

Attachment A

Itemized Responses to the Joint Coastal Permit Application
Bathtub Beach Restoration Project

Prepared for

Florida Department of Environmental Protection
Joint Coastal Permit Application

by

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Joint Application DNR Form 73-500

- | <u>Item</u> | <u>Issue/Response</u> |
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| 13. | <p><i>A copy of the Division of State Lands title determination for submerged lands or other State-owned lands. If you do not have title determination, Department staff will request that the Division of State Lands conduct a title check while your application remains incomplete.</i></p> <p>Response: The applicant does not have a Division of State Lands title determination. We request Department staff to initiate the state lands title check.</p> |
| 14. | <p><i>Satisfactory evidence demonstrating that the applicant has sufficient control and interest in the riparian upland property, as described in Subsection 18-21.004 (3)(b), Florida Administrative Code. Governmental entities that qualify for the waiver or deferral outlined in this rule must provide supporting documentation in order to be eligible. If the applicant is not the property owner, then authorization from the property owner for such use must be provided.</i></p> <p>Response: The Bathtub Beach proposed project consists of two areas, Bathtub Beach Park in the south and privately owned property in the north. The applicant requests a waiver of the requested information under Rule 18-21.004(3)(b), which grants an exception to the upland interest requirement for restoration and enhancement (e.g. nourishment) activities conducted by a government agency. According to Rule 18-21.004(3)(b), satisfactory evidence of sufficient upland interest is not required for the proposed activity, because the proposed borrow area is not riparian to uplands and the beach fill activities will not unreasonably infringe on riparian rights. We are currently seeking authorization letters from the adjacent property owners.</p> |
| 15. | <p><i>A detailed statement describing the existing and proposed upland uses and activities. For projects sponsored by a local government, indicate whether or not the facilities will be open to the general public. Provide a breakdown of any user fees that will be assessed to the general public and indicate whether or not such user fees will generate revenue or will simply cover costs associated with maintaining the facilities.</i></p> <p>Response: Attachment B contains the detailed project description. Bathtub Beach, a shallow beach area protected from wave energy by near shore and offshore reefs that provide excellent bathing, swimming, snorkeling and diving. Wormrock reef exposed at low tide, creates a protected tidal pool providing close-up views of marine life. The shoreline includes Bathtub Beach Park, an 8-acre area allowing public beach access. The park includes lifeguards, crosswalks, showers, restrooms, nature pavilion with seating and a river boardwalk on west side of MacArthur Boulevard leading to Indian River and 140 free parking spaces. The park does not charge user fees for access to the park.</p> |
| 16. | <p><i>The information in this item is only required if you are applying for a sovereignty submerged lands easement or lease. A list of the names and addresses of owners of all riparian property within 1,000 feet (and within a 500 ft radius) of the proposed</i></p> |

sovereignty submerged lands easement or lease site from the latest county tax roll. If the property is under cooperative or condominium ownership, the name and mailing address of the cooperative or condominium association will be adequate. This would not apply to off-shore leases or easements that are not located within 1,000 feet of the shoreline.

Response: Attachment C contains the names and addresses of the surrounding property owners.

17. *A legal property description and acreage of any sovereign submerged land that would be encompassed by the requested lease or easement, plus two (2) prints of a survey prepared, signed and sealed by a person properly licensed by the Florida State Board of Land Surveyors.*

Response: Attachment D contains two copies of the legal property description and survey for the beach and borrow area.

19. *Written evidence, provided by the appropriate governmental agency having jurisdiction over the activity, that the proposed activity, as submitted to the Department, is consistent with the state-approved Local Comprehensive Plan.*

Response: Attachment E contains Chapter 8 of the Martin County Comprehensive Plan which supports the proposed project.

20. *Topographic and bathymetric survey drawings of the proposed project site(s), including profiles and a contour map that reflect conditions within the past six (6) months, in accordance with Rule 62B-41.008(1)(h), F.A.C. Drawings shall meet the State's minimum technical standards and shall be signed and sealed by the professional surveyor, duly registered pursuant to Chapter 472, Florida Statutes, who performed the survey.*

Response: Attachment F contains the topographic and bathymetric drawings of the proposed project.

21. *A description of how the boundaries of any wetlands affected by the project were determined. If the wetland boundaries have ever been delineated through a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination or a revalidated jurisdictional determination, provide the identifying number of the document.*

Response: The project will not impact wetlands.

22. *An engineering description and measured-drawings of any existing structures on the site that may be directly or indirectly affected by, or that may directly or indirectly affect, the proposed activity. This shall typically include shore protection structures such as groins, utility or stormwater outfalls, including subgrade structures, and any derelict structures such as remnant walls or pilings.*

Response: The project will not impact structures.

23. *Complete sets of construction plans and specification for the proposed activity, certified by an engineer duly registered pursuant to Chapter 471, Florida Statutes. The plans shall clearly distinguish between existing and proposed structures and grades, and shall include the following:*
- a. *Plan view of the proposed activity depicting the mean high-water line, any easement boundary and the erosion control line (if applicable) within the area of influence of the proposed activity. Identify the boundaries of significant geographical features (e.g., channels, shoals) and natural communities (e.g., submerged grass beds, hardbottom or mangroves) within the area of influence of the activity. Include a north arrow and a scale bar on each drawing.*
 - b. *A sufficient number of cross-section views of the proposed activity depicting the slopes, the mean high-water line, any easement boundary and the erosion control line (if applicable) within the area of influence of the proposed activity. Identify the boundaries of significant geographical features and natural communities in the area of influence of the proposed activity. Elevations indicated on the cross-sections shall be referenced to the North American Vertical Datum of 1988 (NAVD 88).*
 - c. *Details of construction, including materials and general construction procedures and equipment to be used (e.g., construction access, dredging method, dredged material containment, pipeline location).*

Response: Attachment G to the permit application contains the permit drawing set with the requested plan and cross-section views. The application package contains a full-size set of the drawings. Details of construction: This project consists of the excavation of approximately 25,000 cubic yards (cy) of beach compatible sand from the St. Lucie Inlet flood shoal for disposal along nearly 1,250 feet of shoreline at Bathtub Beach — located approximately one mile north of St. Lucie Inlet — in Martin County, Florida. The project involves the mechanical excavation of this approximate 25,000 cy using a cutterhead dredge. Following excavation, a pipeline will convey the slurry from the flood shoal to an existing pipeline that starts in the Indian River Lagoon (just west of Bathtub Beach and MacArthur Boulevard) and ends near the seaward edge of the seawall that separates Bathtub Beach from Sailfish Point. Another pipeline will connect to the one at Sailfish Point and will convey the slurry into a longitudinal dike at the south end of the project area. The temporary use of geotubes filled with a portion of the excavated material will create this dike and will contain the slurry until the sediment settles out. After the deposition of a sufficient amount of material on the beach, the contractor will cut and remove the geotubes to add the contained sand to the project fill. After this initial placement, the beach should contain enough placed sand for the construction of a shore-parallel sand berm for the containment of the remainder of the placement volume.

24. *In addition to the full-size drawings requested above, the information required under Paragraphs (20), (22) and (23) above shall be provided on 8 1/2-inch by 11-inch paper, certified by an engineer duly registered pursuant to Chapter 471, Florida Statutes. Each drawing shall include an accurate scale or dimensions, and all information shown on the drawing shall be clearly legible.*

Response: Attachment G to the permit application contains the 8 ½” x 11” permit drawing set.

25. *An aerial photograph or map with a scale of 1” = 200’, showing: the project boundaries, DNR Reference Monument locations, major county landmarks, boundaries of significant natural communities (e.g., submerged aquatic vegetation, hardbottom or mangroves) and special aquatic or terrestrial sites (parks, sanctuaries, refuges, Outstanding Florida Waters, aquatic preserves, etc.) within the project boundary and a minimum of 1,000 feet in both shore parallel directions of the project boundary.*

Response: The drawing labeled 1”=200’ Scale Site Plan in Attachment G contains the required information.

26. *A proposed construction schedule.*

Response: The proposed schedule:

Contract Advertisement	01/02/09
Contract Bid Opening	01/23/09
Contract Award	02/23/09
Issue Notice to Proceed	03/09/09
Contract Physically Complete	04/30/09

27. *Permit applications for excavation or fill activities shall include the following detailed information concerning the material to be excavated and the existing or native material at the beach fill site:*

- a. Site plans showing the location of all core borings and the boundaries of the area to be excavated.*
- b. Core boring logs of all cores taken throughout the area to be excavated and surrounding area. Logs should extend at least two feet below the proposed bottom elevation. The depth of each visible horizon in the log should be reported relative to NAVD (88) and the material in each stratum classified according to grain size.*
- c. Particle size and color analysis of the sediment. Gradation curves, frequency distribution curves and data analysis sheets should be produced from sieve analysis of each stratum in the core. Grain size distribution must be determined down to the standard unit 230 sieve size. Color analysis of moist sediment should use Munsell system of hue, value and chroma*
- d. Carbonate content and percent organics by dry weight from representative stratum in each core. Chemical analyses shall be required if there is reason to suspect that the sediments are contaminated*
- e. Representative physical samples and particle size, color and carbonate content of the existing or native material at the beach fill site.*
- f. A sediment QA/QC plan that will ensure that the sediment to be used for beach restoration or nourishment will meet the standards set forth in paragraph 62B-41.007(2)(j), F.A.C.*

Submit all geotechnical information in electronic file format suitable for input to the Department’s Reconnaissance Offshore Sand Search (ROSS) database. The data may be submitted in Excel, Access or gINT files. The MS Access Front End Loader is available

on the ROSS website <http://ross.urs-tally.com/>. Visit the gINT website <http://www.gintsoftware.com/> for downloads necessary for the ROSS data structure. Submit electronic geo-referenced maps (shapefiles and metadata) of borrow area boundaries, core boring locations, and seismic track lines with time stamps and shot points, and .pdf files of seismic images with time stamp annotations

Response: Attachment H contains the core boring locations, logs, particle size and color analysis and carbonate content. The enclosed CD contains the gINT files. We will forward the representative samples and QA/QC when available.

28. *Using an established natural community classification system, describe each natural community within the area of influence of the proposed activity and include:*
- a. *Acreage*
 - b. *Identification of the flora and fauna to the lowest taxon practicable.*
 - c. *Characterization of dominant and important flora and fauna and estimates of percent biotic cover.*
 - g. *Sampling locations, date of sampling or measurements, and methods used for sampling.*

Response: The draft Environmental Assessment in Attachment I and the survey reports describes the natural communities. Attachment J contains the seagrass survey from Ecological and Associates, INC. and the hard bottom survey performed by CSA International, INC.

29. *Detailed information on season of occurrence, density, and location of threatened or endangered species whose range occurs within the proposed activity.*

Response: The draft Environmental Assessment Section 3.3 included in Attachment I addresses this item.

30. *Results of available wildlife surveys that have been conducted on the site, and any comments pertaining to the proposed activity from the Florida Fish and Wildlife Conservation Commission.*

Response: Section 3.3.1 of the Environmental Assessment (Attachment I) discusses marine turtle nesting surveys.

32. *A current Biological Opinion from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, when the Florida Wildlife Conservation Commission has determined that the proposed project will result in a take of marine turtles, which could not be authorized without an incidental take determination under federal law.*

Response: The proposed project will occur outside turtle season.

32. *A general description of the use and importance of the area influenced by the proposed project for all recreational activities, including (but not limited to) fishing, diving, surfing and bird watching. Also include a general description of any commercial fishing in the area.*

Response: The area provides excellent bathing, swimming, snorkeling and diving for locals and tourists. The reef also provides ideal surfing conditions. Table 3.3 in Section

3.5 of the Environmental Assessment (Attachment I) lists fish species likely to occur in the nearshore marine waters of the project area. The nearshore zone along the project area contains a worm reef that provide habitat for a diverse benthic community, which may be of interest for snorkeling or diving. No hardbottom, wrecks, or other significant dive sites exist within the project area. Recreational uses at Bathtub Beach Reef Park include sunbathing, sailing, walking, and other active and passive activities near the beach.

33. *Analysis of the expected effect of the proposed activity on the coastal system including but not limited to:*

- a. *Analysis of the expected physical effect of the proposed activity on the existing coastal conditions and natural shore and inlet processes. The analysis should include a quantitative description of the existing coastal system, the performance objectives of the proposed activity, the design parameters and assumptions, relevant computations, validation of the results and the data used in the analysis.*

Response: The Report on Investigation of Potential Borrow for Bathtub Beach Restoration Project provided in Attachment H addresses this item.

- b. *Analysis of the compatibility of the fill material with respect to the native sediment at the placement site. The analysis should include all relevant computations, the overfill ratios, and superimposed graphs of the cumulative grain-size distribution and the frequency distribution of the fill material over the data for the existing or native sediment at the placement site. Provide computations of borrow area volume and composite fill material characteristics (mean grain size and sorting, percent carbonate content) in an electronic spreadsheet.*

Response: The report provided in Attachment H addresses this item.

- c. *Demonstration of consistency with the Department's strategic beach management plan or an inlet management plan in accordance with Rule 62B-41.005(15), F.A.C. If the proposed project is not included in an inlet management plan the applicant will provide the information specified in Rule 62B-41.008(1)(m), F.A.C.*

Response: The FDEP's 2008 Strategic Beach Management Plan for the Central Atlantic Coast Region designates the extent of the proposed project area as critically eroded beach and states as part of its strategy the necessity to "conduct feasibility study for areas not restored (R-25-37.6) to determine environmentally acceptable alternatives for beach management". In addition, although the St. Lucie Inlet Management Plan does not suggest placing sand dredged from the inlet on the updrift beach at the proposed project site, it does call for periodic dredging of the inlet's interior flood shoal for subsequent placement on the downdrift beach. Because a portion of the sand deposited in the inlet's flood shoal likely migrated from the updrift beaches, the dredging of this sand for placement at the proposed project area would simply reintroduce that sand into the littoral system.

- d. *Analysis of how water quality and natural communities would be affected by the proposed project. Provide graphic representation (depiction) of the area of direct and secondary influence of the proposed activity and delineate the natural communities within that area. All required surveys shall be representative of conditions existing at the time of submittal. Surveys of submerged aquatic vegetation (SAV) shall be conducted in the field during the growing season for a given climatic region such that they capture the full areal extent and biomass of the SAV community. Species composition and spatial distribution shall also be addressed by the survey. Estimate the affected acreage of each impacted community.*

Note: If a mixing zone is proposed, provide a narrative description and graphic representation of the mixing zone. Identify any areas within the proposed mixing zone that contain significant submerged resources. Explain why the size of the proposed mixing zone is the minimum necessary to meet water quality standards and provide justification for that size

Response: Water quality at the beach placement area will be affected by a localized increase in turbidity during dredging and beach placement operations. Natural communities in the project area are subject to episodic natural disturbances that cause increased turbidity. Therefore, the temporary project-related turbidity increases should not significantly impact these communities. Fish and other mobile species may temporarily leave the adjacent surf zone if turbidity becomes too great. The nearshore zone within the project area consists of a sandy bottom community.

We do not propose a mixing zone variance because the minimal amount of fines found within the proposed borrow area — 0.20% passing through a #230 sieve — should not cause turbidity levels that would require a mixing zone in excess of a 150 meter radius from the point of discharge.

- e. *Reasonable assurances that a regulated activity will not cause unacceptable cumulative impacts pursuant to Rules 40X-4.302(1)(b) and 62B-41.002(19)(b), F.A.C.*

Response: Dredging and beach placement may result in significant mortality of non-motile benthic organisms. However, these organisms typically adapt well to the dynamic coastal environment. With their high fecundity and recruitment potential, they should repopulate the affected areas in a relatively short time. Several past studies have shown no significant long-term effects on benthic communities from beach restoration (see Section 4.5.2 of the Environmental Assessment).

34. *Describe the location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all other measures used to minimize adverse effects to water quality.*

Response: During construction, Martin County's construction contractor will monitor nearshore turbidity to comply with permit requirements regarding sampling techniques and intervals. If the turbidity levels exceed permitted levels, dredging operations will immediately halt until turbidity decreases to acceptable levels as stated in the permit. The construction contractor will construct a shore-parallel berm (made of temporary geotubes

initially and then sand subsequently) near the beach pipeline outfall to direct the effluent slurry laterally along the beach to allow ample time for the suspended sediment to settle. The contractor will adjust the berm length to optimize turbidity reduction and production rates. Attachment K to the permit application includes a draft biological monitoring plan that includes turbidity monitoring procedures. We will revise this plan as necessary as a Notice to Proceed Item for the proposed project once the permit requirements are determined.

35. *Describe any methods proposed to protect threatened or endangered species.*

Response: The proposed construction is scheduled outside of marine turtle season. When complete a biological plan will be provided.

36. *A written statement providing the necessity and justification for the potential impacts to the coastal ecosystem that may be caused by the proposed coastal construction.*

Response: If the applicant implements environmental protection measures, environmental impacts from the proposed beach restoration project are generally short-term and minimal. Primary benefits from the project to the coastal ecosystem include restoring the naturally eroded beach habitat. Beach erosion currently threatens essential infrastructure and a residential access road. The beach restoration is necessary to prevent damage to the infrastructure and access road.

37. *A narrative description of any proposed mitigation plans, pursuant to Rule 62-345, F.A.C., including purpose, a comparison between the functions of the impact site to the mitigation site, maintenance, monitoring, estimated cost, construction sequence and techniques. For proposed artificial reefs, indicate the water depth, depth of sand overlying bedrock, proposed relief and materials (type, size and shape).*

Response: We do not expect the project to cause any natural resource impacts that would require mitigation; thus, we have not developed a mitigation plan. If the Department foresees any impacts requiring mitigation, then we will work with the Department to develop a mitigation plan.

38. *An analysis of available alternatives to the proposed coastal construction, pursuant to Rules 62B-41.005(17) and 40X-4.301(3), F.A.C. (where "X" represents "C", "D" or "E" for the corresponding Water Management District), that would minimize adverse impacts to the coastal system. Discuss any related effects on the coastal system.*

Response: No available alternatives to beach nourishment exist that could immediately meet the proposed project's specific purpose of providing a recreational beach and storm protection to upland development. If no action is taken, the minimal impacts to the coastal system expected from the proposed project would be eliminated; however, the no-action alternative may result in the loss of the beach area, beach structures, and a main residential community access road, MacArthur Blvd.

39. *A fee, as set forth in Rule 62B-49.006, F.A.C. A spreadsheet is available on the Bureau's web page to aid in calculating the correct application fee. In order to calculate the fee, please provide the following: the acreage of proposed filling seaward of the MHW line; the acreage of proposed dredging; the cubic yardage of fill to be placed on the beach (above and below the MHW line); the cubic yardage of material to be dredged from an*

inlet and then placed either in an upland or offshore disposal site; the length of rigid coastal structures (groins, breakwaters, jetties, seawalls and revetments); and the number of inlet-related structures (new channels, sand traps and bypassing plants).

Response: According to Rule 62B-49.006 Florida Administrative Code, the sum of fees required for beach restoration is calculated as \$2,000 for the first 50,000 cy of fill. Thus, the sum of fees for the Bathtub Beach Restoration 25,000 cy beach fill is \$2,000. The applicants will mail the fee upon verification of the amount by DEP.