Investigative Field Study Plan
Beneficial Use of Dredged Material Site Scoping Support Services

U.S. Army Corps of Engineers
Beneficial Use of Dredged Material Site Scoping Support Services for Naval Submarine Base Kings Bay, Camden County, Georgia

Contract No. GS00F070CA, Order #W912HP23F0010

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LIST OF ACRONYMS

ASTM	American Society for Testing and Materials
BUDM	Beneficial Use of Dredged Material
CY	Cubic yards
DMMA	Dredged Material Management Area
EA	EA Engineering, Science, and Technology, Inc., PBC
GA DNR	Georgia Department of Natural Resources
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
MD	Marstel-Day, LLC
MSL	Mean Sea Level
NASA	National Aeronautics and Space Administration
NAVD 88	North American Vertical Datum of 1988
Navy	U.S. Navy
NSB	Naval Submarine Base
PVC	Polyvinyl chloride
QA	Quality assurance
QC	Quality control
RSLR	Relative Sea Level Rise
RTK	Real-Time Kinematics
SAJ	South Atlantic Division Jacksonville District
SLR	Sea level rise
SSHO	Site Safety and Health Officer
SOW	Scope of Work
TLP	Thin-layer placement
USACE	U.S. Army Corps of Engineers
UVVR	Unvegetated Vegetated Ratio

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1. INTRODUCTION

This Investigative Field Study Plan (FSP) has been developed by EA Engineering, Science, and Technology, Inc., PBC (EA) under contract to, and with support from, Marstel-Day, LLC (MD). MD is under contract to the United States Army Corps of Engineers (USACE) Jacksonville District (SAJ) in support of the United States Navy (Navy) and Naval Submarine Base (NSB) Kings Bay in Georgia. Findings from this investigative field effort will inform the overall effort entitled *Beneficial Use of Dredged Material Site Scoping Support Services for Naval Submarine Base Kings Bay, Camden County, Georgia*. The project includes a series of tasks to look at historical, current, and future marsh loss in the areas surrounding the NSB Kings Bay to identify marshes qualifying for future beneficial use of dredged material placement.

1.1 SITE DESCRIPTION AND BACKGROUND

NSB Kings Bay is a Navy installation located on the Cumberland Sound on the southern coast of Georgia (Figure 2-1). NSB Kings Bay's mission supports the service and retrofit of submarines, and it is the homeport for six Ohio-class submarines. Its mission depends on the continued navigability of the Kings Bay subbase channel, which requires annual sediment dredging through the year 2080. Within the subbase channel, annual maintenance dredging is required and averages approximately 1.3 million cubic yards. Dredged sediment from the subbase channel has historically been placed in upland Dredged Material Management Areas (DMMAs). As the four current DMMAs are anticipated to reach capacity in the next 16 years, the Navy is seeking a cost-effective solution to manage large volumes of dredged material over the next six decades to ensure the sustainment of NSB Kings Bay's mission (USACE 2020). Since offshore placement of dredged material is a costly process, scoping the viability of beneficial use of dredged material (BUDM) opportunities for marsh restoration has become a priority.

Projects to enhance climate resilience within the region were prioritized in the Camden County Resiliency Implementation Workplan, identifying the City of St. Marys and NSB Kings Bay at risk of flooding from coastal storm surges (Goodwyn Mills Cawood 2022). Marshes comprise approximately 50 percent of Camden County's land area providing protection from frequent and severe storm events. Still, these habitats are vulnerable to the impacts of sea level rise (SLR) which is exacerbated by subsidence in coastal areas.

The project contract outlines three tasks (1) Evaluation of Historical Marsh Loss, (2) Evaluation of Current Marsh Habitat, and (3) Evaluation of Future Marsh Loss. Task 1 of this contract assessed the rate and extent of marsh loss in the Kings Bay area. The historical marsh analysis report which found a total of 772 acres of marsh loss from 1932 to 2022, and a loss of marsh volume ranging between approximately 11,000,000 CY to 19,000,000 CY across 24 marsh zones (MD and EA 2024). Five marsh zones were found to have an estimated maximum loss of over

1,000,000 CY (MD and EA 2024). This assessment found that most of the wetland loss occurred along shorelines. This FSP outlines the procedures and methods associated with fieldwork for Task 2: Evaluation of Current Marsh Habitat based on the prioritized marsh zones identified in Task 1 of this project contract.

1.2 PROJECT OBJECTIVES

The activities outlined for Task 2 of this project will provide site-scoping support services for the development of BUDM opportunities in and around NSB Kings Bay. Related to EA's responsibilities, activities conducted during Task 2 will evaluate the current marsh habitat in the Kings Bay area through field assessments of physical and biological parameters. The overall project goal for the Navy is to identify suitable locations to implement a BUDM for their Kings Bay maintenance dredging needs. This will be achieved by first identifying coastal marsh areas that are vulnerable to the effects of relative sea level rise (RSLR), as well as identifying those areas where the placement of dredged material might improve the resilience of coastal habitats. Specifically, the tasks/objectives that MD and EA will undertake to achieve the Navy's goal include the following efforts, which are described in more detail under Task 2 of the technical approach in the Scope of Work (SOW):

- Task 3: Evaluate the historical loss of marsh habitat from 1932 to the present day.
- Task 4: Understand the current condition of the coastal marsh areas within the project study area.
- Task 5: Project the potential rate of marsh loss under future RSLR scenarios.

1.3 INVESTIGATIVE FIELD STUDY PLAN OBJECTIVES

The purpose of this Investigative Field Study Plan is to outline methods for collecting sufficient information/data to meet the objectives of USACE SAJ's project SOW and identify site characteristics that enhance the understanding of implementing BUDM in the study area around NSB Kings Bay. This Investigative Field Study Plan outlines the techniques and spatial extent associated with data collection activities to ensure proper quality control (QC) and accuracy of data. The goal of this Investigative Field Study Plan is to prioritize and evaluate current marsh habitat conditions based on areas with the largest marsh loss identified in Task 1, and the greatest restoration potential for BUDM site scoping. The Field Study Plan will meet this goal using the following objectives:

1. Utilizing the conclusions from the historic marsh loss assessment (Task 1), further prioritize marsh zones by completing a desktop analysis of physical and ecological parameters to identify marsh areas that could benefit from restoration efforts from BUDM

2. Determine which physical and ecological assessments would provide the most valuable insight for BUDM evaluation
3. Provide methods to collect physical and ecological data
4. Conduct field assessments to evaluate the physical parameters of marsh habitats
5. Conduct field assessments to evaluate the biological parameters of marsh habitats.

1.4 PRELIMINARY DESKTOP ASSESSMENT

In support of the current condition assessment of the coastal marsh areas within the project study area (Task 2), an ongoing desktop data review is being conducted. This entails a review of publicly available information, including peer-reviewed publications, publications released by local, state, and federal agencies, and materials from relevant non-profit and non-governmental organizations. Sources of information reviewed fall generally within the following data types:

- Environmental conditions
  - Existing tidal datums and established Surface Elevation Table data from nearby locations
  - Rate of sea level rise (SLR)
  - Flood analysis
  - Mean sea level (relative to North American Vertical Datum of 1988 [NAVD88])
  - Unvegetated vegetated ratio (UVVR)
- Biological conditions
  - Critical habitat (e.g., essential fish habitat)
  - Ecological services provided by the marsh zone

2. FIELD STUDY METHODS

Based on the historical marsh analysis conducted in Task 1 of this project, EA completed a ranking analysis of the marsh areas prioritized for BUDM. EA began by looking at the marsh zones that MD identified in the historical marsh analysis (MD and EA 2024) that met the SOW cubic yardage parameters (historical loss of ≥100,000 CY). Of the 24 marsh zones assessed in Task 1, 14 zones meet the criteria outlined in the SOW. EA met with MD and USACE SAJ in March 2024 to discuss desired field study parameters and outcomes to aid in identifying highly prioritized marsh zones. USACE addressed the need to identify marsh zones that are most vulnerable, parameters that can assist with ongoing modeling efforts within the Kings Bay system, and identify marshes that are the best options for the beneficial use of dredged material based on their physical and biological parameters. EA then applied those comments to create a ranking analysis. Of the 14 prioritized zones that met the SOW objectives, EA added additional criteria. The additional criteria included high UVVR ranking (1.5 or greater), accessibility, vicinity of critical infrastructure, the ability for marsh migration, marsh zone acreage, and presence of edge and interior erosion. From those 14 zones, eight were identified that best meet the additional criteria. The 14 zones and their ranking criteria are shown in Table 2.1. These prioritized marsh zone designations were identified as the locations visited in the field reconnaissance visit (discussed in **Section 2.1**) and are shown in Figure 2-1 and listed below. For consistency, the zone identification will remain the same throughout this document and analysis.

- Zone 2
- Zone 5
- Zone 9
- Zone 16
- Zone 17
- Zone 18
- Zone 19
- Zone 21

Ranking Parameters	Zone 1	Zone 2	Zone 5	Zone 8	Zone 9	Zone 13	Zone 14	Zone 16	Zone 17	Zone 18	Zone 19	Zone 21	Zone 22	Zone 24
UVVR Ranking	2	1.5	>2	2	>2	1.5	1.5	>2	2	2	>2	2	2	0.3
Marsh migration pathway?	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Yes
Boat or Road Access?	Yes, boat and road	Yes, boat	Yes, boat	Yes, boat	Yes, boat	Yes, boat	Yes, boat	Yes, boat and road	Yes, boat	Yes, boat	Yes, boat and road	Yes, boat and road	Yes, boat and road	Yes, road
Critical Infrastructure in vicinity?	Yes	No	No	No	No	No	No	No	No	Yes	No	Yes	Yes	Yes
Only Edge Erosion?	No	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Acreage Marsh Zone?	202.3	728.5	299.8	129.5	687.1	653.7	449.9	505.7	722.1	1630.8	132.2	590.1	43.1	97.2

Table 2-1 Marsh Zone Ranking Criteria

The proposed implementation strategy and sample collection methods are summarized in the following sections. The field team from EA will include one coastal engineer/SSHO and three coastal scientists. Specifications for all equipment discussed below are provided in **Section 2** for each sampling collection method and general equipment is listed in **Section 3**. All sample collection methods and locations were included in a Revocable License for the use of Tidal Waterbottoms research permit submitted to the Georgia Department of Natural Resources (GA DNR) for proper authorization for instrument deployment and sample collection (Appendix A). Specifications for the instruments being used during fieldwork can be found in Appendix B.

Field investigations will be conducted at the marshes surrounding NSB Kings Bay to collect site-specific data (Figure 2-2). Locations of all data collection activities within each marsh zone can be found in Appendix C. The field investigation includes the following elements:

Physical Parameters

- Relative marsh elevation/range
- Accretion rates
- Sediment physical characterization

Biological Parameters

- Species observed during fieldwork
- Vegetation stem density
- Vegetation stem height
- Vegetation percent cover
- Invertebrate community observations

2.1 FIELD RECONNAISSANCE VISIT

On May 15, 2024, a team of three EA staff including one engineer/Site Safety and Health Officer (SSHO) and two coastal scientists completed an initial field reconnaissance visit. The purpose of this visit was to assess and ground truth the accessibility and condition of various marsh zones reviewed in Task 1 of this project. During this reconnaissance visit, the team accessed the marsh zones by boat and performed walkability tests for data collection feasibility. The EA team attempted to access Zones 2, 5, 9, 10, 14, 15, 16, 17, and 18 using a boat to perform a marsh walkability test. The marsh zone assessments from this effort will be included in the final Current Marsh Evaluation Report. The assessments noted that zones 9, 10, and 15 were not safely traversable due to inundated and unstable soils. Based on this assessment and discussion with USACE, the project team has revised the physical and biological parameters that will be collected during future fieldwork activities. This ground-truthing activity resulted in the identification of the focal marsh areas for data collection, which include Zones 2, 5, 14, 16, 17, and 18.

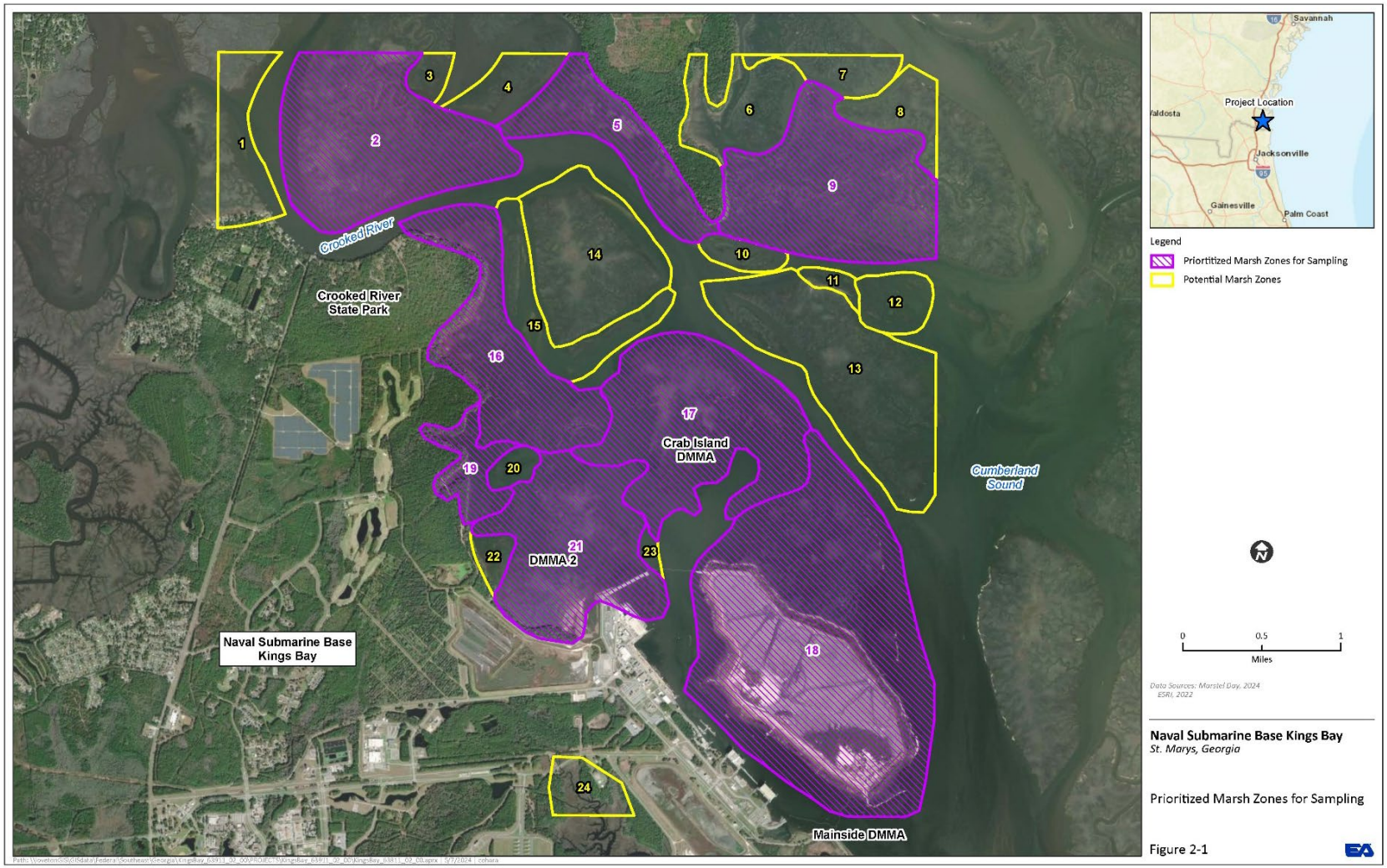

Figure 2-1. Analysis Zones (MD and EA 2024)

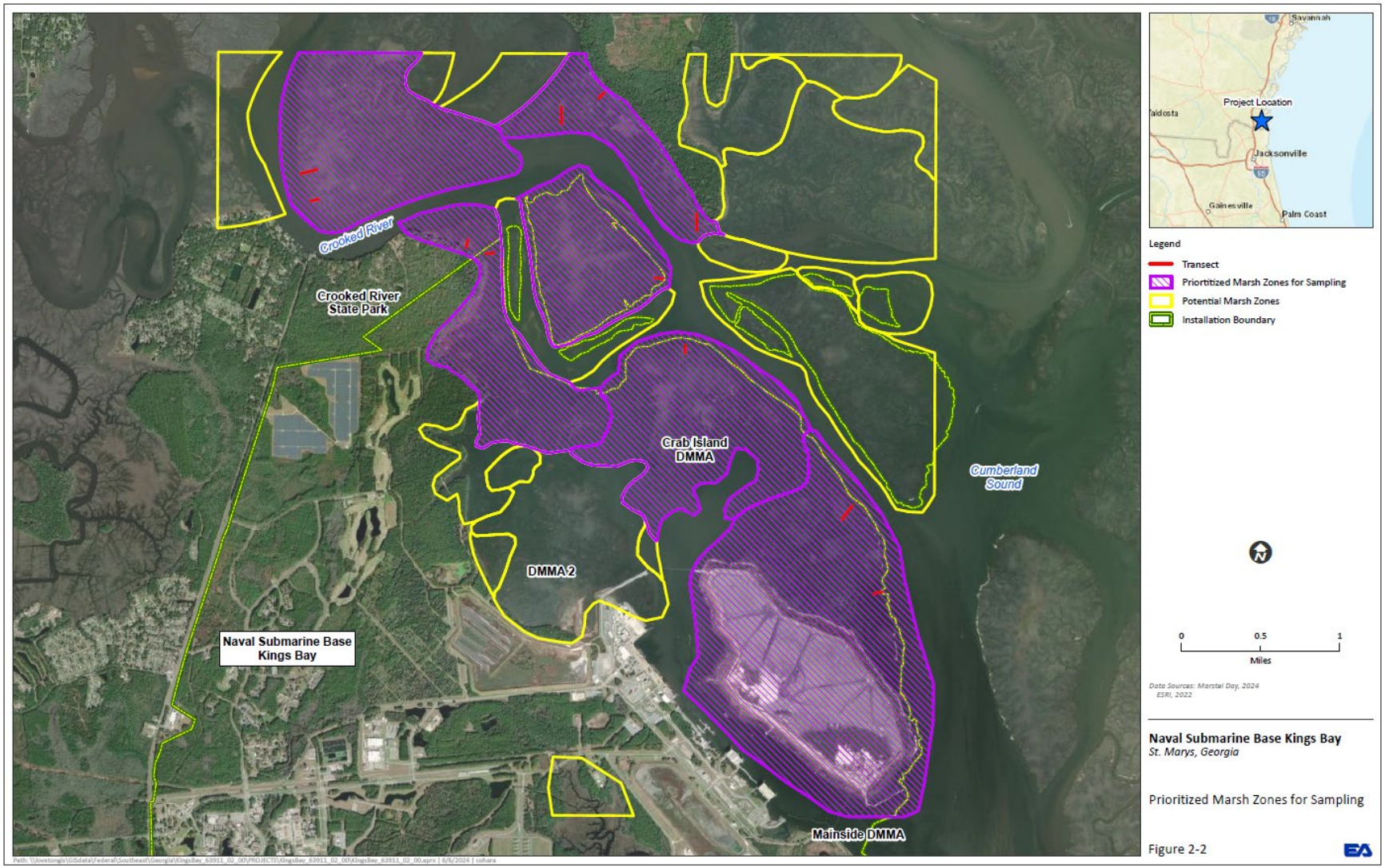

Figure 2-2. Prioritized Marsh Zones for Sampling

2.2 PHYSICAL DATA COLLECTION

Physical data will be collected to evaluate the current conditions of the existing marsh complex. Since marsh systems and shorelines are dynamic systems, conditions can readily change based on human impacts, weather events, and fauna presence. Before field data collection, a desktop site assessment was performed to identify the most up-to-date and relevant data for assessment. The field team will collect data to ground truth the accuracy and augment the data collected during the desktop assessment. The desktop assessment identified the NOAA tidal gauge 8679598 Kings Bay MSF Pier for accurate and up-to-date water level information, therefore additional water level data collection was not necessary for this field effort. Additional data collection will establish a baseline of current conditions for comparisons to past and future marsh conditions, as well as the suitability of marshes to support the implementation of BUDM. Collecting physical data related to sediment taken from the marsh is planned to inform the suitability of the marsh to support added sediment and water during future BUDM and restoration activities. All sampling will occur in July 2024.

2.2.1 Relative Marsh and Elevation Range

Elevation of the current marsh conditions will be collected using a Trimble R10 rover fixed to the top of a 2-meter (6.56-foot) surveyor rod. Spot elevations and horizontal locations of key features will be collected using Real-Time Kinematic (RTK) Global Positioning System (GPS)/Global Navigation Satellite System (GNSS) survey equipment (RTK rover and Florida virtual reference station). The RTK GPS will verify vertical and horizontal accuracy by checking into the benchmarks at the start and end of each field day. Local benchmarks identified during the initial recon visit include NGS P 199 and NGS FAA 4J6 B. The data are referenced to NAVD88. Elevation data will be collected along at least two transects at each site as shown in the figures included in Appendix C. Along one of the two transects, the field team will attempt to continue the transect into the marsh as far as they can traverse to collect additional elevation and sediment core samples within the interior of the marsh. Transect locations will also be documented using the RTK for future monitoring. This data will then be compared to nearby SET data locations.

Equipment for the relative marsh and elevation range includes:

- RTK GPS unit
- Surveyor rod
- Survey tape

2.2.2 Accretion Rates

A sediment horizon marker using a thin layer of finely ground feldspar mineral will be placed to measure accretion at one of the identified priority marsh zones. The plot locations were determined by finding the 2020 mean sea level (MSL) elevation in NAVD88, as shown in Figure 2-3. The MSL was calculated for 2020 using the interagency report titled Global and Regional Sea Level Rise Scenarios for the United States (Sweet et al. 2022) that provide the most recent

RSLR projections. To adjust the RSLR projections from the baseline year, a vertical adjustment factor of 0.38 feet was applied using the Interagency Task Force's application guide for the updated projections (Collini et al. 2022). The vertical adjustment factor was found using the observation extrapolation record of the Interagency Sea Level Rise Scenario Tool by the National Aeronautics and Space Administration (NASA) at the Fernandina Beach station (NASA 2024), which is the station closest to Kings Bay. The MSL elevation location was then mapped using 2018-2019 U.S. Geological Survey Georgia Statewide Lidar (OCM Partners 2024).

The horizon marker will be configurated along one of the transects and consist of three 30 x 30 centimeter plots perpendicular to the shoreline at approximately the MSL. Procedures for installing and monitoring accretion rates are derived from Callaway, Cahoon, and Lynch (2013). The procedures are as follows:

1. Select the plot location and place a 30 x 30 centimeter polyvinyl chloride (PVC) quadrat to delineate the boundaries of the plot. The PVC will be secured into the ground by pushing into the soil surface until resistance is met or 1.5 feet of PVC is above the surface.
2. Sprinkle feldspar in a thin layer evenly across the entire plot for uniform coverage. Any feldspar that attaches to plants should be shaken gently so that it attaches to the sediment rather than the vegetation.
3. Mark the plot corners with PVC posts or stakes with colored flagging tape so that they may be easily relocated. Mark the plots using the GPS unit.

Monitoring of the markers will be done once, in September 2024 under the existing contract Period of Performance. The GPS coordinate locations will be made available for future monitoring outside of the current project, if necessary by outside organizations. Monitoring procedures are as follows:

1. Select four random core locations within each plot.
2. Insert the cryocorer into the sediment at the random core locations to a depth below the expected location of the feldspar marker. Initiate the flow of liquid nitrogen from the dewar until the soil around the bullet is frozen. Remove the bullet and surrounding frozen soil.
3. Scrape the frozen soil with a knife to easily identify the feldspar marker and the depth from the sediment surface to the top of the feldspar layer around all four sides of the frozen sample using a digital caliper or ruler.
4. If possible, return the frozen sample to the original sampling location.

Equipment for the accretion rate horizon marker installation and monitoring includes:

- Feldspar
- Small quadrat (e.g., 30 x 30 cm) for installation
- Corer
- Digital calipers
- Liquid nitrogen for measuring rate
- Plot markers: PVC with painted tops

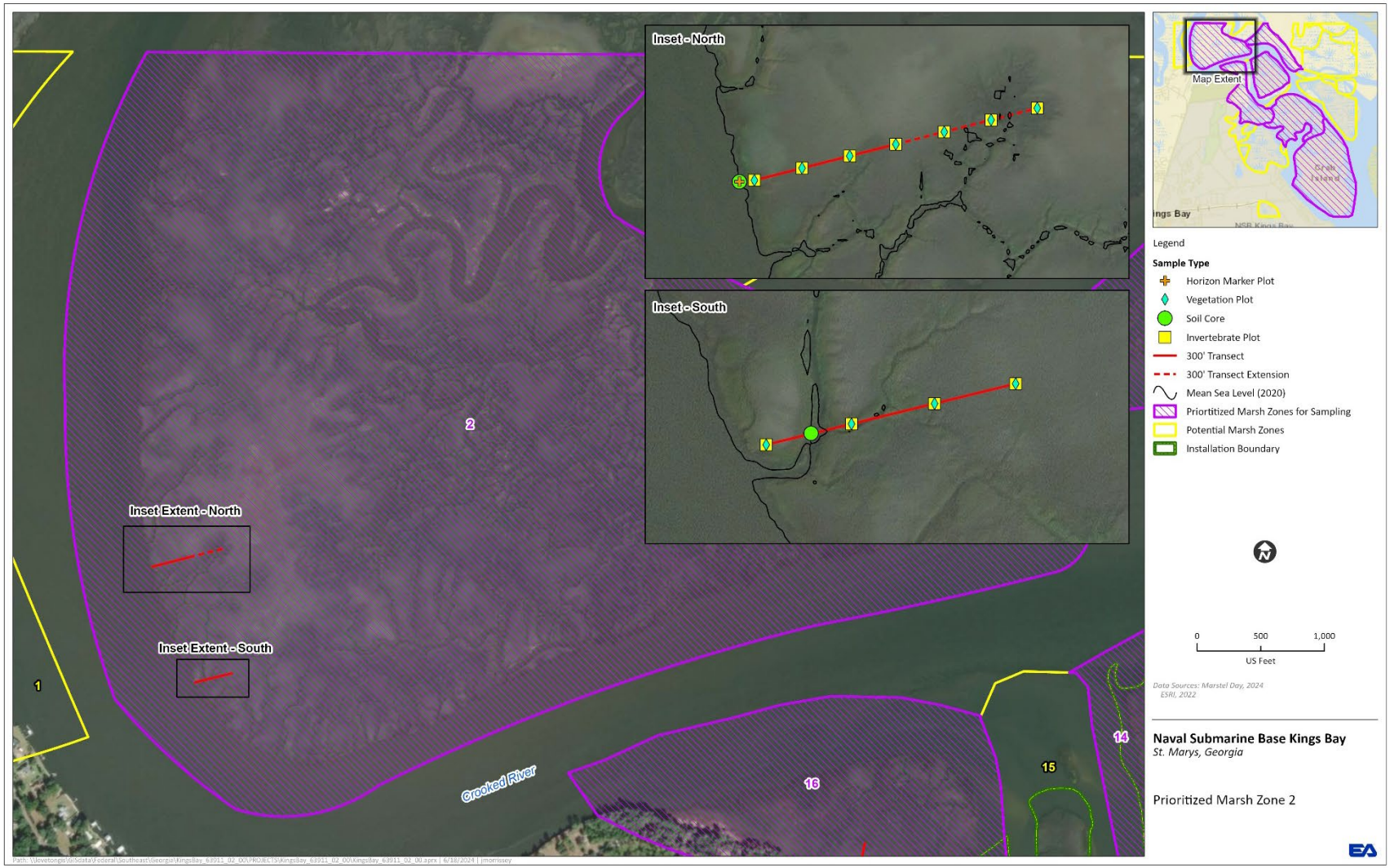

Figure 2-3. Prioritized Marsh Zone 2

2.2.3 Sediment Sample Collection

Sediment samples from the marsh surface will be collected for geotechnical analysis to assess the suitability for future restoration and thin-layer placement (TLP). Bulk density and Atterberg Limits will inform how surface and subsurface layers may respond to additional sediment loading from TLP. A grain size analysis will be compared to the most recent dredge sediment characterization to determine the suitability for sediment placement. Twelve sediment samples will be collected along transects shown in the figures included in Appendix C of this field study plan. Samples will be collected using a Russian peat corer to obtain samples to a depth of 50 centimeters below the surface. Before splitting the samples for analysis, the field team will document the sediment core by photographing the sample and recording notes on the visual observation. The field team will note any significant color changes and consistency of the observed sample. Undisturbed samples will then be extracted from the corer in lengths of 13 – 26 cm to provide adequate volume for analysis. Recovery and approximate in situ volume will be noted for laboratory analysis. Samples for bulk density will consist of a gallon bag filled approximately ¼ of the way with the sediment sample. The field staff will also collect horizontal and vertical coordinates at the surface where each sample is collected. Samples will be analyzed for geotechnical properties including grain size, bulk density, Atterberg limits. Testing parameters are listed in Table 2-2 below.

Table 1-2. Geotechnical Sample Parameters

Parameter	Method	Number of Samples
Bulk Density	ASTM D 4531(2008, peat only)	12
Organic Content	ASTM D2937	12
Wet Bulk Density	ASTM D7263	12
Grain Size Analysis – Sieve Analysis	ASTM D6913	12
Grain Size Analysis – Hydrometer (includes specific gravity)	ASTM D7928	12
Atterberg Limits	ASTM D4318	12
Engineering Classification of Soils	ASTM D2487	12

ASTM = American Society for Testing and Materials

Sample Labels

Sample containers for the sediment samples will be labeled with the following information:

- Client name
- Project number
- Sample ID/transect and station ID
- Date and time of collection
- Sampler's initials
- Type of analyses required

Chain-of-Custody Records

Sediment samples will be documented on a chain-of-custody form. Chain-of-custody forms will accompany the samples to Geo-Testing Express, Inc. for sample analysis. Copies of the chain-of-custody form can be found in Appendix D.

Equipment for the sediment sampling includes:

- Russian peat corer
- Soil core containers for transport
- Waterproof labels/pens to identify location of each core sample
- Insulated and cooled container to transport cores and plant samples
- Bungie cord to keep the container immobile on the boat
- Knife and lab spatula for sectioning cores in field

2.3 BIOLOGICAL DATA COLLECTION

Biological data will be collected to evaluate the current conditions of the marsh complex through vegetation and invertebrate sampling. These assessments will consist of visual field-based habitat assessments, which will identify vegetation within each Zone. Surveys will document the observed dominant plant species and will include general descriptions of the habitat conditions at the time of observation. Data from the relative marsh and elevation range survey (Section 2.2.1) will be used to supplement these surveys to establish vegetation and habitat types in relation to the site-specific water levels. Based on the objectives of this project outlined in the SOW, locations for fieldwork will be prioritized based on historical marsh loss and viability of site consideration for future beneficial use of dredged material greater than or equal to 100,000 cubic yards. All sampling will occur in July 2024.

2.3.1 Species Observed

During fieldwork activities, the project team will keep a running log of species that were observed (see Appendix E). This will provide supplementary information regarding the various

species that occur in and use the marsh areas being assessed. This may include photographs of observations to verify the species present.

2.3.2 Vegetation Assessment

Based on the preliminary site reconnaissance visit, transects will be established where it is feasible to access the marsh. Along the transects, 1 square-meter plots will be placed at approximately 10-foot intervals to assess marsh vegetation health by measuring stem density, stem height, and percent cover within each plot. Data collection forms are included in Appendix E.

Equipment needed for the vegetation assessment includes:

- 1x1 meter PVC square marked in 0.25 square meter quadrats with string
- Surveying tape
- Site plan map
- Write on rain paper
- Pens
- Meter stick (to measure stem heights)

2.3.2.1 Stem Density

Plants will be counted by the number of individual stems for each plant species with separate counts for flowering and non-flowering plants.

2.3.2.2 Stem Height

The total number of plants in the plot will be counted and the height of the five tallest stems will be measured from the bottom of the stem at the ground or above any exposed roots to the terminal leaf node (final leaf branching point) before the base of the inflorescence (flowering head).

2.3.2.3 Percent Cover

Field staff will calculate the percent cover by species (locations determined by observations in the field). The Braun-Blanquet method, Table 2-3 below, will be used to assess the cover class on a scale of 1 to 5.

Table 2-3. Braun-Blanquet Vegetative Cover Classes

Code	Description	Cover Class
5	Any number of plants covering more than three-quarters of the sample site	>75%
4	Any number of plants covering between one-half and three-quarters of the sample site	50-75%

3	Any number of plants covering from one-quarter to one-half of the sample site	25-50%
2	Any number of plants covering between one-twentieth and one-quarter of the sample site	5-25%
1	Numerous individuals, but cover < one-twentieth of the sample site, or scattered with cover up to one-twentieth of the sample site	<5%

2.3.3 Invertebrate Species Observations

The 1 square-meter plots established during the vegetation assessment will include invertebrate identification at each of the locations. The location of each plot will be recorded using an RTK unit discussed in Section 2.2.1. Each species present within the plot will be identified, the number of individuals will be counted, and important habitat features (e.g., burrows) will be recorded. Data collection forms for this effort are included in Appendix E. Examples of species that may be encountered include fiddler crabs, ribbed mussels, oysters, and periwinkle snails. Field staff will wear the proper personal protective equipment if handling any of the creatures is necessary for this assessment.

Equipment needed for the invertebrate species observations includes:

- Clipboard with data sheets to record observations in plots
- Gloves

3. EQUIPMENT LIST

Below is a list of general equipment that EA will need to bring to complete the field work assigned for the July 2024 and September 2024 site visits. This generalized equipment is in addition to the equipment identified in **Sections 2.2 and 2.3**.

General

- Transect elevations: RTK GPS
- Waders for personnel
- Portable boardwalk or plank to allow staff to stand on marsh surface
- Platform for marsh access
- Crowbar
- Water
- Personal flotation device
- Fieldwork gear
- Glove
- Hats
- Sunscreen
- Boots

4. QUALITY ASSURANCE/QUALITY CONTROL

The quality assurance (QA)/QC program incorporates continuous evaluation by various individuals, including the Corporate QA/QC Officer, project managers, subject matter experts, early-career professionals, and clients to ensure that our team is consistently meeting high expectations and industry standards in our deliverables. All project team members are expected to contribute to the overall quality of a project.

The following QA/QC procedures for this project include:

- Adequate training of staff collecting and processing data. This includes familiarization with and adherence to this plan and any additional aspects that may be required (e.g., equipment operation, data collection methods, site security, safety procedures).
- Field logbooks and records will be kept for each project and taken on all trips for a record of observations and field measurements made during field surveys.
- Data collection QA/QC procedures include:
  - The initial processing of the RTK GPS/GNSS data will apply various correctors toward the development of a final XYZ dataset. A thorough review of the results will be performed to eliminate any erroneous data and verify the resulting bottom elevation measurements were accurate to within ± 0.1 feet and consistent with their intended purpose.
- Data processing QA/QC procedures include:
  - The validity and performance of the RTK GPS/GNSS survey equipment will be verified at local benchmarks offering first-order horizontal and vertical control daily, before initiating field survey operations and at the end of fieldwork, if possible. Horizontal accuracy of 0.1 foot or better and vertical accuracy of 0.1 foot or better shall be documented in the field logbook. The field team will contact the project manager if the specified accuracy cannot be achieved.
- Each project deliverable will be reviewed for technical accuracy, completeness against the scope, methods, regulatory acceptance, and understandability. In addition, a technical editor will review each document for grammar, word consistency, spelling, and formatting.
- Activities including documentation, data collection procedures, and adherence to this Field Study Plan will be conducted. Any discrepancies will be noted and corrected, where necessary.

5. FIELD SAFETY

An Accident Prevention Plan/Site Safety and Health Plan has been prepared and is included in Appendix F.

5.1 COMMUNICATION AND COORDINATION

Danielle Szimanski is the Project Manager for this project and Jill Pietropaolo will serve as the SSHO. Danielle Szimanski will be the primary point of contact for all communications associated with the field study, including logistics of base access, field equipment, and coordination with NSB Kings Bay personnel. Jill Pietropaolo will be leading the physical conditions portion of the field effort, and Danielle Szimanski will be leading the ecological assessment portion of the field effort. A contact list for team members and stakeholders is provided below.

Table 5-1. Field Study Key Contacts

Contact	Project Role	Phone	Email
Marstel-Day			
Garrett Wolf	Project Manager	540-614-9840	gwolf@marstel-day.com
Dan Choike	Company Safety Officer	540-376-8510	
EA Engineering, Science, and Technology, Inc., PBC			
Sam Whitin	Senior Technical Reviewer	401-465-2549	swhitin@eaest.com
Danielle Szimanski	Project Manager, Project Scientist	410-527-2449	dszimanski@eaest.com
Jill Pietropaolo	Project Engineer, SSHO	845-642-8918	jpietropaolo@eaest.com
Kathryn Cerny-Chipman	Environmental Scientist	410-527-2458	kcchipman@eaest.com
Patrick Edwards	Environmental Scientist	202-430-2315	pedwards@eaest.com
Justin Dorian	Environmental Scientist, Boat Operator	973-518-4159	jdorian@eaest.com

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