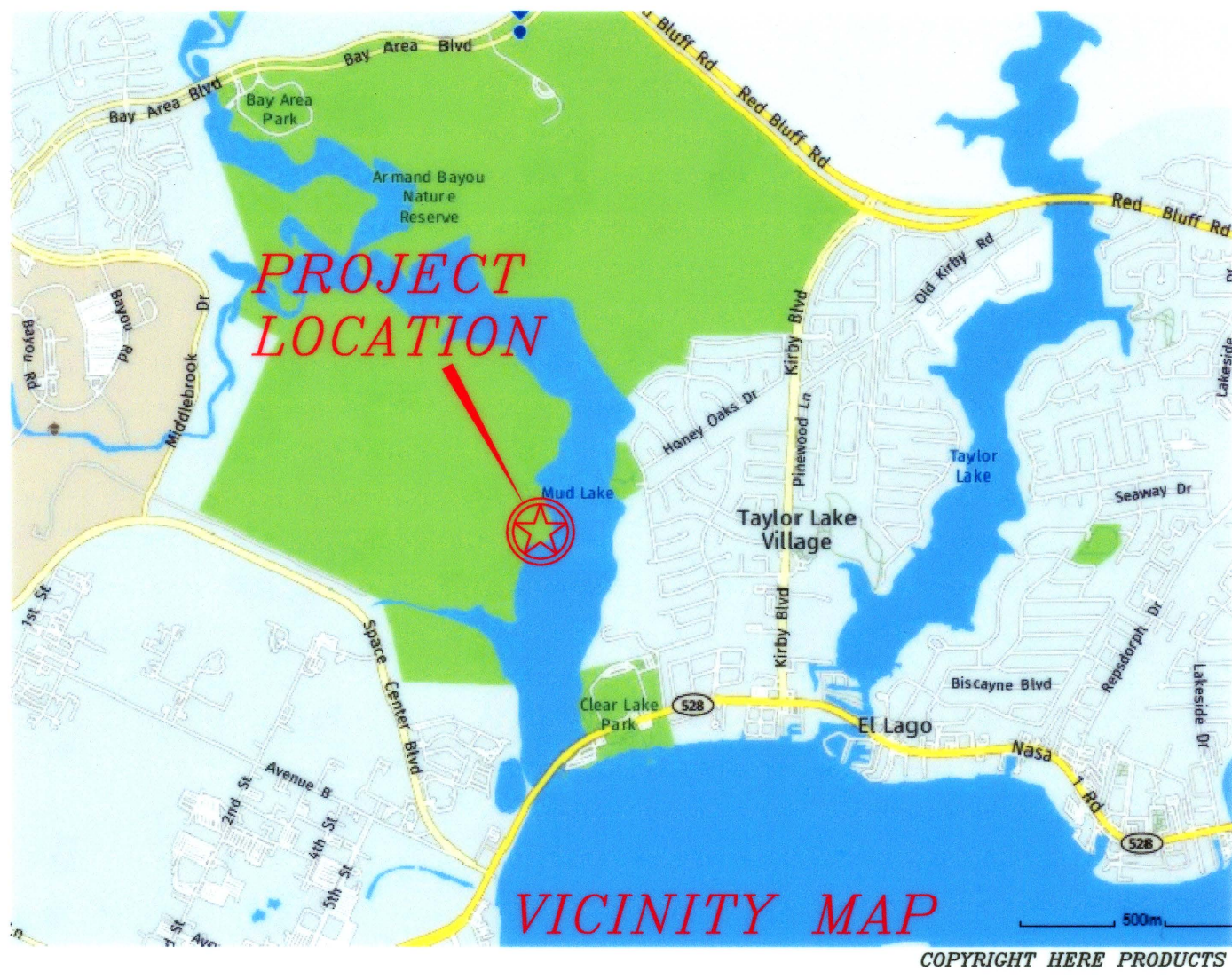


Coastal Boundary Survey
of a Portion of
the west bank of Mud Lake
in the
Sylvester Murphy Survey, A-53
Harris County, Texas



I, Joe A. Mattox, do hereby certify that the line of mean higher high water shown hereon was correctly surveyed by me on the ground and according to law on January 20, 2022. This work was performed under my direct control and supervision. (In accordance with Texas Natural Resources Code Sec. 21.042 and in accordance with methodology for the project approved by the surveying Division of the GLO). Points on the west bank of Mud Lake are on the line of mean higher high water and lines connecting are meander lines. Given under my hand and seal this 28th day of January, 2022.

Joe A. Mattox
Joe A. Mattox
Licensed State Land Surveyor, RPLS No. 5535

Sylvester Murphy
Titled October 25, 1832
A-53

CITY OF PASADENA
TRACT VI
CALLED 290 ACRES
HCCF No. D760069
"ARMAND BAYOU NATURE CENTER"

SCALE: 1" = 30'
SCALE: 1" = 10.8 varas

Point of Beginning
N: 13,777,671.66'
E: 3,216,892.94'
From which:
NGS Monument PID: D09991
Desig: 877 0933 90026 A brs.
S 25°13'27" E 4,305.44'
(1,549.96 v.)
HCFRM Monument 020010 brs.
N 55°24'14" E 2,217.36'
(798.25 v.)

Approximate location of Mud Lake/marsh line placed from scaled 1944 aerial image.

HARRIS COUNTY
FLOODPLAIN REFERENCE
MARK MONUMENT
NO. 020010
N: 13,778,930.65'
E: 3,218,718.21'
EL= 10.00 NAVD88

NOTE: Reference is hereby made to Texas GLO Projects ME002890, ME800268, ME2022009, & CL900007 in this area.

David Harris
Titled October 20, 1832
A-25

DRAINAGE ESMT.
HCCF No. C276747

15' SAN. SEWER ESMT.
HCCF No. R187258
(TX GLO ME 002890)

C347985
HUMBLE PL CO TO HL&P
100' FEE STRIP
TR 2 CALLED 3.551 ACRES
PREVIOUS HUMBLE PL
V 6409 P 336 DRHCT

Deed called to be on the east bank of Middle Bayou

Ritson Morris
Titled November 14, 1832
A-52

CENTERPOINT ENERGY
(713) 659-2111
EXPOSED 6" GAS LINE
N: 13,777,545.84'
E: 3,216,889.46'

exposed 8" Clear Lake City Water Authority line (713) 488-1164 or (281) 488-1164

Area of old broken concrete, possible old repairs. See Note 4

Deed called to be on the west bank of Middle Bayou

Approximate location of Middle Bayou placed from scaled 1944 aerial image.

SPECIAL NOTE: This area of Mud Lake is also known as or referred to in various documents as: Pasadena Lake, Middle Bayou, Armand Bayou, and Lake Mark Kramer (2020).

FIELD NOTES

STATE OF TEXAS §
COUNTY OF HARRIS §

Coastal boundary survey performed on the line of mean higher high water along a portion of the Sylvester Murphy Survey, Abstract 53, and the west bank of Mud Lake in Harris County, Texas. These field notes are accompanied by a plat also dated January 28, 2022. All bearings, distances, and coordinates are grid and are referenced to the Texas Coordinate System, NAD 83, South Central Zone, U. S. survey feet. The mapping angle is +01°55'28" and the combined scale factor is 0.99987198545. Harris County Floodplain Reference Mark Monument 020010 has been utilized. Beginning at a point on the shoreline that has a State Plane Coordinate value of N: 13,777,671.66 and E: 3,216,892.94, U. S. survey feet from which Harris County Floodplain Reference Mark Monument 020010 bears N55°24'14"E 2,217.36 feet (798.25 varas).

THENCE with the line of mean higher high water the following bearings and distances:

- L1 S 26°31'23" E 28.43 feet (10.23 varas),
- L2 S 09°48'24" W 9.98 feet (3.59 varas),
- L3 S 03°09'01" E 24.65 feet (8.87 varas),
- L4 S 20°10'14" W 34.95 feet (12.58 varas),
- L5 S 08°52'38" W 20.77 feet (7.48 varas),
- L6 S 02°36'50" W 14.63 feet (5.27 varas),
- L7 S 08°22'29" E 15.26 feet (5.49 varas),
- L8 S 19°26'14" E 11.03 feet (3.97 varas),
- L9 S 61°35'11" W 21.06 feet (7.58 varas),
- L10 S 39°29'28" W 17.82 feet (6.42 varas),
- L11 S 28°41'19" W 32.25 feet (11.61 varas),
- L12 S 49°57'26" W 47.95 feet (17.26 varas),
- L13 S 65°14'55" W 17.20 feet (6.19 varas),
- L14 S 77°36'55" W 29.84 feet (10.74 varas),
- L15 S 61°42'47" W 26.82 feet (9.66 varas),

to the end point of this project area which has a State Plane Coordinate value of N: 13,777,409.11 and E: 3,216,744.83 and from which Harris County Floodplain Reference Mark Monument 020010 bears N52°22'00"E 2,491.85 feet (897.07 varas).

NOTICE: This survey was performed in accordance with Section 33.136, Natural Resources Code, for the purpose of evidencing the location of the shoreline in the area depicted in this survey as that shoreline existed before commencement of erosion response activity, as required by Chapter 33, Natural Resources Code. The line depicted on this survey fixes the shoreline for the purpose of locating a shoreline boundary, subject to movement landward as provided by Section 33.136, Natural Resources Code.

NOTES:
1) All bearings, distances, and coordinates are grid and are referenced to the the Texas Coordinate System, NAD 83, South Central Zone, U. S. survey feet. The mapping angle is +01°55'28" and the combined scale factor is 0.99987198545.
2) Harris County Floodplain Reference Mark Monument 020010 has been utilized.
3) Tide gauges 877-1013 Eagle Point and 877-0613 Morgan's Point were utilized in this survey along with benchmarks LUB 1013 E 1992 and E 1201 1973. Mean higher high water was determined to 1.21 feet NAVD88 at project site.
4) There are no current areas of fill. The area of the pipe crossing has been subjected to extensive erosion which has caused what appears to be previous concrete repairs to fail and go into the water. Armand Bayou Nature Center plans to repair this area with a "Living Shoreline".
5) Survey performed in connection with Texas General Land Office Project Number CL 250004 (14)
6) Littoral Owner: City of Pasadena, 1149 Ellsworth Drive, Pasadena, Texas 77506
C/O: Harris County Precinct 2 Parks & Facilities, Armand Bayou Nature Center, 8500 Bay Area Blvd, Pasadena, Texas 77506
Littoral Owner: CenterPoint Energy, 1111 Louisiana Street, Houston, Texas 77002
7) Field personnel: Nedra Foster Townsend, Joe A. Mattox, John C. Tucker, Juan C. Damian

Line #	Direction	Feet	Varas
L1	S 26° 31' 23" E	28.43'	10.23 v
L2	S 09° 48' 24" W	9.98'	3.59 v
L3	S 03° 09' 01" E	24.65'	8.87 v
L4	S 20° 10' 14" W	34.95'	12.58 v
L5	S 08° 52' 38" W	20.77'	7.48 v
L6	S 02° 36' 50" W	14.63'	5.27 v
L7	S 08° 22' 29" E	15.26'	5.49 v
L8	S 19° 26' 14" E	11.03'	3.97 v
L9	S 61° 35' 11" W	21.06'	7.58 v
L10	S 39° 29' 28" W	17.82'	6.42 v
L11	S 28° 41' 19" W	32.25'	11.61 v
L12	S 49° 57' 26" W	47.95'	17.26 v
L13	S 65° 14' 55" W	17.20'	6.19 v
L14	S 77° 36' 55" W	29.84'	10.74 v
L15	S 61° 42' 47" W	26.82'	9.66 v

THIS SURVEY HAS BEEN FILED AND DULY RECORDED THE 30th DAY OF March, 2022, IN BOOK M PAGE 413 OF THE COUNTY SURVEYOR RECORDS OF HARRIS COUNTY, TEXAS.

FOR GENERAL LAND OFFICE USE ONLY
TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. HARRIS, SK No. 20
File Date 06/14/2022 by K. Schrick

HARRIS COUNTY
TRACT II
CALLED 118.613 ACRES
E055943
"ARMAND BAYOU NATURE CENTER"

330 N. 4TH STREET
SILSBEE, TEXAS 77656
409-366-9283
TBPELS FIRM #10040800

SHINE & ASSOC.
PROFESSIONAL SURVEYORS



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

Surveying Division
Coastal Boundary Survey Approval

Project: Coastal boundary survey on the line of mean higher high water along a portion of the Sylvester Murphy Survey, Abstract 53, and the west bank of Mud Lake in Harris County, Texas.

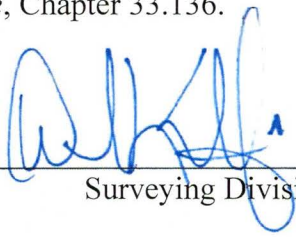
Project No: Survey performed in connection with a Living Shoreline associated with GLO Project No. CL950004

Project Manager: Dianna Ramirez, Upper Coast Regional Manager

Surveyor: Joe A. Mattox, Licensed State Land Surveyor

Description: Coastal boundary survey on the line of mean higher high water along a portion of the Sylvester Murphy Survey, Abstract 53, and the west bank of Mud Lake in Harris County, Texas. The Survey was performed in connection with a Living Shoreline associated with GLO Project No. CL950004. Centroid coordinates N 29°34'29.22", W 95° 04'18.28", WGS84. A copy of the survey has been filed in Book M, Page 413, of the County Surveyor Records of Harris County, Texas.

A Coastal Boundary Survey for the above-referenced project has been reviewed and accepted; upon completion of public notice requirements, the survey will be filed in the Texas General Land Office, Archives and Records, in accordance with provisions of the *Texas Natural Resources Code*, Chapter 33.136.

Approved: 

Signed: _____ 06/09/2022
Surveying Division Date

Approval Filed as:

Tex. Nat. Res. Code Article 33.136, Harris County, Sketch No. 20

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
 Co. Harris, SK No. 20
 File Date 06/14/2022 by K. Schreiber