

**INDIAN RIVER COUNTY, FLORIDA
BOARD MEMORANDUM**

TO: Board of County Commissioners

THROUGH: John A. Titkanich, Jr., County Administrator

THROUGH: Richard B. Szpyrka, P.E., Public Works Director

THROUGH: Eric Charest, Natural Resources Manager

FROM: Melissa Meisenburg, Lagoon Plan Environmental Specialist

SUBJECT: Approval of the Grand Muck Survey and Nutrient Analysis Contract Agreement

DATE: June 30, 2023

BACKGROUND

On January 18, 2022 the Board of County Commissioners (Board) directed Coastal Division staff to work with Florida Institute of Technology's (FIT) Dr. Austin Fox to develop a proposal and conduct a County wide muck mapping survey in the Indian River Lagoon (IRL). Determining the location of extensive muck and potential nutrient fluxes is beneficial in understanding muck accumulation within regions of the IRL. A comprehensive muck survey will fill a data gap identified during the Research and Review Phase of the Indian River County Lagoon Management Plan (LMP) development. In addition, mitigation strategies for muck provide Basin Management Action Plan (BMAP) credits required to meet the Total Maximum Daily Loads (TMDLs) set by the Florida Department of Environmental Protection (FDEP).

DESCRIPTION AND CONDITIONS

Staff worked closely with Dr. Fox to develop a proposal to conduct a comprehensive muck survey with sediment and nutrient analyses. Dr. Fox provided staff with a scope of work broken into six (6) Tasks, which are expected to take one year to complete. Task one (1) includes literature reviews and a preliminary mapping step at a cost of \$3,125.00. Task two (2) involves remote sensing based on Lidar and site selection at a cost of \$4,250.00. Task three (3) is the grand survey which is field work resulting in a map identifying muck presence within the Lagoon. This activity is expected to cost \$42,850.00. Task four (4) includes an analysis of muck composition collected from sites containing at least 10cm of probe-penetrable sediments. Cost for this activity is \$14,500.00. Task 5 will yield a map of muck thickness from the sites selected for detailed surveys. The cost for this activity is \$32,550.00. Task six (6) is the creation of the final report which will incorporate the information gathered under the separate tasks. Cost for this aspect of the project is \$5,000.00. Total project cost is \$102,275.00.

The grand survey will identify muck locations in the IRL within Indian River County. Sediment samples will be tested for nutrient (nitrogen and phosphorus) fluxes in order to estimate annual releases of nitrogen and phosphorus from the muck. Updates will be provided in three (3) quarterly reports and a final detailed report upon completion of the project. Staff requested Dr. Fox and FIT enter into an agreement to complete the scope of work with individual work orders for each Task. Staff prepared and submitted the agreement to Dr. Fox and FIT to review and sign.

FUNDING

The total to complete the scope of work proposed by Dr. Fox is, \$102,275.00 with the associated costs broken down by Task. Funding in the amount of \$102,275.00 is budgeted and available in the General Fund/Lagoon/Other Professional Services account 00128337-033190 to cover several of the proposed Tasks.

Account Name	Account No.	Amount
General Fund/Indian River Lagoon/Other Professional Services	00128337-033190	\$102,275.00

RECOMMENDATION

Staff recommends the Board of County Commissioners approve the agreement and authorize the County Administrator to sign the agreement on behalf of the Board once the signed agreement is received back from Dr. Fox and FIT. Additionally, staff requests the Board authorize the Purchasing Manager to issue individual work orders for the identified Tasks above, as funding is available and approved.

ATTACHMENTS

1. IRC Muck Survey Proposal
2. FIT Agreement for IRL Muck Research

APPROVED AGENDA ITEM FOR:

July 11, 2023