

SCOPE OF SERVICES

Hernando Beach Channel Dredge Project – USACE Seagrass Mitigation

2022 Hernando Beach Channel - Seagrass Mapping Project

The attached proposed scope of services has been prepared for the Hernando Beach Channel Seagrass Mitigation - USACE permit release assessment, focusing on mapping the existing seagrass communities within the dredged section of the Hernando Beach Navigation Channel. ESA has been performing the Seagrass Mitigation Monitoring for many years to satisfy permit conditions for FDEP No. 27-02332733-009 and USACE Permit No. SAJ-2005-05553 MOD1 (IP-SCW). These monitoring reports have demonstrated success of the seagrass mitigation areas per the FDEP's permit conditions, however the USACE permit conditions utilize different methods in quantifying their impact acreage and success criteria. The USACE has agreed to consider counting the seagrass that has naturally colonized the formerly dredged channel impacted area.

To quantify the amount of seagrass within the channel, ESA will physically map the seagrass beds within the dredged section of the channel in the hopes to locate at least 8.8 acres of seagrass, which would then be presented to the USACE for their consideration of accepting this as additional seagrass mitigation thus achieving the seagrass success criteria and releasing the County from any further mitigation or monitoring requirements.

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TASK DESCRIPTION

1.0 Site Visit Preparation

To perform the seagrass mapping effort requires preparation of the aerial imagery to load onto the tablets and into the boat's GPS system so we can map the seagrass beds in the field. This also entails rigorous safety protocols as this channel is heavily used and due to its narrow width, with associated depth constraints, we need to ensure that our scientific divers are safe while in and under the water. This includes mobilization and loading the drone imagery to perform the seagrass polygon mapping effort.

Fee \$300

2.0 Field Data Collection / Channel Seagrass Limits Mapping

Four field days are anticipated for the underwater seagrass mapping effort and site documentation with representative recently flown aerial photographs. These field days are anticipated to include snorkel diving and will consist of a Captain/Ecologist with two additional Ecologist/divers. ESA will provide a 23-foot boat equipped with outboard engine, suitable for the work, provided on-water field days are scheduled within acceptable weather conditions. Sites will be assessed using a combination of diving and direct observation via a towable video sled with real-time and recorded video. Positional data will be recorded with a Trimble GPS with sub-meter accuracy, or equivalent. Additional resources available during the data collection include the boat navigation chart plotter, side scan and vertical sonar unit. The mapping of the existing seagrass coverage will be performed by comparing the recently obtained aerial imagery with the current channel conditions, separating the seagrass coverage from the drift algae present to accurately measure the amount of seagrass that is within the dredged section of the channel. Coverage estimates will be strengthened by establishing a minimum of 10 perpendicular transects, geo-located to overlay

the matching dredging as-built survey stationing, to verify the seagrass signatures from the drift and attached algae beds. In addition, numerous spot checks will be made along the entire length of the dredged channel to accurately assess coverage and occurrence of the seagrass species and drift algae component of each site, in addition to qualitative assessments.

Fee 14,310

3.0 Summary Memo

It is financially advantageous for Hernando County to resolve the mitigation success criteria compliance conditions prior to a request from the USACE to develop a pricey contingency plan, as required by specific conditions of their permit. Task 3 will include a summary memo along with the seagrass map, which quantifies the amount of seagrass within the dredged portion of the channel to the USACE Compliance agents to review the seagrass mapping results. Deliverables for this task will include memorandum summarizing the agency coordination meetings and agency field reviews to adequately document seagrass mitigation success.

Fee \$2,760

4.0 Optional USACE Site Review

Once we have provided the USACE with the results of this seagrass mapping effort, if they require us to take them to the site for verification purposes, we can provide the boat and captain to take them to the channel for their own verification of our seagrass mapping effort. Task 4.0 is an optional service and will only be performed upon approval by the County and if it's required by the USACE. The boat and Captain/Ecologist will be provided by the consultant. This will be a Time & Material, Limiting Amount task.

Option Fee \$1,850 ASSUMPTIONS

Please note that the following assumptions were used for developing the fee estimate. If additional work time is required due to the inaccuracy of these assumptions, or future changes in scope, additional fees will be billed on an hourly basis in accordance with ESA standard billing rates. Written authorization will be obtained from the client prior to incurring additional fees. The County can only approve additional work through a change order.

1. This scope of work is based on the project area and specific conditions referenced in the USACE Permit No. SAJ-2005-05553; Modification #1 (IP-SCW). The work will be limited to the area known as the Hernando Beach Channel.
2. A site-specific aerial was flown under the current contract for this seagrass mapping effort.
3. A maximum of one agency accompanied site visit to the channel will be performed under Task 4 if required.
4. The sampling sites are readily accessible by boat and not blocked by debris or other navigation hazards or conditions.
5. No permitting, contingency planning or maintenance tasks are included.