Estero Island Shore Protection Project Frequently Asked Questions

The Estero Island shore protection project is designed to address the long-term erosion trend documented by the state and by the U.S. Army Corps of Engineers. The plan is to place sand on about 4.6 miles of beachfront from Bowditch Point to Sterling Avenue that will:

- Extend the beach width about 160 feet seaward of the 2001 shoreline.
- Add vegetation near the landward edge of the new beach to help trap and stabilize the sand.
- Construct a terminal rock groin at Bowditch Point to help keep the sand on the beach and out of the navigation channel.

Initiation of the project depends on getting easements from beachfront property owners to allow workers access to put the sand on their beach. All necessary permits and funding from the town, county and state are in place. The total duration of construction once the project starts is estimated at six months.

How is the beach project constructed?

A cutterhead or hydraulic dredge will be located approximately 1.5 miles off the north end of Estero Island and 2 miles off Point Ybel on Sanibel Island in the Gulf of Mexico. The dredge will excavate sand, mix it with salt water and pump it to Fort Myers Beach via a pipeline. The pipeline may be floating or submerged, but will be clearly marked in accordance with Coast Guard regulations.

Once on the beach, the material will be transported by pipeline to a discharge point. Here, the material will go through an apparatus called a spreader designed to separate the sand and water, and it will direct the water in a rainbow pattern onto the beach.

Then, bulldozers will be used to shape the sand and direct the water flow down the beach (instead of into the Gulf). This process enables the new sand time to settle out of the water mixture. Heavy construction equipment will then push the material to shape the beach as designed.

The active construction area, from the discharge point to approximately 500 feet down the beach, will be temporarily closed to the public. This area will be marked off with caution tape and/or construction fencing.

As construction progresses, the pipeline will extend down the beach. To enable access to the water, pedestrian crossovers will be constructed across the pipe. These crossovers will be sand ramps approximately 12 feet wide, placed over the pipeline in intervals no greater than 500 feet apart; the pipeline will be 3 feet in diameter or less.

Construction activity will occur every day once the project begins and continue around the clock. The active construction area is expected to move down the beach an average of 500 feet per day**, and should take a total of six months.**

I've heard we'll lose all the sand right away. Is that true?

No. Natural wave processes are given a part in beach project design. First, when the beach is shaped the seaward edge of the project is very abrupt. Over the next year or so, wind and waves reshape the beach so that seaward edge slopes more gently. Some of the sand on the beach may also move to a nearshore sand bar. This process of reaching the "equilibrium profile" is important, because it helps disperse wave energy and reduces future erosion.

This "equilibrium profile" is how we are all used to a healthy beach looking. People who don't understand this sometimes think the beach is being lost, rather than simply be reshaped to a natural profile where more of the beach is underwater.

I've also heard that we don't have an erosion problem. Is that true?

Since the Corps of Engineers completed its first study in the 1960s through the town's own investigation in 2007, all studies have agreed that Fort Myers Beach does have an erosion problem. This includes the state of Florida who has determined the beach is "critically eroded." It may not be quite as noticeable in places, because approximately 600,000 cubic yards of sand has been put on the beach since 1996 during various Matanzas Pass dredging efforts. In addition, if you look at short periods of time, the erosion rate may seem low — but it's the long-term erosion rate that is important.

If the Matanzas Pass dredging is working, why not just keep on with that?

The purpose of the pass dredging is NOT to provide sand for the beach; it is to clear sand out of the pass. While sand from pass dredging is often better than nothing, it is not an engineered project — and its outcome should not be compared to an engineered project. In pass dredging projects, there is limited scrutiny of the sand quality, the environmental impacts and how the sand is placed on the beach, because the attitude is that some sand on the beach is better than nothing. The quality of the sand from the pass, however, has become so poor (silty) that the Florida Department of Environmental Protection will no longer allow it to be placed on the beach.

How is a beach restoration project different from pass dredging?

Unlike navigation projects (such as the Matanzas Pass dredging), beach restoration projects are subject to very serious scrutiny by state and federal environmental agencies before permits are issued. This scrutiny includes the size and color of the sand, what impacts the project will have on plants and animals, and what is the best design considering the erosion rate, wave patterns and the like.

How can you tell a project has been a success?

Each beach project is engineered to different specifications based on the geography, hydrology and erosion history of the project area. Rare is the project that does not need to be maintained over time, simply because projects are done in areas that are eroding and that erosion does not stop simply because you put more sand on the beach. You just

create more beach to protect the upland properties from surf and storms. Also, putting lost sand back into a beach system can make the overall system healthier, because there is sufficient sand to allow nature to move it offshore and onshore without endangering roads, buildings and other manmade infrastructure.

In the case of Estero Island, the project is engineered to last at least seven average years. If we have winter storms or tropical weather that reduces that time period, we will know the accelerated loss of sand means that our property has been protected.

I've heard that once we start placing sand on our beach, we won't be able to stop. Is that true?

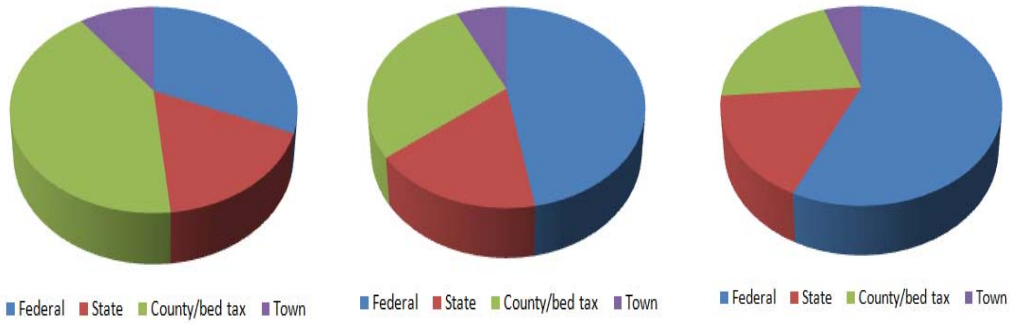
We have a 10-year commitment from the federal government to maintain the beach, which includes the planned seven-year maintenance. After 10 years, we can choose to continue to maintain the beach or allow it to erode.

How is the project funded?

The project will be funded by town, county, state and federal funds, which will total an estimated $10.5 million. The town, county and state funds are in place. The county has agreed to pay the federal commitment and seek reimbursement to keep the project moving forward.

The cost-sharing estimate is based on the percentage of easements signed by beachfront owners. If all easements are signed, the federal government will pay up to 63.01% of the cost. The amount of the federal share will be reduced by the percentage of shoreline that has not signed easements. Based on our cost estimate, this is how that would change based on the percentage of shoreline under federal easement.

	50% Easements	75% Easements	90% Easements
Federal Cost	$3,308,025	$4,962,038	$5,954,445
State Cost	$1,776,130	$1,776,130	$1,776,130
County Bed Tax	$4,358,672	$3,027,523	$2,228,833
Town Cost	$1,057,173	$734,310	$540,592



The more easements we get, the fewer county and town funds will need to be spent on the project.

I've heard we might lose state funding. Is that true?

We don't know for sure, but it's possible. The state has lost 90% of its funding for beach projects from the documentary stamp tax fund (the fund that pays for beach restoration), so the only way it can fund beach projects is to take money it has already committed to inactive projects and reallocate those funds to projects that are ready to be constructed. Despite having all its permits and funding in place to go to construction, our project is not ready to construct without easements. The legislative committees are going to begin to scrutinize these project funds seriously in January and our project could be in jeopardy if there's no sign that it will be moving forward in the near future.

If our project loses state funding, it can get back in line to request new funding in years to come. However, that means it will have to compete with other areas seeking beach projects from a restoration fund that may take a long time to recover from the recession and its impact on home sales (which generate the doc stamp funds for beach work).

I've heard that if we have a storm, FEMA will pay to restore our beach. Is that true?

No, if the beach is not restored (by a project such as this one), FEMA will not pay for sand replacement if there is a storm. However, if the beach is restored, it is then considered "infrastructure." In that case, if there is storm damage, FEMA can pay to replace sand lost in the storm only. Locally, this happened on Sanibel after Hurricane Charley.

What successful beach projects have been constructed?

There have been more than 300 successful federal beach restoration projects throughout the United States. On the west coast of Florida there have been successful projects in Pinellas, Manatee, Sarasota, Lee and Collier counties. In Lee County, Captiva, Sanibel and Gasparilla Islands have enjoyed successful projects; the Captiva project includes a terminal groin on the north end, like that proposed for Fort Myers Beach.

What is the primary benefit of the project?

For the federal analysis, the primary benefit of the project is storm protection. The Corps of Engineers found that for every dollar spent on this project, there will be $2.40 in benefits. Only 10¢ of the $2.40 is deemed to be recreational benefit; the rest is for storm protection. (This benefit is mainly from the proven ability of wider beaches to reduce upland damages from storm-driven waves and water.)

The oft-referenced ATM study was a cost-apportionment study dealing with who was paying for what part of the overall project, and did not discuss storm protection in the same context required by the Corps to fund a federal project. The ATM study was used to help justify the share of the project being paid by the county's bed tax funding.

Why is an easement required?

We plan to place part of the sand on private property landward of the erosion control line (the line between the public and private beachfront) as part of restoring a more natural profile to the beach. Workers cannot trespass on that property without permission from the owner. In addition, the particular easement we are seeking is required by the federal

government in order to qualify for federal funding. The 10-year term matches the term of the commitment from the federal government to help fund the project.

What is the Erosion Control Line (ECL)?

The ECL is the location of the mean high water line as surveyed in 2001; in other words, your property line in 2001. It is based on an elevation determined by the state. For Estero Island, the mean high water line (MHWL) is 1.5 feet. This elevation references the National Geodetic Vertical Datum of 1929 (NGVD 29) (roughly deemed as sea level) and is determined by the Florida Department of Environmental Protection.

The designated elevation varies slightly along the Florida coastline. For example, the MHWL at the south end of Estero Island is 1.42 feet NGVD 29. The ECL has been approved, legally described and recorded. It represents a permanent boundary between private beachfront property and state-owned public land. Your property rights as a beachfront owner are protected by Florida Statute 161.191 and 161.201. Go to http://www.fortmeyersbeachfl.gov/index.aspx?nid=275 where you can see the erosion control line.

Why is new vegetation included as part of the project?

Plants on the beach stabilize beaches over time by trapping sand blown by wind and moved by waves from the surf zone, which leads to increases in both beach height and width over time. Both the town and the county recognize the importance of beach vegetation and have included it in their comprehensive plans. The town has also adopted a Managed Beach Zone program that allows property owners who have signed easements to do things you would not be allowed to do otherwise. This includes placing rope and bollard fencing on the beach. A copy of this plan is available from Town Hall upon request, or go to http://www.fortmyersbeachfl.gov/index.aspx?nid=275.

What kind of plants will be planted in front of my property?

For each Managed Beach Zone (e.g. individual property), property owners will have a choice of three plant combinations which range from taller plant species (for more privacy) to shorter plant species (for more views), to provide property owners with flexibility. The vegetation is salt-tolerant, drought-tolerant, and all native to Fort Myers Beach. Examples of the vegetation can be seen on the Town website at http://www.fortmyersbeachfl.gov/index.aspx?nid=275.

Where will the vegetation be planted?

Contractor will plant one of the three Managed Beach Zone choices seaward from the easement line a total width of 10-15 feet and at least 75% of the property width. (This is the most that can be planted without additional agreement from the property owner.) If a property owner wants to have a Managed Beach Zone planted *landward* of the easement line (meaning on their property), the town and county will work with owners to design a specific plan to place plantings and walkthroughs in places that work for everyone.

How can I control my new vegetation?

Beach vegetation usually does not spread very fast and pretty much takes care of itself. Foot traffic, permitted beach raking, and natural processes typically limit the spread. If

the plants spread beyond the Managed Beach Zone, you can receive a permit to trim them. For irritating vegetation such as sand spur and nicker bean, the town will help you with information on how to control them regularly.

The easement refers to construction of a "*berm.*" What is that?

"*Berm,*" as used in the easement language, references the relatively flat part of the beach extending from the new waterline to the upland property. It is simply where the sand will be placed on the beach. The elevation of the berm is designed at 4.1 feet above sea level (NGVD 29). For reference, this elevation is approximately where the native vegetation begins. Sand will not be placed higher than this elevation. No "dunes" will be built with this project.

What "*temporary structures*" will be erected?

Construction workers need small buildings for offices or sheltered workspaces. These buildings are on a sled pulled by a large bulldozer. The size of the building(s) is similar to a portable tool shed (approximately 10 feet high and 15 feet long). A portable sanitary facility may also be included with the structures.

How long might temporary structures be on one stretch of beach?

During active construction, structures should move an average of 500 feet down the beach each day. Work delays will occur when work crews encounter mechanical problems or bad weather. No one expects the equipment or structures will be on any single easement area longer than five days.

What about the "t*aking*" of trees and vegetation?

This will allow removal of any trees, brush, shrubs or other vegetation that impedes placement of fill material. No trees six inches in diameter or greater will be removed. If property owners have trees or vegetation they do not wish to be damaged or removed, this vegetation may be marked prior to construction and care will be taken to avoid it. If harm does come to a marked plant, it will be restored to pre-construction quality or replaced with similar vegetation. This process has been successfully done in many beach restoration projects. Residents with trees or vegetation within the easement area that they wish not to be damaged or removed will have them identified on the Managed Beach Zone landscape plans.

How will the sand placement affect seawalls?

Sand will not be placed landward (or behind) any seawall. Contractors will place sand next to the seawalls with a small tractor or "Bobcat." County personnel will videotape the pre-construction condition of all seawalls located in the project area. Any damage to seawalls as a result of construction will be repaired to pre-construction quality, at no expense to the owner. If residents are aware of any buried or covered seawall, they should alert Lee County Division of Natural Resources at (239) 533-8128. The combination of additional sand and the seawall should provide you with extra protection from waves and storms.

What are the maintenance and post-construction activities?

In addition to construction, the county will need to monitor and maintain the beach in the easement areas. Although scheduling for the activities listed may change, the county will make reasonable efforts to notify you of the actual schedules. Note that most of these activities are minimal and comparable to activities by utilities maintaining and upgrading their infrastructure.

Beach Profile Surveys – Immediately following construction and each spring / summer for three consecutive years, the county will conduct beach profile surveys to monitor beach erosion or accretion. In addition, two additional surveys will be conducted biannually after the third year post-construction, so surveys will be conducted for seven years after construction. The surveys will be conducted on intervals of approximately one profile at 500-foot intervals down the beach.

As a part of these surveys, "monument control" may have to be re-established landward of the easement area. This would consist of a survey crew traversing across the easement area and re-setting monuments that are currently in place. Although it may be required to place the monuments in new locations, county personnel will show the current locations to residents if they so request.

Compaction Survey and Tilling – Immediately following construction and prior to April 15 for three subsequent years, county personnel will conduct a compaction survey to determine if tilling is required.

Compaction surveys consist of one or two persons traversing the beach and measuring the sand compaction on 500-foot intervals. Any required tilling will be done by a tractor or large front-end loader raking the sand to a depth of 24 inches. The tilling operations should not last longer than one day for any given easement, and must be completed prior to April 15th each year before turtle nesting season begins.

Escarpment Surveys and Leveling – Immediately following construction, prior to March 1, and weekly from May 1 to Oct. 31, visual surveys for escarpments, (or vertical formations of sand) will be conducted for two years after construction. If escarpments exceed 18 inches in height and 100 feet in length, they will be mechanically leveled by a tractor with a box scrape or small bulldozer; however, the state ultimately decides what method will be used.

Lighting Survey – A visual survey to detect lights or light sources will be conducted monthly beginning in May and extending through October for the first turtle-nesting season following construction. (This activity is conducted every year with or without a beach project.)

Marine Turtle Nesting Survey – Surveys will be conducted during construction and through three nesting seasons following construction to document nesting activities. It is expected the surveys will consist of daily patrols along the project area. (This activity is conducted every year with or without a beach project.)

Nourishment Activities – It is possible that one nourishment could be conducted during the project life, should wave or storm events accelerate erosion faster than expected. A nourishment is an additional placement of sand on a restored beach. It involves the same type of construction activities as the initial restoration project; however it does not require the establishment of an ECL (which has already been done). The nourishment would require new authorization and funding agreements between the town and the county. Public input would help determine exactly what would be done and where. We expect the same post-construction activities as those listed above, would be required following the nourishment.

Where can I get more information about the project online?

This Web site has links to all pertinent information about the project, including the Florida Department of Environmental Protection permit information for the project.

http://www.fortmyersbeachfl.gov/index.aspx?nid=275

Who can I contact if I have questions?

Steve Boutelle, Lee County:	533-8128 boutellesj@leegov.com
Keith Laakkonen, Town of Fort Myers Beach:	765-0919 x 136 keith@fortmyersbeachfl.gov
Kate & Ken Gooderham, beach consultants:	489-2616 kgooderham@comcast.net