the permit holder or in areas outside of legally permitted sites. It is intended to allow law enforcement staff to determine whether or not a load of materials is legal under the permit conditions. Without a properly completed Cargo Manifest Form on board, reef builders will be returned to port pursuant to Chapter 370.25 (6) (b). It is not necessary to send a copy of the Cargo Manifest Form to the FWC artificial reef section in Tallahassee. Documentation of the reef building activity should be maintained by the entity issuing the manifest in the event of any FWC inquiries.

Reminder: the placement of all public artificial reefs in state or adjacent federal waters requires the submittal of a Materials Placement Report to the FWC artificial reef program within 30 days of public reef deployment in accordance with s. 379.249 F.S.



FLORIDA ARTIFICIAL REEF MATERIALS PLACEMENT REPORT AND POST-DEPLOYMENT NOTIFICATION



US Army Corps
of Engineers

To Be Completed For Each Deployment Location or Date of Deployment

County or Municipality: _____

Date of Placement: _____

Grant No. FWC - _____
(if applicable)

U.S. Army Corps
Permit No.: _____

Total project cost: \$ _____ (Funding Source(s) and Amount(s): FWC \$ _____ Local \$ _____ Other \$ _____)

Name of Permitted Reef Site: _____ Location Name for This Deployment: _____

Latitude: _____ ° _____ ' North
Degrees minutes decimal minutes

Longitude: _____ ° _____ ' West
Degrees minutes decimal minutes

GPS Brand: _____ GPS Model number: _____

Geographical Location: _____ at _____ degrees from _____
(nautical miles) (bearing) (reference inlet)

Water Depth: _____ feet (minus) Max. Material Height: _____ feet (equals) Actual Vertical Clearance: _____ feet

TYPE AND AMOUNT OF MATERIAL DEPLOYED AT THE LOCATION DESCRIBED ABOVE:

(ATTACH A PHOTOGRAPH OF THE MATERIAL ON THE BARGE IMMEDIATELY PRIOR TO DEPLOYMENT)

Primary Type of Material: _____ Number of Pieces: _____

Dimensions: _____

Secondary Type of Material: _____ Number of Pieces: _____

Dimensions: _____

How was tonnage calculated?(Check all that apply, attach additional sheets if necessary): Before & after barge draft calculation

Known weight of individual pieces

Trucking receipts

TOTAL TONNAGE FOR THIS DEPLOYMENT: _____

I DO HEREBY CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

Observer's Name: _____ Title: _____
(PLEASE PRINT) (PLEASE PRINT)

Observer's Signature: _____ Date: _____

Observer's Remarks: _____

I DO HEREBY CERTIFY THAT THE ABOVE INFORMATION COMPLIES WITH THE ABOVE REFERENCED PERMIT CONDITIONS

Permittee's Staff Name: _____ Title: _____
(PLEASE PRINT) (PLEASE PRINT)

Permittee's Staff Signature: _____ Date: _____

Local Tracking number _____ FWC Tracking number _____ Entered by _____ on _____
Rev. 4/23/2007 FWC initials date