APPENDIX D
CULTURAL RESOURCES

BAY AQUATIC BENEFICIAL USE SITES
GALVESTON BAY, TEXAS

U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
2000 Fort Point Road
Galveston, Texas 77550

From: Robert Gearhart
To: Courtney Gerken
Cc: Marisa Weber
Subject: Fwd: Amendment Response for Permit #31570
Date: Friday, February 16, 2024 9:30:17 AM

The permit amendment has been approved.

---------- Forwarded message ---------
From: <noresponse@thc.state.tx.us>
Date: Fri, Feb 16, 2024, 9:19 AM
Subject: Amendment Response for Permit #31570
To: <bob.hydrographics@gmail.com>, <amy.borgens@thc.texas.gov>, <reviews@thc.state.tx.us>, <laney.fisher@thc.state.tx.us>

Amemdment for Permit for 31570

Dear Robert L Gearhart:

Your amendment for Permit 31570 has been approved by Amy Borgens on 2/16/2024 9:04:15 AM.

Sincerely,

October 6, 2024

Via email: Amy.Borgens@thc.texas.gov

Amy Borgens
State Marine Archaeologist
Texas Historical Commission
108 West 16th Street
Austin, Texas 78711

RE: Antiquities Permit 31570; Archaeological Assessment of the Bay Aquatic Beneficial Use Sites Project; request for 2nd amendment to revise the survey area and add probing of selected magnetic anomalies

Dear Ms. Borgens:

BOB Hydrographics, LLC (BOB) is requesting an amendment of Antiquities Permit 31570 for the purpose of refining the survey area and adding a task to probe selected magnetic anomalies. Please do not hesitate to contact me if you have any questions or concerns. I can be reached any time at 512-517-8564 or by email at BOB.hydrographics@gmail.com. I would appreciate your timely consideration of this request.

All my best,

Robert Gearhart
Owner

cc: Jason Seitz, ANAMAR Environmental Consulting, Inc.
Courtney Gerken, Lloyd Engineering, Inc.
Marisa Weber, Lloyd Engineering, Inc.

CHANGES TO THE SCOPE OF WORK

This is a second request to amend the scope of work for Permit 31570, the Bay Aquatic Beneficial Use Sites (BABUS) Project, located between Atkinson Island and the Mid-Bay Placement Area, on the east side of the Houston Ship Channel, in Galveston Bay. The BABUS Project is sponsored by the U.S. Army Corps of Engineers (SPONSOR). The SPONSOR proposes construction of one or more beneficial use sites. The survey area was increased to 5,736 acres by Amendment 1 of Permit 31570 in February of 2024 (Figure 1). Survey was completed over 2,307 acres of that area in March of 2024 (Figure 2, shaded blue). The currently proposed revision (Amendment 2) would reduce the total acreage to 5,151 acres (combined shaded area in Figure 2). The PROJECT includes portions of Galveston Bay State Mineral Lease Tracts 95-96, 116-118 127-131, 205-209, and 217-221.

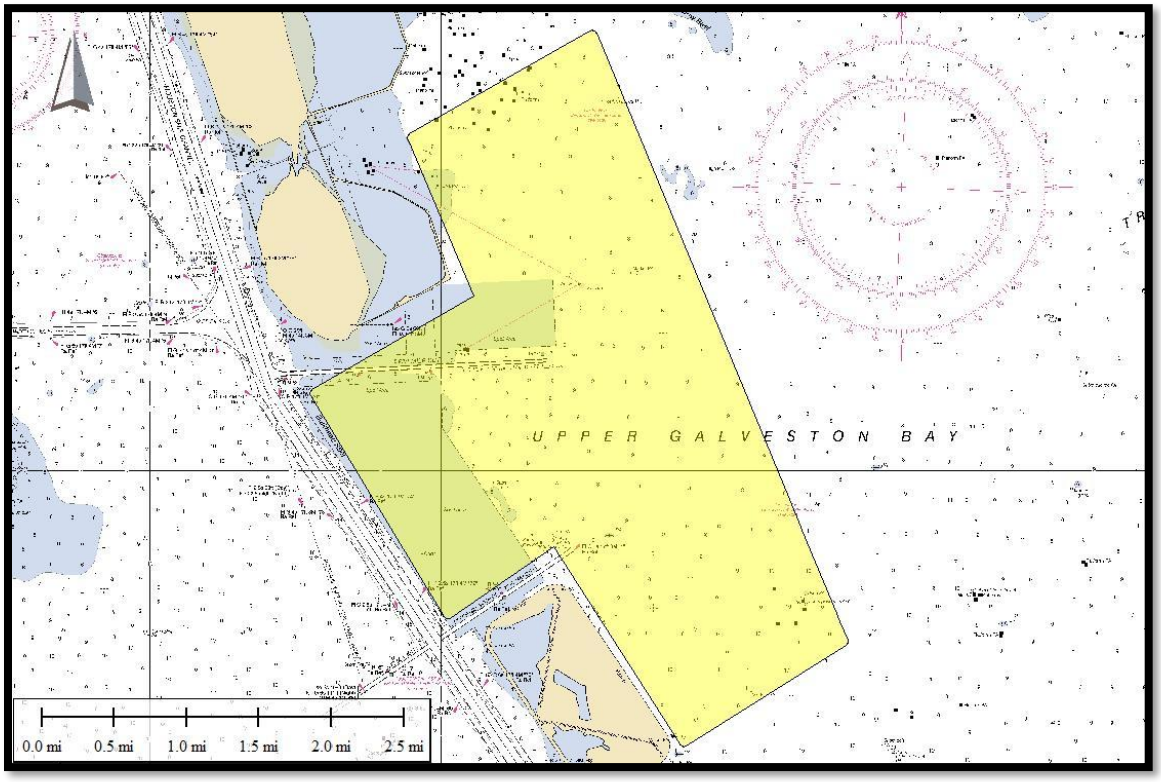

Figure 1: Amendment 1 Survey Area, approved February 16, 2024

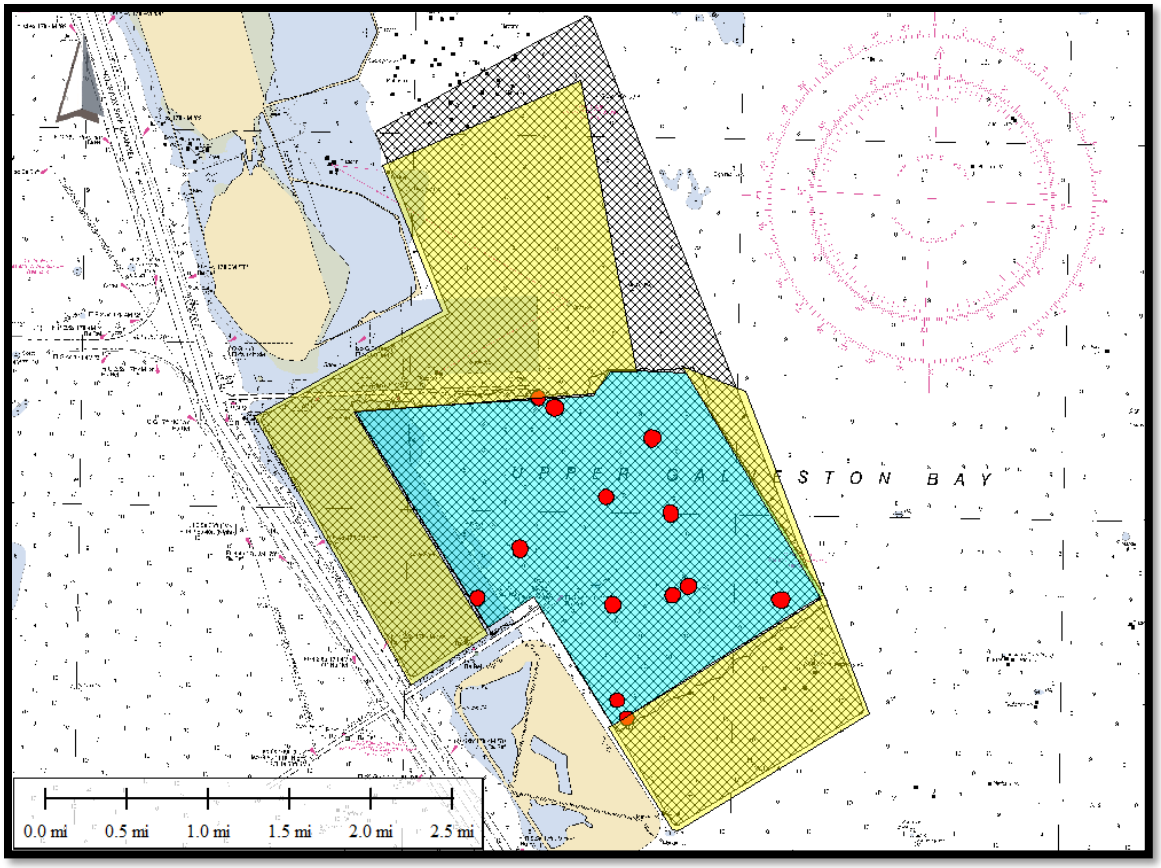

Figure 2: Proposed Amendment 2 Survey Area (combined shaded areas; blue is survey completed; yellow is additional survey proposed) and magnetic anomalies to be probed (red); Amendment 1 Area is cross hatched

The next phase of fieldwork would involve archaeological survey of additional BABUS areas, encompassing 2,977 acres (Figure 2, shaded yellow). The survey includes 50 meters (164 feet) beyond any potential seafloor disturbances. Probing of selected magnetic anomalies, recommended for archaeological avoidance, is proposed to follow the survey planned under Amendment 2. A total of 13 such anomalies (Figure 2, shaded red) were discovered during survey of in March of 2024. Discovery of additional anomalies, requiring probing, is anticipated during the next phase of survey. The purpose of probing would be to determine the presence/absence of buried shipwrecks.

METHODS

Geophysical Survey

BOB's survey methodology will meet or exceed the minimum requirements stipulated by the THC. No artifacts will be collected during the survey. Transects will be spaced consistent with THC requirements for archaeological survey, which call for a 20-meter interval for inland state waters. Additional survey transects may be necessary on geophysical targets deemed potentially significant. Sufficient additional transects will be surveyed, where necessary, to determine target significance.

Survey instrumentation will include side-scan sonar, magnetometer, recording fathometer and sub-meter GPS. Single-beam bathymetry data will be acquired using a recording echo sounder equipped with a 200-kHz transducer. Side-scan sonar data will be collected using a dual-frequency system with one channel operating at or above a frequency of 500 kHz. The sonar will be towed, where depths allow, at an altitude approximating 10 to 20 percent of the selected instrument range to optimize the image quality. Overlap of sonar data with adjacent transects will be sufficient to provide multiple views of potentially significant seafloor contacts. Magnetic data will be acquired using a magnetometer towed behind the survey vessel within 20 feet of the seafloor. Hypack software will be used for navigation and for logging of magnetometer and bathymetry data on the survey boat.

Probing

Sufficient probes will be placed on each selected anomaly to determine the presence/absence of buried wreckage. Additional probes may be required to delineate buried cultural features in the event an anomaly source is discovered. Locations selected for probes will be determined based on the size, shape, and orientation of each magnetic anomaly. Positions where probes are placed will be mapped using a sub-meter differential GPS/heading sensor and recorded in Hypack software.

Probes will be manually pushed into the seafloor with hydraulic assistance to a depth of 6 feet below the mudline or until refusal is reached. The required minimum depth of probing will be confirmed with the THC, prior to beginning work. Galvanized iron pipe will be used for probing. Water will be forced down the pipe using a pump to facilitate penetration of the seafloor to the required depth.

Probing will be conducted from a 20-foot work boat with enclosed cabin (shown below). The boat has a railing on the forward work deck, which provides support for the crew to work safely. The boat will be anchored to maintain position while the probe penetrates the seafloor. Probing of significant anomalies discovered by the magnetometer survey of new areas may be added to this scope of work as a subsequent Permit amendment.