CITY OF CORPUS CHRISTI
PROFESSIONAL MONITORING CONTRACT
PACKERY CHANNEL MONITORING 2013-2014
Amendment No. 8

The City of Corpus Christi, Texas, hereinafter called "CITY", and Texas A&M University-Corpus Christi hereinafter called "TAMU-CC", hereby agree to amendment of the Contract as approved by City Council Motion 2008-052 on February 26, 2008, administratively amended on March 3, 2008, by Motion 2009-007 on January 13, 2009, by Motion 2009-091 on April 14, 2009, by Motion 2010-095 on April 27, 2010, administratively on September 21, 2010, by Motion 2011-212 on September 27, 2011, administratively amended by Motion 2012-165 on September 11, 2012 as follows:

I. SERVICES TO BE PERFORMED

TAMU-CC hereby agrees to perform all consulting services necessary to monitor, perform, complete, and report the results of a comprehensive study of morphology and changes and current velocity at Packery Channel.

II. SCOPE OF SERVICES

TAMU-CC's services will be those necessary to provide the monitoring required to deliver an annual written report and presentation of the observations and results of the monitoring program that takes place during the term of this contract.

The monitoring program will include the collection of bathymetric data in Packery Channel and the surrounding nearshore, measurement of elevation along the adjacent beach and inland channel segment (shoreline position), and elevation measurements across the Mollie Beattie Coastal Habitat Community. TAMU-CC will conduct the comprehensive study of change in channel depth, shoaling, scour, shoreline position and beach volume at Packery Channel. TAMU-CC will complete the tasks set forth by Section II.A as set forth in the research proposal attached as Exhibit "A".

A. TASKS

Specific tasks to be undertaken are set out as follows:

Task 1. Project Management and Aerial Photography

1-1. Project Management

Project management includes historic analysis, reporting, survey organization and scheduling as well as presentations and generation of materials requested by the City of Corpus Christi. Additional support includes coordination with surveyors, engineers and other environmental professionals to assist the City of Corpus Christi with related projects including potential dredge operations and/or FEMA reimbursement for storm damage.

1-2. Aerial Photography

Description: Acquisition of an annual set of rectified aerial photographs of the Packery Channel region including the entire channel from the GIWW to the Gulf of Mexico (GOM); including North Padre and Mustang Islands from the south end of the seawall to Newport Pass. Photographs are applied in ArcGIS environment for comparative analysis of change relative to key features and as a reference for overlay of data and terrain models. Bids received during 2011 show that the cost of aerial photography has increased reportedly due to increases in fuel costs.
Purpose: For interpretation of large-scale changes in vegetation, dune line, and inter-tidal regions adjacent to the inland segment of the channel as well as along Padre and Mustang Islands. In addition, the aerials are appropriate for visuals and explanation aids to residents and laypersons.

Schedule: (1) annual set conducted Aug/Oct 2013 (pending weather conditions).

Task 2. Measurement of Morphologic change in Packery Channel and along Mustang and Padre Island.

2-1. Beach Profile Survey

Description: The beach profile survey provides information on changes occurring at 18 specified locations from the Nueces Kleberg County Line to north of Fish Pass. There are historic data for these locations since 1995. Elevation measurements are collected along transects that initiate landward of the dune or other landward limiting feature (seawall or pavement) and extend offshore up to one mile into the Gulf of Mexico.

Purpose: To document changes in features such as the dune toe (seaward limit of dunes) berm crest (most landward point of active sediment transport on the beach), and sand bars. The data are applied to calculate volumetric change along historically surveyed areas of the beach and applied to calculate sand volume which is required for sand placement and documentation for FEMA funding. Data is also applied to verify shoreline position data and to determine the maximum region of sheltering (Zone of Influence) by the jetties.

Schedule: (1) annual survey conducted during peak summer condition (Sep/Oct 2013).

2-2. Shoreline Position surveys

Description: Elevation data are collected by RTK GPS across the beach from close to the dune toe to the water line along a zigzag path. The beach is surveyed from south of the Nueces Kleberg County Line to north of Fish Pass.

Purpose: These surveys are an efficient and low-cost way to measure changes in the width of the dry beach over the broad study area. Within days, a large section of the beach can be measured to determine changes in shoreline position from which regions of beach erosion and accretion can be determined and potential "hot spots" can be identified. Monitoring the seasonal position of the shoreline assists in management of beach vehicular access south of the inlet and addresses persistent regions of shoreline recession that have been identified fronting the North Padre Island Seawall and Whitecap Blvd as well as regions of receding shoreline north of the inlet near Newport Pass.

Schedule: (2) Surveys. Tentative survey schedule: Sep/Oct 2013, Jan/Feb 2014.

2-3. Surveys of channel and nearshore depth and morphology (bottom features)

Description: These bathymetric surveys combine single-beam and multi-beam sonar coverage to provide high resolution of morphology (shoals, scour and bars). Seasonal series of data is applied to interpretation of pathways of sediment transport.

Purpose: Data is applied to define features such as shoals (areas of deposition) and scour (areas of erosion) in the channel, nearshore and around structures. This data is applied to determine pathways of sediment transport and to calculate volumetric change for application to the estimation of the sand volume available for dredging. The data are applied to interpret trends in sediment transport as well as to calculate volumetric change, the calculation of sand loss or gain, for nourishment projects, and to identify potential regions of shoaling which could limit navigation. A primary application of this data is to assist with determining potential scheduling of dredging.

Schedule: (3) Surveys. Tentative survey schedule: Sep/Oct 2013, Jan/Feb 2014 and June 2014. Additional surveys may be required if data indicate that depth-limited navigation is imminent.

2-4. Inland Channel Segment and Mollie Beattie Coastal Habitat Community (MBCHC)

Description: The inland channel segment bordering MBCHC continues to modify as the region adjusts to changes in water flow in the channel and over the wetland. These changes are best

captured seasonally through a network of cross-sections that document changes in wetland extent, channel boundaries and shoreline change. Elevation is measured along transects (survey lines) roughly perpendicular to channel orientation starting at the location of mean higher high water (MHHW) shoreline position along the south shore and then extending across the channel to the location of MHHW shoreline position or until a limiting feature (such as coverage of a raised placement area) is defined. Measure the MHHW shoreline position along the south shore of Packery Channel from the HWY 361 Bridge to the Relief Channel west of the channel dog leg.
Purpose: These surveys define change in the inland segment of the channel that borders the MBCHC and changes in the elevation of the wetland. Analysis of these data sets provide quantification of change in primary (-5 ft) and upper bank (MSL) width along MBCHC. In addition the MHHW position of the west side of the inland channel segment (residential) is surveyed and compared to previous surveys to determine historic change in position.
Schedule: (2) Survey Sets (Transects and MHHW). Tentative survey schedule: Sep/Oct 2013, Jan/Feb 2014. Additional surveys may be required if data indicate that the rate of change has increased during the study period.

2-5. Event/Transitional Survey and/or Dredge Support
Description: In a continued effort to respond to reported City of Corpus Christi budgetary constraints, the monitoring program continues at a modified schedule to include (2) seasonal surveys (Sept/Oct 2013 and Jan/Feb 2014) and (1) transitional survey (June 2014). To accommodate monitoring concerns beyond these seasonal surveys this task provides for event survey or other survey requirements as needed. Such support outside of seasonal surveys could include but is not limited to dredge support, engineering support, environmental assessment (wetland), and sand placement activities outside the seasonal survey scope. The primary purpose of the event surveys is to facilitate timely pre- or post- storm surveys. Surveys may be needed beyond the seasonal designation, such as after storms, and to assist with the investigation of sensitive environmental habitat or anthropogenic influences on the coastal environment that are identified during the course of the three seasonal surveys. The cost is based upon the following survey suite but may be utilized as needed:

a. Shoreline position survey (1) Task 2-2
b. MBCHC (1) Task 2-2 OR Full Beach Profile Survey (1) Task 2-1
c. Bathymetric channel and nearshore survey (1) as described in Task 2-3
d. Modified beach profile survey of seawall nourishment area south of Packery Channel (Includes profiles at 400-ft to 1100-ft spacing to accommodate more accurate beach volume calculation for FEMA).

Purpose: To define morphology immediately before or after a storm event or related to sensitive habitat such as the MBCHC without time restrictions associated with the amendment process.
Schedule: To be determined

Deliverables:
ASCII data sets (x,y,z) NAVD88 State Plane south Zone FIPS 4205
Email status report (monthly or as updates are available)
Status Reports (post-survey quarterly reports)

Note: all surveys may be rescheduled based upon study findings or weather and sea conditions. Additional surveys may be recommended upon seasonal findings or evidence of change based upon observations in the field.

The proposal for Year 2013-2014 is attached as Exhibit "A".

III. FEES AUTHORIZED

The City will pay TAMU-CC a fixed fee not to exceed $1,548,028.00 for providing all services during the contract term (12 months). The fee consists of an original contract fee of $241,487.00, a fee for Amendment No. 1 of $11,020.00, a fee for Amendment No. 2 of $61,715.00, a fee for Amendment No. 3 of $299,900.00, a fee for Amendment No. 4 of $325,517.00, a fee for Amendment No. 5 of $600.00, a fee for Amendment No. 6 of $293,400, a fee for Amendment No. 7 of $314,389.00 and a fee for Amendment No. 8 for 349,755.00. This fee will be full and total compensation for all services provided and expenses incurred in performing the tasks specified in Section II.A. Invoices will be submitted to the Director of Engineering Services. Invoices will be submitted no more frequently than once per month for services rendered. All invoices shall be accompanied by a cover letter summarizing project status and the tasks undertaken during the time period covered by the invoice. Invoices will be based on the Task Fee as set out by this contract. Invoices will be sequentially numbered for each project, state the project name (Packery Channel Monitoring 2013-2014) and City project number (E13083). The letter shall state the number of the current invoice, the total authorized fee, the amount previously invoiced, and the current amount due. Statements will be based upon percent of project completed. However, a final payment of $3,500 will be retained until delivery of the final report.

It is mutually acknowledged that fees authorized by this original contract not invoiced may be used to defray the costs and expenses of Amendment No. 7 for such additional tasks as may be directed by the City Manager or his designee. However, any task or additional service that requires additional funding beyond that authorized will be evidenced in writing as an amendment to this contract.

Contract	Fee
Original Contract	$241,487.00
Amendment No. 1	$11,020.00
Amendment No. 2	$61,715.00
Amendment No. 3	$299,900.00
Amendment No. 4	$325,517.00
Amendment No. 5	$600.00
Amendment No. 6	$293,400.00
Amendment No. 7	$314,389.00
Amendment No. 8	$349,755.00
Total	$1,897,783.00

The fee for each Task of Amendment No. 8 is estimated as:

	Tasks	Fee
1.1	Project Management	$52,301
1.2	Aerial Photography	$18,848
2.1	Beach Profile Survey	$42,435
2.2	Shoreline Position Survey	$14,848
2.3	Surveys of channel and near shore depth and morphology (Bathymetric Survey)	$113,539
2.4	Inland Channel Segment and Mollie Beattie Coastal Habitat Community	$32,495
2.5	Event/Storm or Environmental/Engineer Support Surveys	$75,289
	Total	$349,755

IV. TERMINATION OF CONTRACT

The City may, at any time, with or without cause, terminate this contract upon thirty days written notice to TAMU-CC at the address of record. In this event, TAMU-CC will be compensated for its services on all stages authorized based upon TAMU-CC and City's estimate of the proportion of the total services actually completed at the time of termination.

V. LOCAL PARTICIPATION

The City Council's stated policy is that City expenditures on contracts for professional services be of maximum benefit to the local economy. TAMU-CC agrees that at least 75% of the work described herein will be performed by a labor force residing within the Corpus Christi Metropolitan Statistical Area (MSA). Additionally, no more than 25% of the work described herein will be performed by a labor force residing outside the Corpus Christi Metropolitan Statistical Area (MSA.)

VI. ASSIGNABILITY

TAMU-CC will not assign, transfer or delegate any of its obligations or duties in this contract to any other person without the prior written consent of the City, except for routine duties delegated to personnel of TAMU-CC staff. If TAMU-CC is a partnership, then in the event of the termination of the partnership, this contract will inure to the individual benefit of such partner or partners as the City may designate. No part of the fee may be assigned in advance of receipt by TAMU-CC without written consent of the City.

The City will not pay the fees of expert or technical assistance and consultants unless such employment, including the rate of compensation, has been approved in writing by the City.

VII. DISCLOSURE OF INTEREST

TAMU-CC further agrees, in compliance with City of Corpus Christi Ordinance No. 17112, to complete, as part of this contract, the *Disclosure of Interests* form attached hereto as Exhibit "B".

All other terms and conditions of the February 26, 2008 contract, as amended, between the City and Consultant shall remain in effect.

CITY OF CORPUS CHRISTI

_____

Oscar R. Martinez, Date
Assistant City Manager

RECOMMENDED

_____

Daniel Biles, P. E., Date
Director of Engineering Services

_____

Michael Morris Date
Director of Parks and Recreation

TEXAS A&M UNIVERISTY–CORPUS CHRISTI

7-30-2013

Deidre D. Williams Date
Principal Investigator

7.31.13

Dr. Luis Cifuentes Date
Vice President
Division of Research,
Commercialization and Outreach

APPROVED AS TO FORM

_____

Office of Management and Budget Date

_____

Legal Department Date

ATTEST

_____

Armando Chapa, City Secretary

Project No. E13083
Packery Channel TIF #2
Fund Source No. 550950-3278-00000-E13083 $349,755.00
Encumbrance No. _____

ENTERED

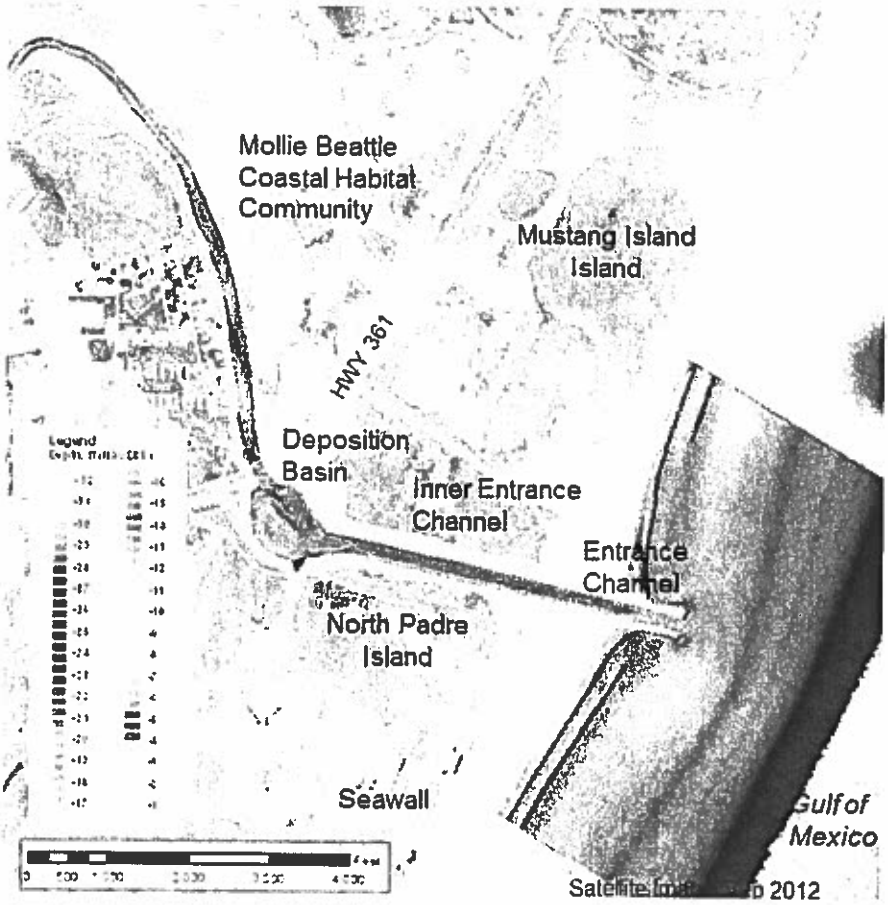
JUL 30 2013

CONTRACT MANAGERS

Packery Channel Monitoring Program
Proposed Amendment for 2013/14

Project Tasks and Cost Estimate

June 25, 2013



Post-dredge channel and nearshore morphology at Packery Channel (01 March 2013).

Submitted to:
The City of Corpus Christi

Submitted by:
Deidre D. Williams
The Conrad Blucher Institute for Surveying and Science
Texas A&M University-Corpus Christi

Introduction

The Packery Channel Monitoring Program began prior to construction in 2003 under sponsorship of the U.S. Army Corps of Engineers, Galveston District and has continued under the sponsorship of the City of Corpus Christi from 2008 to present (Spring 2013). The Conrad Blucher Institute for Surveying and Science (CBI), Texas A&M University-Corpus Christi (TAMUCC) leads these investigations. The monitoring program includes the collection of bathymetric data in Packery Channel and the surrounding nearshore, measurement of elevation along the adjacent beach and inland channel segment (shoreline position), and elevation measurements across the Mollie Beattie Coastal Habitat Community (MBCHC). The monitoring program also includes measurement of current velocity in the inland channel segment and in the GIWW near the intersection of the two channels, sponsored by the USACE, Coastal Hydraulics Laboratory, and the Coastal Inlets Research Program (2007-2011 and 2013). The analysis and interpretation of this data supports the City of Corpus Christi in the research-based management of Packery Channel as well as the adjacent wetland and beaches along Mustang and Padre Island.

The Packery Channel inlet system is dynamic; responding to storms, anthropogenic change such as dredging, as well as typical seasonal coastal forcing (wind, current, water level, waves). Of primary importance for the 2013/2014 monitoring year is the investigation of changes in Entrance Channel shoaling and nearshore shoaling around the channel mouth after the two dredging events conducted during 2011/2012 and 2012/2013. The two potential concerns have been identified; 1) increase in extent of a remnant shoal located in the Entrance Channel at the channel mouth and 2) continued decrease in the nearshore depth surrounding the channel mouth and potential development of an ebb shoal (Fig. 1). These areas of concern have the potential to influence channel navigation during the peak period of seasonal shoaling which is typically observed toward the end of the summer.

Purpose

There are two primary goals for the 2013/14 monitoring year; 1) Measure the rate of shoaling and scour relative to the cumulative post-dredge channel status and 2) measure and document changes in volume and width of the nourished beach along the North Padre Island Seawall (including Michael J. Ellis Seawall) relative to adjacent regions. In addition, the comprehensive program will continue to monitor changes in the Mollie Beattie Coastal Habitat Community that borders the inland channel segment and the Event Task (Task 2-5) will allow for post-storm and focus surveys as they are required. The continuation of the monitoring program will allow the timely assessment of changes in system dynamic related to: 1) an increase in overall entrance channel depth, now deeper than post-construction, that may influence shoaling trends, 2) a decrease in scour around the channel mouth and bypass bar formation which may influence entrance channel shoaling, and 3) persistence of remaining section of the Entrance Channel shoal which presents a barrier to sediment transport out of the channel mouth.

The Monitoring Program provides data collection and analysis that describes the channel system as it begins to modify, relative to the change in water depth, from the Deposition Basin to the Entrance Channel. The channel will likely undergo a period of rapid change over the summer months, which is historically a time of increased shoaling. Seasonal surveys have shown that shoaling in the Entrance Channel dominates during the summer months, often peaking during

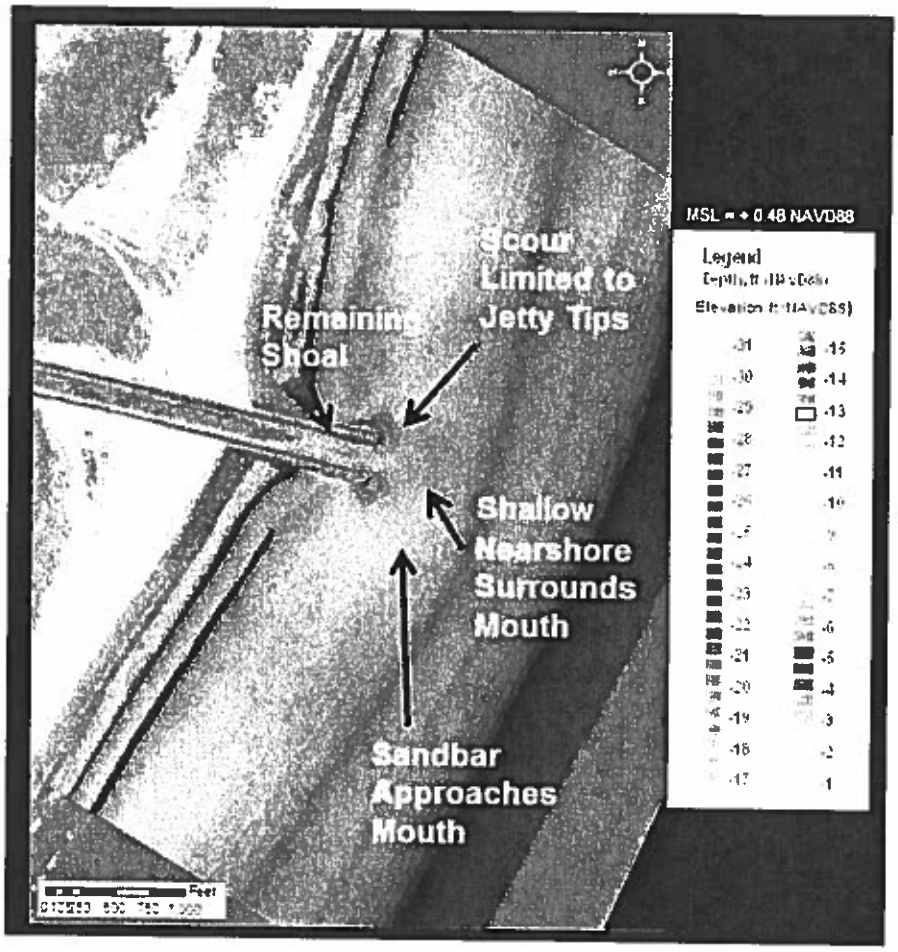


Figure 1. Entrance Channel shoal and shallow nearshore surrounding channel mouth (Mar 2013).

late August and September. An additional area of focused interest lies just offshore of the channel mouth where a seasonally sustained bypass bar has developed during the summer months since 2011. A bypass bar, when separated from the channel mouth by sufficient scour and ebb flow, provides for the transport of sand around the channel mouth. With less scour developing at the channel mouth there is a greater opportunity for sand to enter as the bypass bar approaches and directs sand toward the entrance channel, particularly during the summer months when ebb flow is not enhanced by winter northwesterly wind. In addition, summer is the most dynamic season for sediment transport by wind from the adjacent beach and dunes which have contributed to shoal development in the Entrance Channel in the past. Continued monitoring will assist the city in research-based management of the channel, adjacent beaches, and wetland habitat and to identify and allow adequate time to prepare for future maintenance tasks and identify potential navigation hazards that may develop as the channel responds to the recent dredge events.

Concerns and Benefits Addressed by Monitoring Program:

1. Monitor expansion of the remaining Entrance Channel shoal located near mouth due to:

a. Seasonal decrease in ebb flow (Lack of wind reinforcement during winter storms over summer months).
b. Introduction of sand from nearshore (Bypass bar development directing sand toward the mouth and lack of previously large region of scour around mouth).

2. Track beach advance at jetties
   (Potential for sand entry around jetties when critical threshold is reached).
3. Document pre-storm condition of nourished beach along seawall
   (FEMA reimbursement).
4. Track longevity of cumulative beach nourishment 2011/12 and 2012/13
   (Future nourishment strategies).
5. Identify early trends in sediment transport
   (Future dredge planning)

Monitoring Program Tasks

This proposal describes the 2013/2014 amendment to the existing contract for the Packery Channel Monitoring Program. The program consists of five Tasks which provide data describing the channel and nearshore, adjacent beaches and wetland. The goal of the 2013/14 year is to measure and document changes in channel morphology post-dredge and post-beach nourishment. The monitoring program will continue to assist the City in the anticipation of future dredge events, identification of potential navigation hazards and document the annual pre-storm beach width and volume for FEMA reimbursement should the area sustain damage during seasonal hurricanes.

Tasks 1-5 may be conducted simultaneously or independently and in the order that best supports the monitoring program goals.

Task 1. Project Management and Aerial Photography

1-1. Project Management

Description

Project management includes historic analysis, reporting, survey organization and scheduling as well as presentations and generation of materials in support of the management of the inlet and associated beach and wetland by the City of Corpus Christi. Additional support includes coordination with surveyors, engineers and other environmental professionals to assist the City of Corpus Christi with related projects including potential dredge operations and/or FEMA reimbursement for storm damage.

Estimated Cost: ~~**$52,293**~~ 52,301 D~

1-2. Aerial Photography

Description: Acquisition of an annual set of rectified aerial photographs of the Packery Channel region including the entire channel from the GIWW to the Gulf of Mexico (GOM); including North Padre and Mustang Islands from the south end of the seawall to Newport Pass. Photographs are applied in ArcGIS environment for comparative analysis of change relative to key features and as a reference for overlay of data and terrain models. Bids received during 2012 and 2013 indicate that the cost of aerial photography has increased, reportedly due to increases in fuel costs and the pool of local vendors is limited.

Purpose: For interpretation of large-scale changes in vegetation, dune line, and inter-tidal regions adjacent to the inland segment of the channel as well as along Padre and Mustang Islands. Aerial imagery is particularly important to document adjacent regions that are outside of the topographic survey area. In addition, the aerial imagery is applied as a backdrop to channel and beach elevation data. In addition, the aerials are critical for application to the development of visuals and explanation aids to residents and laypersons.
Schedule: (1) annual set conducted Aug/Oct 2013 (pending weather conditions).
Estimated Cost: $18,848

Task 2. Measurement of Morphologic change in Packery Channel and along Mustang and Padre Island.

2-1. Beach Profile Surveys

Description: Beach profile surveys provide detailed information describing changes in elevation and morphology at 18 specified locations along the beach stretching from the Nueces Kleberg County Line to north of Fish Pass. There are historic data for these locations since 1995. Elevation measurements are collected along transects that initiate landward of the dune or other landward limiting feature (seawall or pavement) and extend offshore up to one mile into the Gulf of Mexico. The surveys capture the region of active sediment transport and therefore extend offshore to a depth, referred to as the depth of the closure, beyond which limited movement of the sediment occurs.
Purpose: To document changes in features such as the dune toe (seaward limit of dunes) berm crest (most landward point of active sediment transport on the beach), and sand bars. The data are applied to determine regions of erosion and to calculate volumetric change along historically surveyed areas of the beach. This data set is critical to the calculation of sand volume which is required for sand placement and documentation for FEMA funding. Data is also applied to verify shoreline position data and to determine the maximum region of sheltering along the beach (Zone of Influence) that is provided by the jetties.
Schedule: (1) annual survey conducted during peak summer condition (Sep/Oct 2013).
Estimated Cost: $ 42,435

2-2. Shoreline Position Surveys

Description: Elevation data are collected by RTK GPS across the beach from close to the dune toe to the water line along a zigzag path in order to cover the entire beach face. The beach is surveyed from south of the Nueces Kleberg County Line to north of Fish Pass.
Purpose: Shoreline position surveys are an efficient and low-cost way to measure changes in the width of the dry beach over the broad study area. Within days, a large section of the beach can be measured to determine changes in shoreline position from which regions of beach erosion and accretion can be determined and potential "hot spots" can be identified. Monitoring the seasonal position of the shoreline assists in management of beach vehicular access and addresses persistent regions of shoreline recession that exist in front of the North Padre Island Seawall and Whitecap Blvd. as well as regions of receding shoreline north of the inlet near Newport Pass.
Schedule: (3) Surveys. Tentative survey schedule: Sep/Oct 2013, Jan/Feb 2014.
Estimated Cost: $14,848

2-3. Surveys of Channel and Nearshore Depth and Morphology (Features of seafloor and bottom of channel)

Description: These bathymetric surveys combine single-beam (nearshore/offshore) and multi-beam (channel) sonar coverage to provide high-resolution data sets that describe the morphology (shoals, scour and sandbars) on the channel bottom and seafloor. The analysis of seasonal data sets is applied to interpret pathways of sediment transport and to anticipate development of features such as bypass bars, channel shoals and ebb shoaling.
Purpose: Data is applied to define morphologic features such as shoals (areas of deposition) and scour (areas of erosion) in the channel, nearshore and around structures. This data is applied to determine pathways of sediment transport and to calculate volumetric change for application to the estimation of the sand volume available for dredging. The data are applied to interpret trends in sediment transport as well as to calculate volumetric change, prepare for nourishment projects, and identify potential regions of shoaling which could limit navigation. A primary application of this data is to identify trends in shoaling which provides guidance in future dredge planning.
Schedule: (3) Surveys. Tentative survey schedule: Sep/Oct 2013, Jan/Feb 2014 and June 2014. Additional surveys may be required if data indicate that depth-limited navigation is imminent.
Estimated Cost: $ 113,539

2-4. Inland Channel Segment and Mollie Beattie Coastal Habitat Community (MBCHC)
Description: The inland channel segment bordering MBCHC continues to modify as the region adjusts to changes in water flow in the channel and over the wetland. These changes are best captured seasonally through a network of cross-sections that document changes in wetland extent, channel boundaries and shoreline change. Elevation is measured along transects or survey lines, that are roughly perpendicular to channel orientation. The surveys start at the location of the mean higher high water (MHHW) shoreline position located along the western residential shore and then extend across the channel to the location of MHHW shoreline position or until a limiting feature (such as coverage of a raised placement area) is defined. The position of the MHHW shoreline position is measured along the residential side of the channel extending from the HWY 361 Bridge to the Relief Channel west of the channel dog leg. The MHHW position is not as well defined along the MBCHC due to extended sections of submerged area, therefore a MHHW position survey is not conduced on the east side of the channel.
Purpose: These surveys define morphologic change in the inland segment of the channel that borders the MBCHC as well as changes in the elevation across sections of the wetland. The purpose is to evaluate the response of the channel and wetland to the opening of the inlet and assess the approach to an equilibrium status. Analysis of this data set provides quantification of change in the primary (-5 ft) and upper bank (MSL) width along the channel bordering the MBCHC. In addition, the MHHW position of the west side of the inland channel segment (residential) is compared to historic survey data surveys to determine historic change in position.
Schedule: (2) Survey Sets (Transects and MHHW). Tentative survey schedule: Sep/Oct 2013, Jan/Feb 2013. Additional surveys may be required if data indicate that the rate of change has increased during the study period.
Estimated Cost: $ 32,495

2-5. Event/Transitional Survey and/or Dredge Support
Description: In a continued effort to respond to City of Corpus Christi budgetary constraints, the monitoring program continues at a modified schedule to include (2) seasonal surveys (Sept/Oct 2012 and Jan/Feb 2013) and (1) transitional reduced-cost survey (June 2013). To

accommodate monitoring concerns beyond these seasonal surveys the Event Task provides for event surveys or other survey requirements as needed. Such support outside of seasonal surveys could include but is not limited to dredge support, engineering support, environmental assessment (wetland, endangered species, modeling hydrodynamics), and sand placement activities outside the seasonal survey scope. The primary purpose of the event surveys is to facilitate timely pre- or post- storm surveys. Surveys may be needed beyond the seasonal designation, such as after storms, and to assist with the investigation of sensitive environmental habitat or anthropogenic influences on the coastal environment that are identified during the course of the three seasonal surveys. The cost is based upon the following survey suite but may be utilized as needed in support of management concerns:

a. Shoreline position survey (1) Task 2-2.
b. Abbreviated MBCHC survey (1) Task 2-2 OR TBA survey up to 5 days.
c. Bathymetric channel and nearshore survey (1) as described in Task 2-3.
d. Beach profile survey (1) Task 2-1.
e. Beach profile survey of seawall nourishment area south of Packery Channel (Includes profiles at 400-ft to 1100-ft spacing to accommodate more accurate beach volume calculation for FEMA).

Purpose: To define changes in morphology, wetland boundaries, volume, and shoreline position related to issues outside of the umbrella of the seasonal surveys.
Schedule: Post-storm and as needed relative to management concerns during 2013/2014.
Estimated Cost: up to $75,289

Total Estimated Cost to City of CC: $ 349,755

Cost Savings to City of Corpus Christi

In an effort to directly address budgetary constraints and comprehensive use of available funds CBI has provided cost savings through the following:

1. *Conservation of funds in the Event Category 2011/2012 (Task 2-5).*
   Savings to City ≈ 45,000

2. *Maintaining F/A calculated on Salary/wages only.*
   Savings to City ≈ 56,000

3. *Secured USACE contribution to current monitoring.*
   Savings to City ≈ 14,000

***Total Cost Savings ≈ 115,000** 2013/2014 Task Year*

Additional Cost Savings Over Program Term

- ✓ *Estimated savings due to deferment of dredge operations (based upon Packery Channel Monitoring Program and associated analysis)*
  ≈ $ 2,000,000 to $ 3,000,000

Deliverables:
ASCII data sets (x,y,z) NAVD88 State Plane south Zone FIPS 4205
Email status report (monthly or as updates are available)
Status Reports (post-survey quarterly reports)

Note: all surveys may be rescheduled based upon study findings or weather and sea conditions. Additional surveys may be recommended upon seasonal findings or evidence of change based upon observations in the field.

Budget Next Page

Packery Channel Monitoring Program
Estimated Budget
1 July 2013 to 30 June 2014

Personnel	
Principal Investigator	$ 60,844
Database Management/support and technical staff	$ 13,602
Subtotal Personnel (Salary/wages)	$ 74,446
Benefits	$ 17,053
Total Personnel	$ 91,499
Travel (Transportation to Surveys)	
Truck/fuel	$ 1,000
Total Transportation	$ 1,000
Other Project Costs	
Materials and Computer (software upgrades Repair Allowance, Backup/Archive)	$ 5,000
Surveying/post processing (Subcontract)	$ 200,800
Aerial Photography (Subcontract)	$ 12,000
Total Other/Transportation	$ 217,800
Subtotal Salary/Wages	$ 74,446
Subtotal Benefits	$ 17,053
Subtotal Other /transportation	$218,800
F/A (53% salary and wages)	$ 39,456
Project Total	**$ 349,755**
Less Event Task 5 ($75,297)	*($ 274,458)*
Cost Saving to City if used to offset 2013/2014 budget: Estimated unobligated funds from Event Task 2012/2013	*$ 45,000*

City of Corpus Christi

SUPPLIER NUMBER
TO BE ASSIGNED BY CITY
PURCHASING DIVISION

CITY OF CORPUS CHRISTI
DISCLOSURE OF INTEREST

City of Corpus Christi Ordinance 17112, as amended, requires all persons or firms seeking to do business with the City to provide the following information. Every question must be answered. If the question is not applicable, answer with "NA". See reverse side for Filing Requirements, Certifications and definitions.

COMPANY NAME: Texas A&M University-Corpus Christi

P. O. BOX:

STREET ADDRESS: 6300 Ocean Drive **CITY:** Corpus Christi **ZIP:** 78412

FIRM IS: 1. Corporation ☐ 2. Partnership ☐ 3. Sole Owner ☐
4. Association 5. Other

DISCLOSURE QUESTIONS

If additional space is necessary, please use the reverse side of this page or attach separate sheet.

1. State the names of each "employee" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Job Title and City Department (if known)

2. State the names of each "official" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Title

3. State the names of each "board member" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Board, Commission or Committee

4. State the names of each employee or officer of a "consultant" for the City of Corpus Christi who worked on any matter related to the subject of this contract and has an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Consultant

FILING REQUIREMENTS

EXHIBIT "B"
Page 1 of 2

If a person who requests official action on a matter knows that the requested action will confer an economic benefit on any City official or employee that is distinguishable from the effect that the action will have on members of the public in general or a substantial segment thereof, you shall disclose that fact in a signed writing to the City official, employee or body that has been requested to act in the matter, unless the interest of the City official or employee in the matter is apparent. The disclosure shall also be made in a signed writing filed with the City Secretary. [Ethics Ordinance Section 2-349 (d)]

CERTIFICATION

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the City of Corpus Christi, Texas as changes occur.

Certifying Person: Dr. Luis Cifuentes **Title:** Vice President for Research, Commercialization and Outreach

Signature of Certifying Person: _____ **Date:** 7.31.17

DEFINITIONS

a. "Board member." A member of any board, commission, or committee appointed by the City Council of the City of Corpus Christi, Texas.

b. "Economic benefit". An action that is likely to affect an economic interest if it is likely to have an effect on that interest that is distinguishable from its effect on members of the public in general or a substantial segment thereof.

c. "Employee." Any person employed by the City of Corpus Christi, Texas either on a full or part-time basis, but not as an independent contractor.

d. "Firm." Any entity operated for economic gain, whether professional, industrial or commercial, and whether established to produce or deal with a product or service, including but not limited to, entities operated in the form of sole proprietorship, as self-employed person, partnership, corporation, joint stock company, joint venture, receivership or trust, and entities which for purposes of taxation are treated as non-profit organizations.

e. "Official." The Mayor, members of the City Council, City Manager, Deputy City Manager, Assistant City Managers, Department and Division Heads, and Municipal Court Judges of the City of Corpus Christi, Texas.

f. "Ownership Interest." Legal or equitable interest, whether actually or constructively held, in a firm, including when such interest is held through an agent, trust, estate, or holding entity. "Constructively held" refers to holdings or control established through voting trusts, proxies, or special terms of venture or partnership agreements."

g. "Consultant." Any person or firm, such as engineers and architects, hired by the City of Corpus Christi for the purpose of professional consultation and recommendation.