

Town of Sunset Beach  
2016 Shoreline Management and Pre-Dredge Analysis  
May 5, 2017 2<sup>nd</sup> Agency Coordination Meeting Notes

**Attendees:**

Susan Parker	Town of Sunset Beach	Heather Coats	NCDEQ-DCM
Mark Benton	Town of Sunset Beach	Chad Coburn	NCDEQ-DWR-401
Pete Larkin	Town of Sunset Beach	Maria Dunn	NCDEQ-NCWRC
Cameron Weaver	NCDEQ-DEACS	Tyler Crumbley	USACE
Gregg Bodnar	NCDEQ-DMF	Brennan Dooley	USACE
Curt Weychert	NCDEQ-DMF	Kathy Matthews	USFWS
Shane Staples	NCDEQ-DMF	Jerry McCrain	Moffatt & Nichol
Sean Farrell	NCDEQ-DCM	Robert Neal	Moffatt & Nichol

**Acronyms:**

AIWW – Atlantic Intracoastal Waterway	NEPA – National Environmental Policy Act
CFS – Cubic Feet per Second	OIB – Ocean Isle Beach
DCM – Division of Coastal Management	PNA – Primary Nursery Area
DMF – Division of Marine Fisheries	USACE – U.S. Army Corps of Engineers
MLW – Mean Low Water	USFWS – U.S. Fish & Wildlife Service

**The 2<sup>nd</sup> Agency Coordination Meeting was requested to discuss the items of concern the agencies voiced from the initial meeting in March 2016 as listed below:**

- Jinks Creek Hydrodynamic Modeling Analysis requested by NCDEQ-Fisheries & USACE addressing the projects potential scour and shoaling impacts in the following locations:
  - Jinks Creek confluence with the AIWW.
  - The ‘S’ curve alignment in Jinks Creek.
  - Tubb’s Inlet.

▪ Shellfish Survey of Turtle & Mary’s Creek

Additional Discussion points included the following:

- Evaluation of sediment compatibility in Jinks Creek
- Beneficial reuse material placement on the west end of Ocean Isle Beach.
- The most probable path forward for permitting the project.

**Jinks Creek Hydrodynamic Modeling Analysis**

The analysis results demonstrated the dredging project should not increase tidal flow rates or velocities more than 5% throughout the project area. This largest increase in velocities could be expected in Jinks Creek at the confluence with the AIWW. The increase measured approximately 2.6% or .07 ft/s along Transect T3 near the AIWW confluence in Jinks Creek. The simulated velocities for the ‘S’ curve alignment were also discussed where the model showed existing magnitudes greater than 3 ft/sec, which indicates the velocities already reach scouring potential. This observation was confirmed through comparison of the hydrographic survey data where depths reached approx. -15 MLW in the ‘S’ curve alignment. The largest increase for the flow rates occurred within the ‘S’ curve alignment along Transect T4 where the modeling indicated an approx. 3.2% increase (90 cfs) may occur.

The discussion also included the project performance during major storm event (Hurricane Hugo). The modeling indicated the change in tidal conditions should be less during the major storm compared to the spring tide results referenced above.

The comments received related to the Jinks Creek modeling analysis include the following:

- The USACE indicated interest in the values (existing & with project) for the velocity changes measured within the tributaries adjoining Jinks Creek.
- The USACE stated the modeling most likely would be reviewed by the USACE in greater detail, if not duplicated, during the permitting stage as part of the 408 process. (Under Section 408 coordination, the USACE must review any project that may create a potential impact to an existing federal project, or the AIWW for this project.

The comments below indicate general statements received during the discussion of Jinks Creek:

- A 40 ft channel throughout Jinks Channel was referenced as a potentially acceptable minimization effort.
- Historic surveys showing depths similar to the preferred alignment would help demonstrate the project would not create new depths but would restore navigation depths.
- A purpose and need statement will most likely be required during the permit process to help satisfy NEPA requirements and may include an estimate of the current and expected Jinks Creek usage density.
- An alternative analysis based on the purpose and need statement will also most likely be required (NEPA) based on the public interest already demonstrated for the dredging of Jinks Creek.
- A shellfish survey for Jinks Creek was requested from DMF and DCM. DMF requested a bank to bank survey the full length of Jinks Creek; however, DMF agreed to visit the site to further evaluate the need and extents for any required oyster survey of Jinks Creek.

#### **Mary's & Turtle Creek Shellfish Survey:**

The results of the shellfish survey were discussed including that only 5 clams were located in the Mary's Creek dredge footprint and none were located in the Turtle Creek footprint. Overall, approximately 17% of Mary's Creek contained shellfish (oysters and clams). However, the large majority of the shellfish were located above MLW within the intertidal zone. When oysters were present, the density was approximately 21 oysters/m<sup>2</sup>.

The discussion focused on how the DCM or USACE would determine if the project required mitigation and how to evaluate the 'sloughing off' area adjacent to the box-cut channel. [A box cut channel has vertical sides and additional material could be expected to fall into the dredged channel immediately after the dredge event. Based on design documentation from the 2002 project, the side slopes could be expected to adjust at a 3H:1V slope.] The agencies generally agreed the Town would be responsible for any impacts identified within the sloughing off or side slope area, even if the area was not directly dredged. However, if the Town proposed to include the side slope area in the project it would be considered new dredging in a PNA and be subject to additional review by the agencies. (The shellfish survey indicated the oysters/clams exist at a density of 3.1/m<sup>2</sup> in the side slope area for Mary's Creek.)

The comments received related to the shellfish survey of Mary's & Turtle Creek include the following:

- Impacts would be evaluated based if the Town attempted to avoid any existing shellfish and if the channel followed the existing template authorized in the 2002 and previous permits.

#### **Sediment Composition:**

The sediment analysis results for Jinks Creek were discussed with the intent of verifying if analysis of the recipient beach would be necessary. 15A NCAC 07H.0312 allows beach placement of dredged materials if the following conditions are met:

- The average percent by weight of fine grain material (< 0.0625 mm) is less than the recipient beach plus 5%.
- The average percent by weight of granular material (2 mm ≤ X ≤ 4.76 mm) is less than the recipient beach plus 10%.

- The average percent by weight of gravel ( $4.76 \leq X \leq 76$  mm) is less than the recipient beach plus 5%.
- The average percent by weight of calcium carbonate is less than the recipient beach plus 15%.

The following measurement were identified as a potential concern for evaluating individual sub-areas.

- Sub-Area 1: Gravel Content = 16.76%
- Sub-Area 2: Fine Content = 12.80%

DCM stated during the review process the analysis results for each individual sediment sample as well as the overall sub-area composites would be evaluated to determine beach compatibility.

The comments received from the agencies included the following:

- The recipient beach would need to be tested to determine beach compatibility.
- The material placement template would need to be defined along with a purpose & need for beneficial reuse placement on the beach.
- Gravel content was referenced as a concern for turtle nesting potential.
- Beach compatible material may be able to be stockpiled within an USACE material placement island for future use.

#### **The Permitting Potential for Beneficial Reuse Material Placement**

Comments received confirmed beneficial reuse material placement on OIB would endure the same agency review as placement on Sunset Beach. A purpose and need would need to be defined for placement on either beach.

#### **Path Forward for Permitting the Overall Project**

Suggestions were provided to split the project into two (2) separate permits to simplify the process for the 'maintenance' areas. Turtle & Mary's Creek as well as the Feeder Canal have existing permits and would not require the same review as Jinks Creek. Separating these pieces may allow the Town to move forward with segments of the project and catch up later with Jinks Creek.

Additional discussion suggested for Jinks Creek an Individual Permit (IP) may be necessary under the federal process due to public interest already expressed. The IP process would require the project to meet NEPA requirements including additional public interest criteria above the GP291 process. The following environmental documentation would also be required:

- Archeological Survey
- Biological Assessment (BA)
- Essential Fish Habitat Assessment (EFH)
- Shellfish Survey of Jinks Creek

Based on the results of the Jinks Creek Shellfish survey the following additional documentation may be requested:

- Environmental Assessment (EA)
- SAV survey