CESAM-OP-OM

6 May 1988

MEMORANDUM FOR RECORD

SUBJECT: Second Management and Technical Committees Meeting, National Demonstration Project Feeder and Stable Berms, Mobile Harbor, Alabama

1. PURPOSE: The second meeting of the Berm Technical and Management Committees was held on 9 March 1988 at the Waterways Experiment Station, Vicksburg, Mississippi. Members of Mobile District, CESAD, CERC and OCE Dredging Division met to discuss the status of activities for the feeder and stable berms. Attachment 1 is the list of attendees and attachment 2 is an agenda for the meeting.

2. FEEDER BERM: Mr. Pat Langan chaired the meeting, and provided opening remarks followed by a discussion by Mr. Ed Hands addressing the results of the first year monitoring efforts for the feeder berm. Nine hydrographic surveys have been performed at the feeder berm to monitor sand movement. Attachment 3 shows a typical cross section of the feeder berm. To date there has been very little change in the configuration of the berm due to mild weather conditions. However, it appears survey inaccuracies have resulted in substantial differences in volumetric calculations from one survey to another. It was suggested that a tide gage located closer to the berm would help eliminate some of the survey error. Mr. Paul Bradley agreed to work out the details for installation of a tide gage on the Shell Oil platform near the feeder berm. Members of CERC indicated they have appropriate permission from Shell for installation of instrumentation on the well (CERC should notify Shell that the gage will be installed).

Mr. Hands continued discussion of the first year monitoring by presenting the results of the seabed drifter data as graphically displayed on attachment 4. Presently, 2,700 drifters have been deployed and 365 cards have been returned, for a return rate of 13.5 percent which is considered typical for this type of deployment.

Mr. Hands mentioned other elements of the monitoring including side scan sonar, sediment sampling, and sub-bottom profiler. The side scan sonar was not useful in identifying the interface of the feeder berm with the natural bottom due to the close similarity of the sediments. The side scan will no longer be used for this purpose, but will be used for sea bed drifter tracking later this year.

The interim report for the first year monitoring was the next topic of discussion. It was agreed that Mr. Bradley and Mr. Hands would develop an outline for a joint report, to be published in the format of a WES miscellaneous report. The report will basically address the intent, objectives, and summary of the first year monitoring. A draft of the interim report was scheduled for completion in April 1988 (The report has been delayed in order for CERC to complete the intensive field studies associated with the April and May surveys).

The next agenda item was the extended monitoring program for the feeder berm. Mr. Bradley indicated that funding for an additional year of monitoring has been programmed by CESAD/MDO. It is estimated that MDO will contribute $347 K in FY88 and $143 K in FY89. Additionally, the CERC Dredging Research Program will provide $150 K in FY88 and $50 K in FY89. Money transfers from MDO to CERC will be made on a quarterly basis.

Mr. Bradley also addressed the status of the work order for the extended monitoring survey contract being administered by MDO. Attachment 5 contains a summary of work items to be included in the contract. Due to time constraints and a need to perform the April survey earlier than originally expected, it was decided to omit the March survey. This will result in a total of six surveys for the extended monitoring (Costs for the April survey are higher than expected due to additional work items and a new survey contractor. Continued higher costs could exceed projected budget).

Mr. Hands discussed the overall elements of the extended monitoring program and work schedule as shown on attachment 6. The major new work item for the monitoring is establishment of the intensified instrumentation for acquisition of real time wave and current data. Mr. Dave McGehee described the expanded instrumentation to be installed and the trawler protection cage that will encompass each wave and current meter. Although this particular arrangement has never been field tested to check effectiveness against shrimp trawlers or the influence of the cage on the flow, it was felt this is our best system design. A comment was made that perhaps the gages could be calibrated in the wave tank. CERC will consider the merits of this proposal. Existing wave and current gages will continue to be used until all of the bugs are worked out of the new system. The new system is scheduled to be deployed during the summer of 1988. In addition to being used for the feeder berm, it will also be the long-term instrumentation for DRP studies.

3. STABE BERM: Mr. Bradley began discussions of the stable berm by presenting the status of Mobile Harbor deepening work, from which the material is being obtained to construct the stable berm. The clam shell dredge CHICAGO began work on 15 February 1988 and it is expected to average dredging between 20,000 c.y. to 40,000 c.y. per day. At this rate, the monitoring test section of the stable berm will be completed by July/August 1988.

It was previously planned that the deepening would commence during November 1987. The delay by starting in February has caused a monitoring schedule slippage of four months (See Item "f" on the attachment 7 schedule). The monitoring schedule and cost estimate will be revised when a firmer dredge production rate has been achieved. The first monitoring survey will be made as soon as possible after completion of the berm test section which represents about one-sixth of the total berm configuration.

The baseline work (survey, remots, sediment sampling) was completed on schedule and the results were expected the week of March 13, 1988 (the report was received and a copy has been transmitted to Mr. Neil Mclellan).

Mr. McLellan reported on efforts to establish the second wave gage landward of the stable berm. The coordinates have been established and the gage will be installed as soon as possible.

Due to a change in plans by the Environmental Protection Agency (EPA), which eliminated a need for divers to obtain information to support an investigation they are conducting in the berm area, they advised they would not be able to conduct the fisheries study as planned. As a result, the

Pascagoula office of the National Marine Fisheries Service (NMFS) was contacted. They have agreed to conduct the study by incorporating our study purposes into their ongoing work in the area. The fisheries study would probably be initiated in the fall to allow time for reef type fishes to acclimate to the new berm structure.

The Sea Grant Advisory Service was contacted to enlist their help in advising shrimp trawlers and other navigational interests of the stable berm project and the fact that wave gages and submerged instruments will be placed in the Gulf. The contract with Sea Grant has been accomplished and work is proceeding. In addition to notices in the English language, translation into Vietnamese will be made. Mr. Imsand will also advise the service as to the coordinates of the new instrumentation.

There was a discussion of the format for the stable berm reports. The reports will be joint MDO/CERC and published as a WES miscellaneous report. It was agreed that CERC would prepare a draft report outline for MDO review.

4. CONCLUSION: The meeting was concluded with a general discussion of information transfer and the need to brief OCE. It was suggested that interim data could be included in such publications as ASCE, PIANC, and World Dredging, etc. This will be decided after review of the interim reports. There will also be opportunities for presentation of papers at technical meetings. Mr. Ted Pellicciotto said he would talk to Mr. Chuck Hummer about a possible OCE briefing.

Paul Bradley

PAUL BRADLEY, P.E.
Civil Engineer, CESAM-OP-OM

Atchs

9 Mar 88

# Mobile Berms Committee Meeting

| Name | Org | Phone |
|---|---|---|
| Tom Pope | CEWESCD-S | 601 634-3034 |
| Neil McLellan | CEWESCD-S | 601 634-3006 |
| DEWAYNE IMSAND | CESAMPD-EC | 205 694-3858 |
| Paul Bradley | CESAMOP-OM | 205 690-2570 |
| PAT LANGAN | OP-OM | 205 694 3733 |
| Tom Richardson | CEWES-CD | 601 634 2019 |
| Joe Wilson | CECW-D | 202/272-0397 |
| TED PELLICCIOTTO | CECW-D | 202/272-0397 |
| Jim Kelly | CESAD-CO-O | (404) 331-6744 |
| [illegible] | CEWES-CP-D | (601) 634-2070 |
| [illegible] | CEWES-CV-A | " " -2001 |
| Ed Hands | CEWES-CD | (601) 634-2080 |
| David McGehee | CEWES-CD-P | (601) 634-4270 |

Attachment 1

# AGENDA

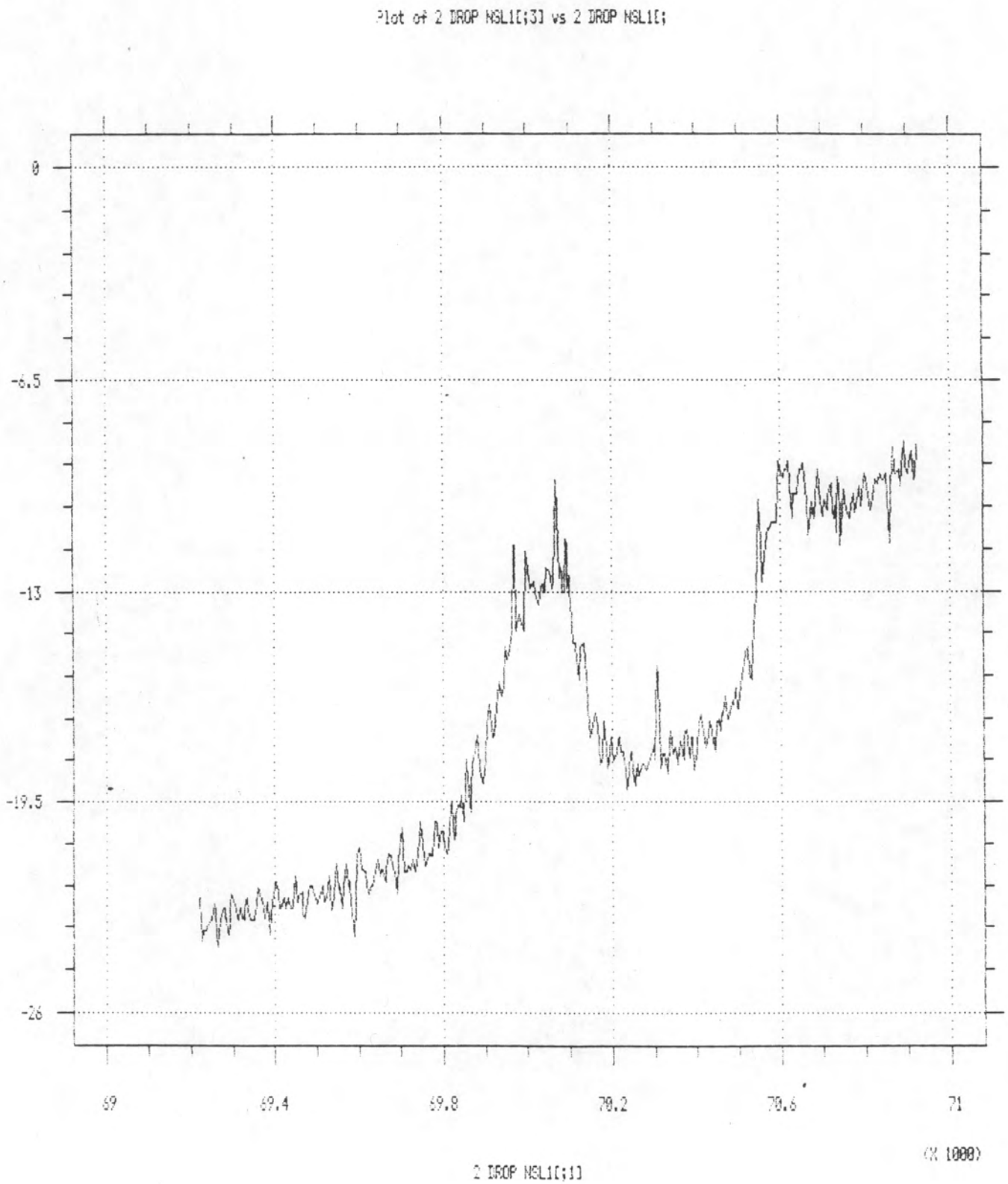
## MANAGEMENT & TECHNICAL COMMITTEES MEETING
## FEEDER AND STABLE BERMS
## MOBILE HARBOR ALABAMA

9 March 1988

| | | | |
|---|---|---|---|
| I. | OPENING | Langan | 0815 |
| II. | FEEDER BERM | | 0825 |
| | A. First Year Monitoring | | |
| | 1. Results | Hands | |
| | 2. Interim Report | All | |
| | B. Extended Monitoring Program | | 0915 |
| | 1. Funding | Bradley | |
| | 2. Survey Contract | Bradley | |
| | 3. Monitoring | Hands | |
| | 4. Work Element Schedule | Hands/Bradley | |
| III. | STABLE BERM | | 0945 |
| | A. Status of Bay Dredging | Bradley | |
| | B. Test Section Monitoring | Imsand/Mclellan | |
| | C. Fishery Evaluation | Imsand | |
| | D. Work Element Schedule | Imsand/Mclellan | |
| | E. Interim Reports Format | All | |
| IV. | FRIED CHICKEN RUSH | Calhoun | 1058 |
| V. | GENERAL | | 1145 |
| | A. Information Transfer | All | |
| | 1. Final Reports | All | |
| | 2. Release of Interim Data | All | |
| | 3. Means of Transfer | All | |
| | B. Potential OCE Briefing | All | |
| VI. | WRAP-UP/ACTIONS | | 1315 |

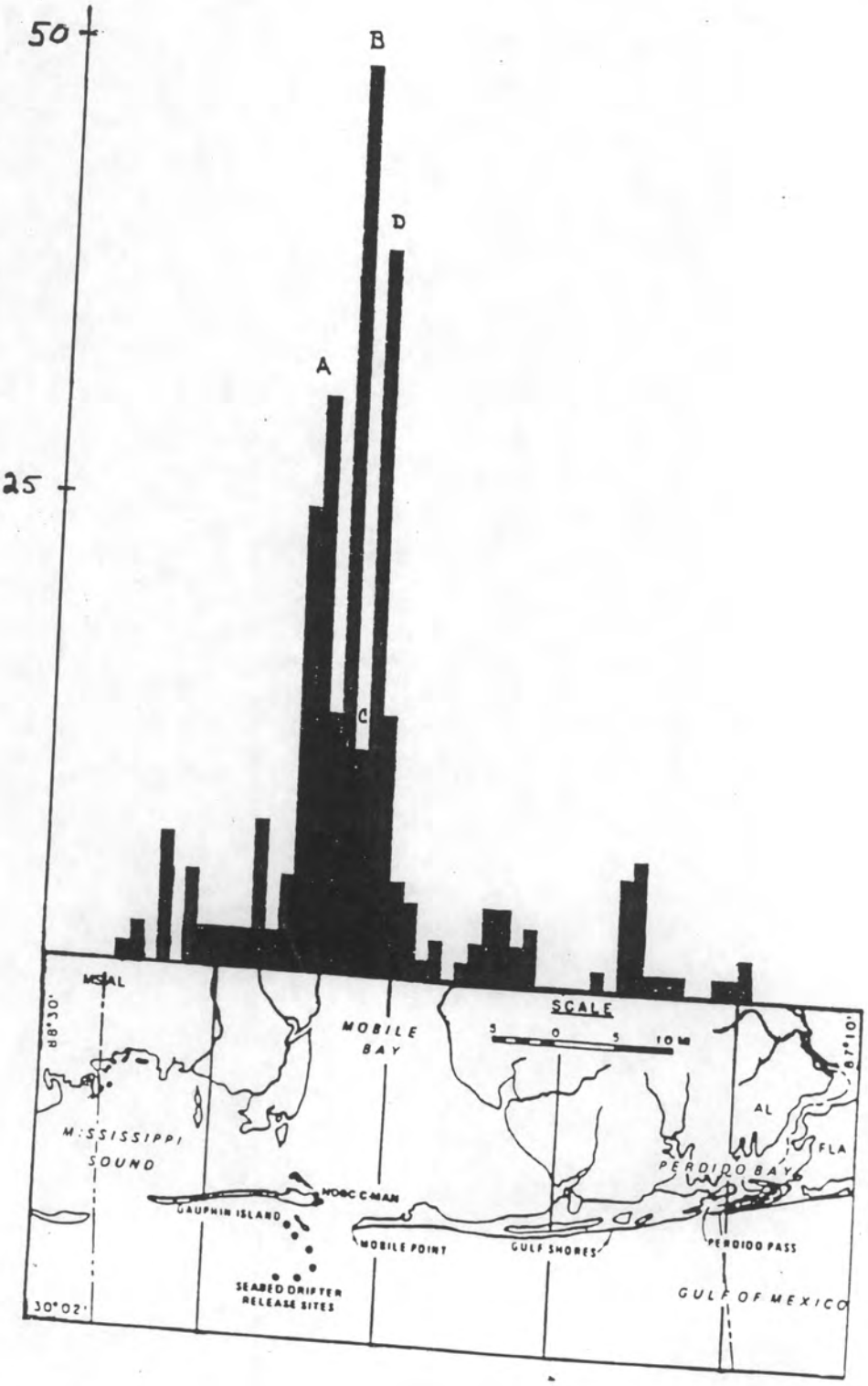
Attachment 2

Northern Sample Line 870302




Attachment 3

Longshore distribution of 280 seabed drifters tabulated as of January 26, 1988. The number of recoveries per 1 mile-wide, longitudinal cell is shown directly above the map. The peak at A corresponds to a concentration of recoveries on Dauphin Island just west of the offshore barrier known as Sand Island. The major concentration is on the eastern tip of the Dauphin Island (B) near Fort Gaines. Fewer recoveries were made in Mobile Bay (C), but there is another concentration on the east side of the Bay entrance (D). None of the 280 SBDs tabulated thus far were recovered east of area depicted in the map, though a few from Florida await tabulation. Two recovery sites are southwest of area shown below.



SCOPE OF WORK
FOR
HYDROGRAPHIC SURVEYS
SAND ISLAND SUBMERGED BERM
DEMONSTRATION PROJECT
BY
JOHN E. CHANCE AND ASSOCIATES
EN-PS PROJECT C-88-116

1. General.

1.1 The contractor is to provide engineering hydrographic surveys for the project area as shown on the attached drawings. The study area is located near Dauphin Island, Alabama and South of Sand Island. The area is approximately 4,000 X 7,000 feet with Gulf waters ranging from 8 to 30 feet in depth. Two lines will be surveyed from the submerged berm to the instrumentation bouy located 3 miles south of the berm.

1.2 A copy of this Scope of Work shall be furnished to the Party Chief.

1.3 SURVEY START DATES:

| | Survey No. |
|---|---|
| ~~March 21, 1988~~ | 1 |
| April ~~18~~ 12, 1988 | 2 |
| May 9, 1988 | 3 |
| August 1, 1988 | 4 |
| September 19, 1988 | 5 |
| October 22, 1988 | 6 |
| December 5, 1988 | 7 |

1.4 SUMMARY OF PROJECT REQUIREMENTS:

| Task | Survey No. 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Hydrographic Surveys | * | * | * | * | * | * | * |
| Grab Samples | * | * | * | * | * | * | * |
| Seabed Drifter Release | * | * | * | * | * | * | * |
| Seabed Drifter Tracking | | * | | | * | | |
| Setting 6 Buoys for Divers | | * | * | | | * | |
| Sub-bottom Profiling | | * | | | | | |

2. HYDROGRAPHIC SURVEY REQUIREMENTS

2.1 SURVEY AREA: The submerged berm center line is defined by the following Alabama State Plane Coordinates (1927 Datum):

| POINT | NORTHING | EASTING |
|---|---|---|
| A | 65,290 | 320,000 |
| B | 67,665 | 320,180 |
| C | 68,785 | 320,050 |
| D | 69,500 | 319,560 |
| E | 70,500 | 318,050 |

SECOND MEETING OF THE MANAGEMENT AND TECHNICAL COMMITTEES
ON THE MOBILE BERMS

March 8, 1988

SCHEDULE FOR THE SECOND YEAR MONITORING
OF THE SAND ISLAND FEEDER BERM

| TASKS | SURVEY# | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| A. Hydrographic surveys | | * | * | * | * | * | * |
| B. Grab samples | | * | * | * | * | * | * |
| C. Seabed drifter releases | | * | * | * | * | * | * |
| D. Setting 6 buoys for divers. | | * | * | | | * | |
| E. Sub-bottom | | * | | | | | |
| F. Seabed drifter tracking | | * | | | * | | |
| G. Diver observations and cores | | * | * | | | * | |
| H. Island reconnaisance for SBDs | | * | * | * | * | * | * |
| I. Build and Test Telemetry System | | -------- | | | | | |
| J. Deploy New Sensors and Telemetry | | | | * | | * | |
| K. Draft Interim Report | | | * | | | | |
| L. Draft Final Report | | | | | | | |



SURVEY DATES:

| | | | | | |
|---|---|---|---|---|---|
| #1 | 18 April | #3 | 1 August | #6 | 5 December |
| #2 | 9 May | #4 | 19 September | | |
| | | #5 | 22 October | | |

Attachment 6

SECOND MEETING OF THE MANAGEMENT AND TECHNICAL COMMITTEES
ON THE MOBILE BERMS

REVISED SCHEDULE FOR THE SECOND YEAR MONITORING
OF THE SAND ISLAND FEEDER BERM

| TASKS | SURVEY# | Apr 1 | May 2 | Aug 3 | Sep 4 | Oct 5 | Dec 6 |
|---|---|---|---|---|---|---|---|
| A. Hydrographic surveys | | * | * | * | * | * | * |
| B. Grab samples | | * | * | * | * | * | * |
| C. Seabed drifter releases | | * | * | * | * | * | * |
| D. Setting 6 buoys for divers. | | * | * | * | * | * | |
| E. Sub-bottom | | * | | | | | |
| F. Seabed drifter tracking | | | * | * | * | * | |
| G. Diver observations and cores | | * | * | * | * | * | |
| H. Island reconnaissance for SBDs | | * | * | * | * | * | * |
| I. Build and Test Telemetry System | | -------- | | | | | |
| J. Deploy New Sensors and Telemetry | | | | | * | | |
| K. Draft Interim Report | | | * | | | | |
| L. Draft Final Report | | | | | | | |

8906

APPROXIMATE BEGINNING SURVEY DATES:

#1 11 April #2 24 May #3 1 August
#4 12 September #5 17 October #6 5 December

DIVER BUOYS SHOULD BE IN PLACE BY 0600 ON:

24 May 3 Aug 12 Sept 21 Oct so diving can be done during neap tides. Drifter tracking will commence when diving operations are complete.

Revised
Attachment 6

## PRINCIPAL STUDY ITEMS
## MOBILE NORTH GULF DISPOSAL AREA (OUTER MOUND) MONITORING

| ITEM | CY87 | | | | | | CY88 | | | | | | | | | | | | CY89 | | | | | | | | | | | | CY90 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FY87 | | | | | | FY88 | | | | | | | | | | | | FY89 | | | | | | | | | | | | FY90 | | | | |
| | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 |
| | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M |
| a. Baseline Remots | | | | | J | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b. Wave Gage (CERC)[1] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c. Management Committee Meeting[2] | | | | | S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d. Maintenance Dredging Begins[3] | | | | | | | O | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| e. Baseline Survey Bathymetry, Sediment Sampling (Mobile) | | | | | | | O | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f. Deepening Begins | | | | | | | | N | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| g. Tide, Wind, Barametric Pressure Gage (Mobile) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| h. Draft Baseline Report | | | | | | | | N | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i. Final Baseline Report | | | | | | | | | D | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| j. Test Area Disposal Completed | | | | | | | | | | J | | | | | | | | | | | | | | | | | | | | | | | | | | |
| k. Monitoring Survey Bathymetry, Sediment Samples, Side Scan Sonar, Subbottom Profiles (Mobile/CERC) | | | | | | | | | | | F | | M | | | A | | | N | | | F | | M | | | A | | | N | | | | | |
| l. Draft Monitoring Survey Report (Mobile/Contractor) | | | | | | | | | | | | M | | | J | | | S | | | D | | | M | | | J | | | S | | | D | | |
| m. Final Monitoring Survey Report (Mobile/Contractor) | | | | | | | | | | | | | A | | | J | | | O | | | J | | | A | | | J | | | O | | | J | |
| n. Push Cores (CERC) | | | | | | | | | | | F | | M | | | | | | N | | | | | | M | | | | | | N | | | | |
| o. Current Study (CERC) | | | | | | | | | | | F | | | | | | | | N | | | | | | | | | | | | | | | | |
| p. Fisheries Study (Mobile/EPA) | | | | | | | | | | | F | | M | | | A | | | N | | | F | | M | | | A | | | N | | | | | |
| q. REMOTS (Mobile) | | | | | | | | | | | F | | M | | | A | | | N | | | F | | M | | | A | | | N | | | | | |
| r. Status Report (CERC Mobile) | | | | | | | | | | | | | A | | | | | | | | | | | | A | | | | | | | | | | A | |
| s. Preliminary Findings Report (CERC Mobile) | | | | | | | | | | | | | | | | | | | O | | | | | | | | | | | | O | | | | | |
| t. Draft Final Report (CERC Mobile) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | A |
| u. Final Report (CERC Mobile) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | M |

[1] Agencies in parenthesis has prime responsibility

[2] Subsequent meetings will be held periodically

[3] Monitoring schedule will be adjusted dependent on dredging schedule.