

**Town of Sunset Beach  
Status of Shoreline Management Program  
October 9, 2018**

**Background Information**

The Town of Sunset Beach and the firm Moffatt & Nichol (M&N) initiated a contract on February 19, 2016 to study the feasibility of conducting approximately 3.5 miles of navigation dredging within the Town limits. The work areas included Mary's Creek, Turtle Creek, the North Shore Drive feeder and adjoining finger canals (behind 6<sup>th</sup>, Marlin, Sailfish, and Dolphin Streets), the Canal Drive bay area, and North and South Jinks Creek).

M&N is a "global infrastructure advisory firm" working from 36 offices in 7 countries. They advise clients on issues related to marine terminal projects, transportation, energy, environmental, federal, and urban development. The company advertises being a multidiscipline professional services firm with specialized expertise in structural, coastal, and civil engineering; environmental sciences; economics analysis; inspection and rehabilitation; and program management solutions. Sunset Beach is working with staff from their Wilmington office.

All of the included waterways except North Jinks Creek had been dredged on earlier occasions. (It should be noted that, according to *Coastal Review Online*, part of South Jinks Creek was dredged in the 1970s). This is important because they would have already undergone testing for appropriateness of dredging. Once a waterway has been dredged, it will almost always need to be dredged again and again (this is referred to as *maintenance dredging*) as sand and other sediment build up on the bottom and sides of the waterway. Permits for maintenance dredging are carefully examined, but approval from the necessary state and federal agencies is somewhat routine. Because North Jinks Creek had not been dredged before, it would need to undergo the much more thorough original testing.

The state and federal agencies involved in the permitting process are the following:

*National Marine Fisheries* (part of the National Oceanic and Atmospheric Administration) is responsible for the management, conservation, and protection of living marine resources within about 200 miles of the U.S. coast. (Federal)

*North Carolina Division of Coastal Management* works to protect, conserve, and manage North Carolina's coastal resources through an integrated program of planning, permitting, education, and research. (State)

*North Carolina Division of Water Resources* ensures safe drinking water in accordance with federal requirements, issues pollution control permits, monitors permit compliance, evaluates environmental water quality and quantity, and carries out enforcement actions for violations of environmental regulations. (State)

*North Carolina Wildlife Resources Commission* works to conserve and sustain the state's fish and wildlife resources through research, scientific management, wise use, and public input. (State)

*U.S. Army Corps of Engineers* provides public engineering services in peace and war to strengthen national security, energize the economy, and reduce risks from disasters. (Federal)

*U.S. Fish and Wildlife Service* works with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. (Federal)

Representatives of these agencies often meet together to discuss the permissibility of specific projects. When they meet together, they are referred to as the “Scoping Committee.”

M&N reported that navigation dredging was feasible and the Town elected to move forward with the design and modeling of the proposed work on June 7, 2016 with work authorized to begin July 1. The estimated cost was \$3.7 million. The Town and M&N worked together with the North Carolina Department of Environmental Quality (NCDEQ) to secure a Water Resource Development grant through the Shallow Draft Navigation Fund for two-thirds of the project cost. The grant for up to \$2,779,327 was received on August 1. Should the cost of the project increase, it is permissible for the Town to request additional funds so as to maintain the 2/3 state – 1/3 Town ratio for covering the costs. M&N report that the additional funds are considered likely to be granted but are not guaranteed.

The following key components of the project have been conducted:

(1) Monthly project reports, frequent reporting at Town Council meetings, and a community meeting to provide project updates.

(2) Selection of the desired dredging alignment (the width and depth of each waterway to be dredged) and determination of the amount of dredge material.

	<u>Current Depth</u>	<u>Proposed Depth</u>
Mary’s Creek	0 to -1 MLW	-3 to -5 MLW
Turtle Creek	0 to -1 MLW	-3 to -5 MLW
Feeder Canal	-2 to -4 MLW	-5 to -6 MLW
Finger Canals	-2 to -4 MLW	-4 to -5 MLW
Bay Area	-2 to -3 MLW	-5 to -7 MLW
South Jinks Creek	-2 to -10 MLW	-7 MLW

MLW = Mean Low Water = A figure representing the average low tide.

The estimated amount of dredged material is as follows (as of 10/1/18):

South Jinks Creek:	40,500 CY (cubic yards)
Bay Area:	15,900 CY
Feeder Channel & Finger Canals:	32,700 CY
Mary’s Creek:	8,100 CY
Turtle Creek:	7,800 CY
	105,000 CY

(3) Oyster Survey. M&N conducted the required oyster survey of Mary’s Creek and Turtle Creek. Results found minimum presence of oysters within the ‘proposed’ dredge alignments for both creeks.

(4) Sediment testing. Catlin Engineers provided an initial report and a second analysis of the sediment that would be dredged. In order to calculate the amount of *compatible* material (material that is sufficiently like beach sand that it could be placed there) and *non-compatible* material (silt, gunk, and other material that would need to be taken to a landfill location). (As of 10/1/18, app. 39 percent of the dredged material has been classified as compatible and 61 percent as being non-compatible).

(5) Location for depositing compatible material. Compatible material will be sent through hydraulic pipes directly to the beach area that has been most affected by recent storms (between 5<sup>th</sup> Street and 11<sup>th</sup> Street). M&N report that it will be blended into those beach areas and have similar appearance.

(6) Location of the non-compatible dredged sediment. During the course of the project, several areas have been examined as possible ultimate locations for the non-compatible materials. As of 10/1/18, the Council seems to have two options. The more expensive option is to use a particular type of transporting truck (which does not allow any seepage on to road or other surfaces) in order to take the dredged material directly to its ultimate landfill site. The less expensive option is to move the dredged material from its site to temporary locations for it to *de-water* and then to transport it to its final location. As of 10/1/18, M&N recommend that the boat ramp parking lot and the Majestic Oaks section of the island be used as the temporary sites and that a landfill site off old Georgetown Road be used as the final location.

(7) Project co-ordination and the permitting process. Throughout the project, M&N have coordinated project plans with the appropriate state and federal agencies and kept abreast of permitting requirements. It was determined that the Town should apply for three separate project permits. These permits and their current status are:

(a) Mary’s Creek and Turtle Creek. Permit application submitted but on hold until material placement is determined.

(b) Feeder Canal, Finger Canals, Bay Area, and South Jinks Creek. Permit application submittal expected the week of October 8<sup>th</sup>. It is anticipated that approval of this permit might include a requirement that there be a connection to deep water either through North Jinks Creek to the ICW or through Tubbs Inlet to the Atlantic Ocean. If that occurs, the Town has been encouraged to apply for a variance to that requirement. It is anticipated that variance will be approved but that cannot be determined until final materials are submitted.

(8) Current cost estimate (in rounded numbers):

	<u>Est. Cost</u>	<u>State Share</u>	<u>SB Share</u>
Mary’s Creek	\$457,000	\$305,000	\$152,000
Turtle Creek	\$440,000	\$293,000	\$147,000
Feeder/Finger Canals	\$1,845,000	\$1,230,000	\$615,000
Bay Area	\$897,000	\$598,000	\$299,000
South Jinks Creek	\$852,000	\$568,000	\$284,000
Total	\$4,490,000	\$2,994,000	\$1,497,000

- These are not final numbers. For example, administration of the actual dredging program (approximately \$175,000) has not yet been determined. In addition there is a \$586,000 contingency line in the budget.

**Issues/Questions Which Must Be Resolved Promptly by Town Council**

Four important issues require immediate Council attention: (1) the effects of dredging South Jinks Creek on water outlet flow, (2) the handling of the compatible and non-compatible dredged materials, (3) the formula for payment of the costs associated with the dredging project, and (4) the letter to be written to either affected property-owners or to all property owners in Sunset Beach.

**(1) The effects of dredging South Jinks Creek on the flow of water towards the ocean – will it increase erosion/shoreline problems on Palm Cove and/or the eastern end of the island?**

The issue regarding the movement of water flowing through South Jinks Creek towards the ocean remains unsettled. If South Jinks Creek is dredged and part of the tidal delta is removed, will the outflow continue - as it does now - making a sharp turn to the left as it nears land and continue to exit through Tubbs Inlet to the ocean. Or, will these conditions lead to a greater force of water that may hit land at Palm Cove and/or at the eastern end of the island and create more erosion with a worse case scenario of pushing into the land?

How should Council attempt to resolve this issue?

What would be helpful to Council?

Additional expert testimony?

Additional documentation from Moffat & Nichol and/or modified contractual language?

Determination if there are ways to protect these island areas if, in fact, there is greater/faster movement of water towards them?

Other ideas?

**(2) The handling of the compatible and non-compatible dredged materials.**

On 10/1/18, M&N identified the current (but unfinalized) plan for disposing of the non-compatible materials. If “de-watering” is not necessary, the dredged material would be excavated, removed by bucket, placed on a barge, taken to a truck, and taken to a landfill (tentatively, Ike Williamson’s Pit off old Georgetown Road). If it is necessary to de-water, the material from Mary’s Creek and Turtle Creek would be taken by barge to a temporary (app. one month) stay at the boat ramp parking lot before being taken to the landfill. The material from the feeder canal, finger canals, and bay area would be taken to the Majestic Oaks area (on the island) temporarily before being moved to the landfill.

Given the acknowledged stench that will accompany these materials and the heavy and loud equipment that would be used, are the parking lot and Majestic Oaks land acceptable to the Council or do we insist or strongly recommend other options?

Should we have M&N examine more closely the feasibility of outfitting trucks so that no leakage occurs and the dredged material can be taken directly to the landfill?

What is the cost difference between having to use a temporary de-watering location and not having to use one?

Should Council express its strong interest in having the program completed in one season?

Will there be a formal compatibility study done of the South Jinks Creek dredged sand before placement on the SB beach?

Are there other questions related to this issue?

How does Council wish to proceed on this issue?

**(3) Do the following statements accurately reflect Council's policy on payment for dredging?**

Property owners on Mary's Creek and Turtle Creek will pay for the dredging program in those areas based on an assessment per linear foot of their lot size. Property owners on the feeder canal, the finger canals, the bay, and South Jinks Creek will pay for the dredging program in those areas based on an assessment per linear foot of their lot size.

The dredging program includes all costs associated with the program including the administration of the program; permitting; necessary studies; the excavation, bucketing, barging, and trucking of non-compatible materials to de-watering and landfill sites; and the hydraulic piping of compatible material to the SB beach.

Over how many years will property owners be allowed to spread their payments?

What will be the minimum payment per year?

How will payment be affected by change in ownership of the property?

What procedure will be used for those who refuse to pay? Are there other questions related to this issue?

Are there other questions related to this issue?

**(4) Council has agreed that a letter should go out as soon as possible to property owners with notification of the dredging program.**

What items should be included in this letter?

- a. Brief program description?
- b. Identification of those paying?
- c. Estimated cost?
- d. Policy on spreading out payment?
- e. Policy on delinquent payers?
- f. Responsibility for moving piers and docks?
- g. Anticipated calendar?
- h. Other?

Should the letter go out to all SB property owners or only waterfront property owners?

Who will draft the letter? Will others get to look over it before it goes out?

Are there other questions related to this issue?

**Are there any other questions or issues regarding the dredging program that need to be addressed now?**