Progress Report for Contract # 026
Saving the Integrity of Keller Bay and Sand Point Peninsula

End of Year 2, 2nd quarter: Jan. 1, 2023

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Project Summary: Our overarching goal is to protect the unique estuarine resources of Keller Bay by stopping the Sand Point Peninsula from breaching. Our strategy is to develop a living shoreline solution that incorporates public and private partners. Specific objectives include to:

(1) Identify and model the best actions to stop the peninsula from breaching
(2) Engage a working group, composed of stakeholders and agencies, to help design and identify a preferred action plan
(3) Produce engineering/design plans and obtain permits for the Sand Engine

Task 1: Identify and model the best actions to stop the peninsula from breaching

Progress this Quarter: The team continued hydrodynamic modeling work. We wrapped up the validation of the baseline model and began modeling the alternatives using Delft3D.

The team also continued to write up a draft version of a final report which includes several of the products created under Task 1. Some portions of this report will also be used as the report on the working group's regional strategy and funding plans (under Task 2) and support package for the permit (under Task 3).

Next Quarter: We expect to finish modeling the designed alternatives. We will begin modeling the "morphology" for the sand engine alternative, to see where the sediment moves over time, out to the year 2050.

Deliverables:
(1) High resolution topo-bathymetric map of study area **– completed. See attached (Note: the attached version shows the topo-bathymetric map and is only a PDF. The actual map layer is 275.9 MB in size and too large to email. We will send this full version along at the completion of the project with all other datasets).**
(2) Wave and flow velocity exceedance graphs for living shoreline design criteria **– completed. See attached (Note: the attached version has several supporting graphics on additional pages).**
(3) Maps and videos of future morphologic evolution of study area, with and without various living shoreline alternatives, including a single or multiple Sand Engines – **partially completed for baseline model only, not yet for alternatives or morphology model with Sand Engine design alternative (expected to send at end of next quarter)**

Task 2: Engage a working group, composed of stakeholders and agencies, to help design and identify a preferred action plan

Progress this Quarter: Our team conducted one formal meeting with federal and state agency stakeholders to discuss the project. Attendees included the Texas General Land Office, Texas Parks & Wildlife Department, Texas Department of Transportation, the Matagorda Bay Foundation, US Fish and Wildlife Department, and US Army Corps of Engineers. During this meeting, the project was discussed and the baseline model results were shown. The agencies gave input as to what alternatives they would like to see modeled in the future. Approximately five additional informal phone calls also occurred between our personnel (10/10, 10/19, 11/7, 11/14, 12/20). During these meetings, we discussed: early work on engineering and design plans, Delft3D modeling, and plans for stakeholder meetings.

Subcontractor West continued to maintain the online stakeholder matrix. This matrix has been accessed and continually updated by team members.

Next Quarter: The team plans to hold the second "stakeholder working group" meeting in February or March with the relevant agencies, to show them the final modeling results and to begin the first steps of permitting. We will deliver rough plans for potential sand engine design to the Texas General Land Office, for their possible funding during this next period.

Deliverables:
(4) Working group meeting recordings – **ongoing**
(5) Report on working group's regional strategy and funding plans – **ongoing**

Task 3: Produce engineering/design plans and obtain permits for the Sand Engine

Progress this Quarter: TAMU continued writing a draft version of the support package for the permit, inserting the initial findings from Task 1 field work and modeling into it.

Subcontractor Aqua Strategies continued drawing up engineering and design (E&D) products, based on the criteria and data provided by TAMU's scoping research efforts. ASI continued to work on 5 potential alternatives that could be constructed to address the overall problem. Initial plans have been circulated among the team, and are being used to support the modeling in Task 1. Once finalized, they will be shared with the stakeholder group and submitted to MBMT.

Next Quarter: Expect to continue developing the E&D products for all alternatives, share them with stakeholders for their input over the next quarter, and begin the initial push towards permitting.

Deliverables:
(6) 30% E&D plans and alternatives for Sand Engine on state/federal-owned land – **ongoing**

(7) Coastal Boundary survey – **not started**
(8) Support package for permitting of Sand Engine – **ongoing**
(9) Section 404 and other required permits for Sand Engine, 80% E&D – **not started**