

COASTAL BOUNDARY SURVEY ARANSAS AND CALHOUN COUNTIES, TEXAS

Being the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of Submerged State Tracts 56, 57, 47, 40 and 45; the Partial Western Boundary of Submerged State Tracts 55 and 44; and the Eastern Boundaries of Surveys Aransas CSL, A-229, C Benoist, A-16, E Titus, A-204, D O'Boyle, A-169, H Tracy, A-209, S Perry, A-176, B Duval, A-59, J Kroeger, A-337 and A Wigginton, A-217

SAN ANTONIO BAY
STATE TRACT 56



LINE	BEARING	DISTANCE	VARAS
L52	N 08°48'12" E	40.65'	14.63V
L53	N 13°26'36" W	46.97'	16.91V
L54	N 46°27'03" E	118.82'	57.89V
L55	N 22°11'57" W	124.62'	44.86V
L56	N 44°39'51" W	46.19'	16.63V
L57	N 54°47'12" W	104.30'	37.76V
L58	N 07°36'03" W	118.86'	42.79V
L59	N 27°22'14" W	89.14'	32.09V
L60	N 11°02'39" E	124.30'	44.75V
L61	N 34°27'13" W	46.69'	17.89V
L62	N 14°37'35" E	98.95'	34.90V
L63	N 34°47'18" W	150.85'	54.31V
L64	N 22°47'05" W	138.49'	49.86V
L65	N 14°38'17" E	151.18'	54.42V
L66	N 34°05'04" E	171.49'	61.74V
L67	N 03°46'09" E	136.67'	49.20V
L68	N 23°57'15" E	152.91'	55.05V
L69	N 17°52'13" W	162.29'	58.41V
L70	N 48°43'20" E	73.85'	26.59V
L71	N 08°27'20" W	87.70'	31.57V
L72	N 41°27'31" W	103.77'	37.36V
L73	N 19°47'17" E	152.39'	54.86V
L74	N 42°15'45" W	99.18'	35.70V
L75	N 07°08'52" W	61.38'	22.10V
L76	N 68°19'02" W	87.37'	31.45V

LINE	BEARING	DISTANCE	VARAS
L39	N 33°34'57" E	63.91'	23.41V
L40	N 61°29'20" E	53.65'	19.31V
L41	N 40°31'45" W	205.40'	73.94V
L42	N 02°24'29" W	132.27'	47.83V
L43	N 20°38'59" W	110.00'	39.40V
L44	N 03°44'29" E	291.00'	104.76V
L45	N 01°59'36" W	107.00'	38.52V
L46	N 59°28'14" E	135.00'	48.60V
L47	N 18°00'51" W	163.00'	58.49V
L48	N 24°35'34" E	161.00'	57.96V
L49	N 43°16'27" W	125.00'	45.00V
L50	N 12°42'06" W	161.00'	57.96V
L51	N 07°18'24" W	166.00'	59.78V

POINT OF BEGINNING SECTION ONE
N:13,276,722.55
E:2,681,586.72

NGS CONTROL
PID: DP0714 DESIG: 877 90038 B
N:13,275,073.35, E:2,677,168.43
EL: 3.9', BEARS S 69°32'51" W A
DISTANCE OF 4,718.05' (1,697.78V)

76.11 ACRES
AREA OF FILL
OR BUILD-UP

SAN ANTONIO BAY
STATE TRACT 56

ARANSAS CSL
ABSTRACT 229

THE UNITED STATES OF AMERICA
C.F. NO. 2370
D. R., A. Co., Tx.

ARANSAS CSL
ABSTRACT 229

SAN ANTONIO BAY
STATE TRACT 56

SAN ANTONIO BAY
STATE TRACT 55

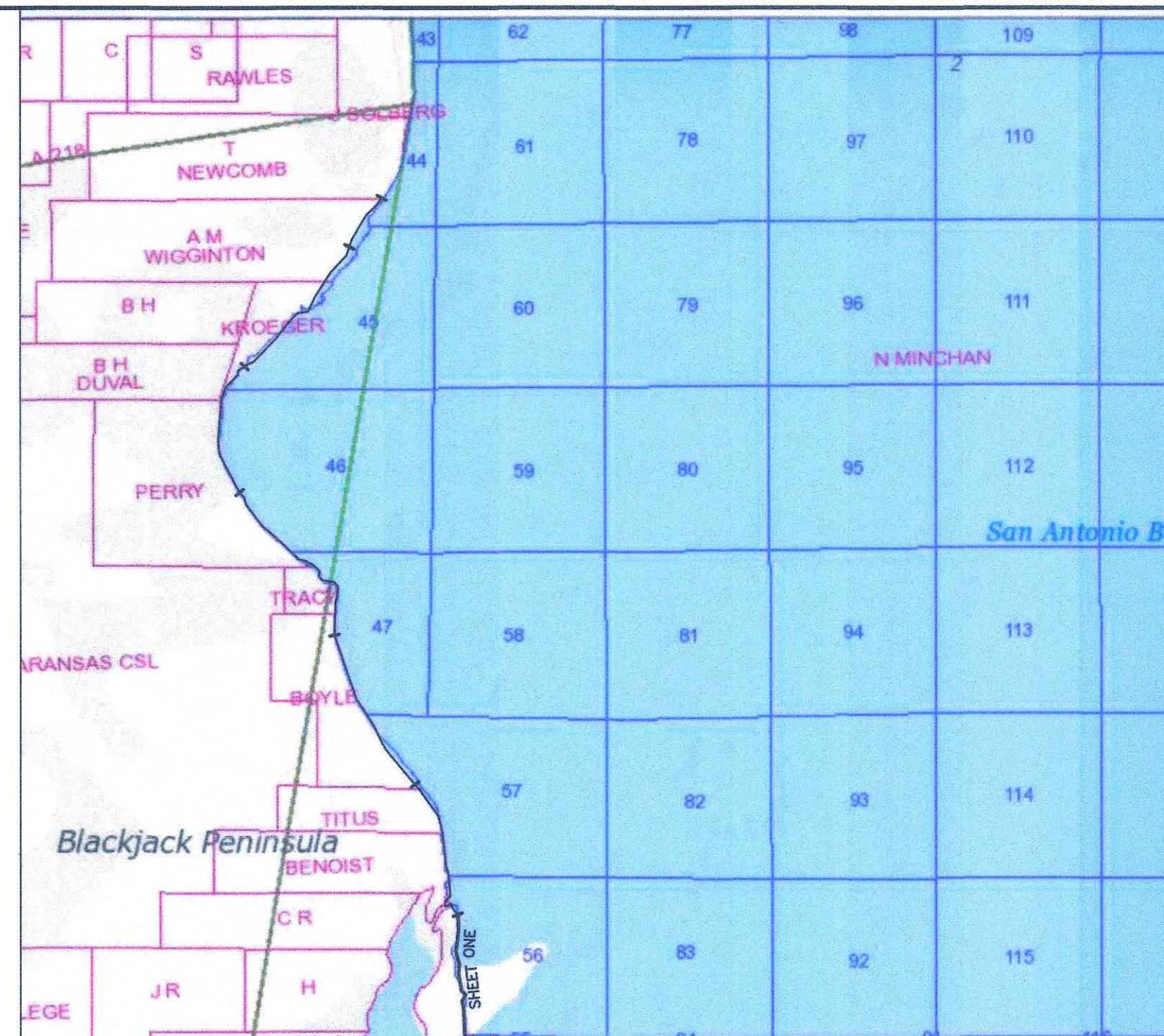
TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas, Sk. No. 17
File Date 01/21/20 by K. Schreiber

State of Texas
County of Aransas
I, Valeria K. Amason, Clerk of the County Court in and for Aransas County,
Texas, do hereby certify that the foregoing instrument of writing dated the
day of _____ A.D. 2019,
with its certificate of authentication was filed for record in my office the
day of _____ A.D. 2019,
at _____ o'clock _____ m. and duly recorded the
day of _____ A.D. 2019, at
_____ in the First Records of Aransas County,
Texas, in Volume 7 Page 99
Witness my hand and seal of the County Court, in and for Aransas County,
Texas, at office in Rockport, Texas, this day and year last written above.

Valeria K. Amason

By: _____ Deputy

Clerk's File No. 374482



- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.00003272 AND MAPPING ANGLE IS 01° 04' 43".
 - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88

NGS MONUMENT "877 90038 B"
N:13,275,073.35
E: 2,677,168.43
EL: 3.9' NAVD88

NGS MONUMENT "Q 594 1942"
N:13,295,815.40
E: 2,673,314.74
EL: 13.3' NAVD88
 - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE R8.
 - STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
 - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
 - UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGLD ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. LINES ARE SHOWN FOR REFERENCE ONLY.
 - EROSION RESPONSE WORK:
COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBEP) PROJECT NO. 1931:
DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
 - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, WAS MADE ACCORDING TO LAW; WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN

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.

THERE ARE NO RETAINING WALLS WITHIN THE SURVEYED AREA. THERE IS AN AREA OF FILL OR BUILDUP ALONG THE GULF INTRACOASTAL WATER WAY (GIWW) WHICH EXTENDS WESTERLY TO THE APPARENT ORIGINAL SHORELINE. AN AREA OF THE REFUGE SHORELINE IS PROTECTED BY A FABRIC FORMED CONCRETE MAT WHICH APPEARS TO HAVE BEEN PLACED ON THE SHORELINE WITHOUT ADDED FILL.

SURVEYED: SEPTEMBER 4, 5 & 16, 2019 SURVEY PERSONNEL:
GLAY COTTLE, JOE HERNANDEZ AND JOSH CANTU

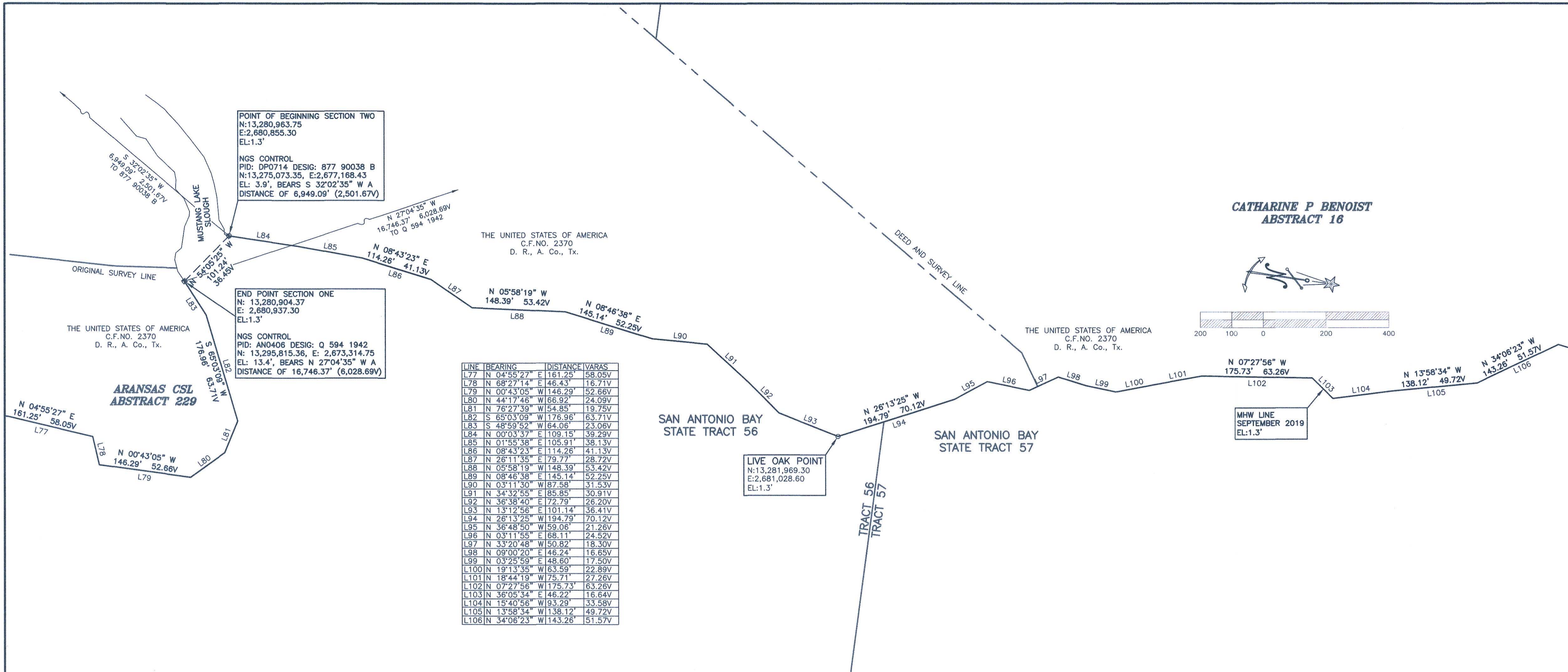
JMA 5/12/20
JAMES M. NAISMITH
LICENSED STATE LAND SURVEYOR

NO	DATE	REVISION	CONTR: ANCHOR OEA

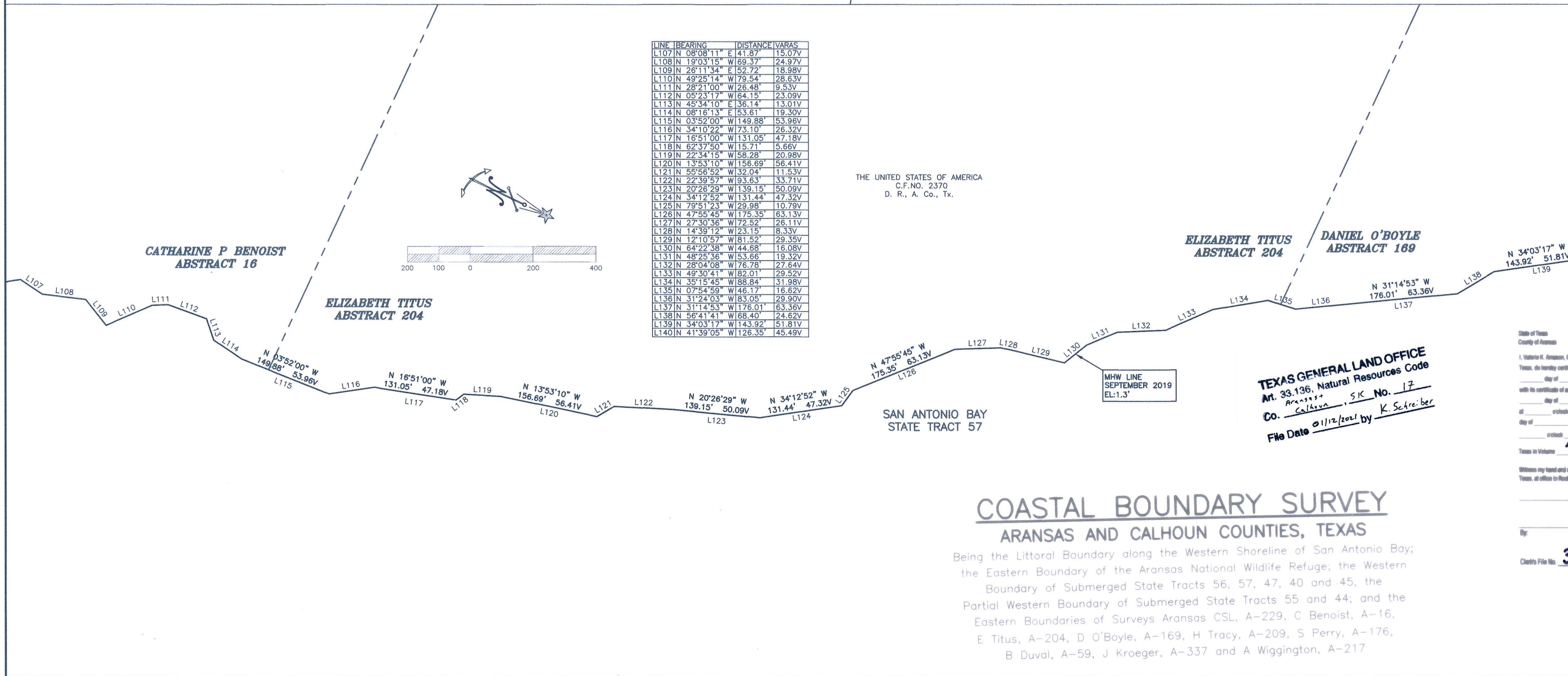
Naismith Marine
Hydrographic - Geophysical
Environmental
www.naismithmarine.com
(361) 945-0248
FIRM #1078500

SCALE: 1" = 200'
DWN. BY: GAH

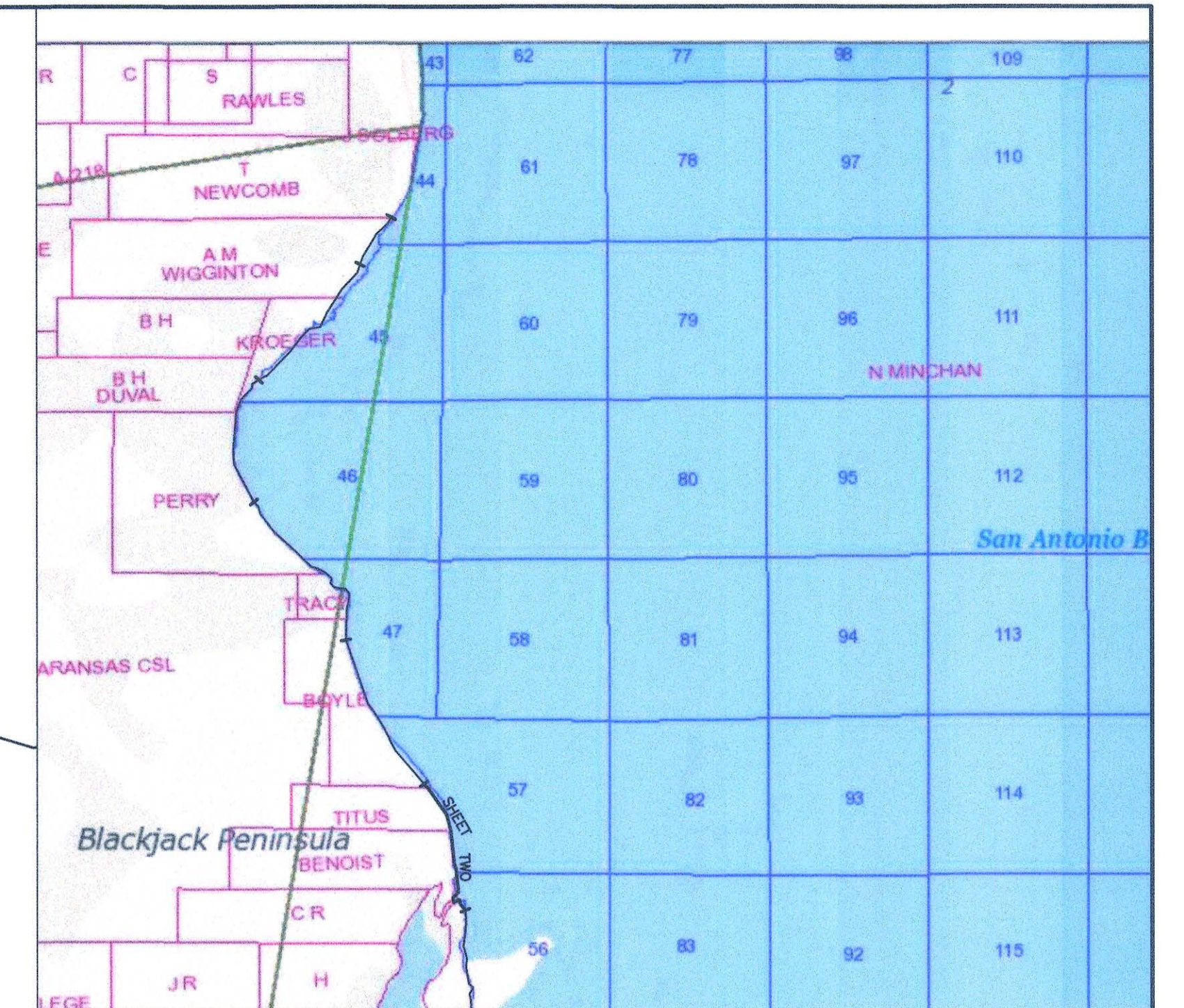
SHEET 1 OF 8
DATE: SEPT. 2019



LINE	BEARING	DISTANCE	VARAS
L77	N 04°55'27" E	161.25	58.05V
L78	N 00°43'05" W	146.29	52.66V
L79	N 00°43'05" W	146.29	52.66V
L80	N 00°43'05" W	146.29	52.66V
L81	N 00°43'05" W	146.29	52.66V
L82	N 00°43'05" W	146.29	52.66V
L83	N 00°43'05" W	146.29	52.66V
L84	N 00°43'05" W	146.29	52.66V
L85	N 00°43'05" W	146.29	52.66V
L86	N 00°43'05" W	146.29	52.66V
L87	N 00°43'05" W	146.29	52.66V
L88	N 00°43'05" W	146.29	52.66V
L89	N 00°43'05" W	146.29	52.66V
L90	N 00°43'05" W	146.29	52.66V
L91	N 00°43'05" W	146.29	52.66V
L92	N 00°43'05" W	146.29	52.66V
L93	N 00°43'05" W	146.29	52.66V
L94	N 00°43'05" W	146.29	52.66V
L95	N 00°43'05" W	146.29	52.66V
L96	N 00°43'05" W	146.29	52.66V
L97	N 00°43'05" W	146.29	52.66V
L98	N 00°43'05" W	146.29	52.66V
L99	N 00°43'05" W	146.29	52.66V
L100	N 00°43'05" W	146.29	52.66V
L101	N 00°43'05" W	146.29	52.66V
L102	N 00°43'05" W	146.29	52.66V
L103	N 00°43'05" W	146.29	52.66V
L104	N 00°43'05" W	146.29	52.66V
L105	N 00°43'05" W	146.29	52.66V
L106	N 00°43'05" W	146.29	52.66V



LINE	BEARING	DISTANCE	VARAS
L107	N 08°08'11" E	41.87	15.07V
L108	N 19°03'15" W	69.37	24.97V
L109	N 26°11'34" E	52.72	18.98V
L110	N 49°25'14" W	79.54	28.63V
L111	N 28°21'00" W	76.48	28.53V
L112	N 05°23'17" W	64.15	23.09V
L113	N 45°34'10" E	36.14	13.01V
L114	N 08°16'13" E	53.61	19.30V
L115	N 03°52'00" W	149.66	53.96V
L116	N 34°10'22" W	73.10	26.32V
L117	N 16°51'00" W	131.05	47.18V
L118	N 08°27'50" W	115.71	42.66V
L119	N 22°34'15" W	158.28	57.98V
L120	N 13°53'10" W	156.89	56.41V
L121	N 55°56'52" W	32.04	11.53V
L122	N 22°39'57" W	93.83	33.71V
L123	N 20°26'29" W	139.15	50.09V
L124	N 34°12'52" W	131.44	47.32V
L125	N 79°51'23" W	29.98	10.79V
L126	N 47°55'45" W	175.35	63.13V
L127	N 27°30'36" W	172.52	61.11V
L128	N 14°39'12" W	23.15	8.33V
L129	N 12°10'57" W	81.52	29.35V
L130	N 64°22'38" W	44.88	16.08V
L131	N 48°25'36" W	53.59	19.32V
L132	N 28°04'08" W	76.78	27.64V
L133	N 49°30'41" W	82.01	29.52V
L134	N 35°15'45" W	88.84	31.98V
L135	N 07°54'59" W	48.77	16.82V
L136	N 31°24'03" W	83.05	29.90V
L137	N 31°14'53" W	176.01	63.36V
L138	N 56°41'41" W	168.40	62.62V
L139	N 34°03'17" W	143.92	51.81V
L140	N 41°39'05" W	126.35	45.49V



- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.00003272 AND MAPPING ANGLE IS 01° 04' 43".
 - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88
 NGS MONUMENT "B77 90038 B"
 N: 13,275,073.35
 E: 2,677,168.43
 EL: 3.9' NAVD88
 NGS MONUMENT "Q 594 1942"
 N: 13,295,815.40
 E: 2,673,314.74
 EL: 13.3' NAVD88
 - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE R8.
 - STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
 - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
 - UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGLO ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. THE LINES ARE SHOWN FOR REFERENCE ONLY.
 - EROSION RESPONSE WORK: COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBBEP) PROJECT NO. 1931: DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
 - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, WAS MADE ACCORDING TO LAW, WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN

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.

THERE ARE NO RETAINING WALLS WITHIN THE SURVEYED AREA. THERE IS AN AREA OF FILL OR BUILDUP ALONG THE GULF INTRACOASTAL WATER WAY (GIWW) WHICH EXTENDS WESTERLY TO THE APPARENT ORIGINAL SHORELINE. AN AREA OF THE REFUGES SHORELINE IS PROTECTED BY A FABRIC FORMED CONCRETE MAT WHICH APPEARS TO HAVE BEEN PLACED ON THE SHORELINE WITHOUT ADDED FILL.

SURVEYED: SEPTEMBER 4, 5 & 16, 2019 SURVEY PERSONNEL: CLAY COTTLE, JOE HERNANDEZ AND JOSH CANTU

James M. Naismith
 5/17/2020
 JAMES M. NAISMITH
 LICENSED STATE LAND SURVEYOR

COASTAL BOUNDARY SURVEY

ARANSAS AND CALHOUN COUNTIES, TEXAS

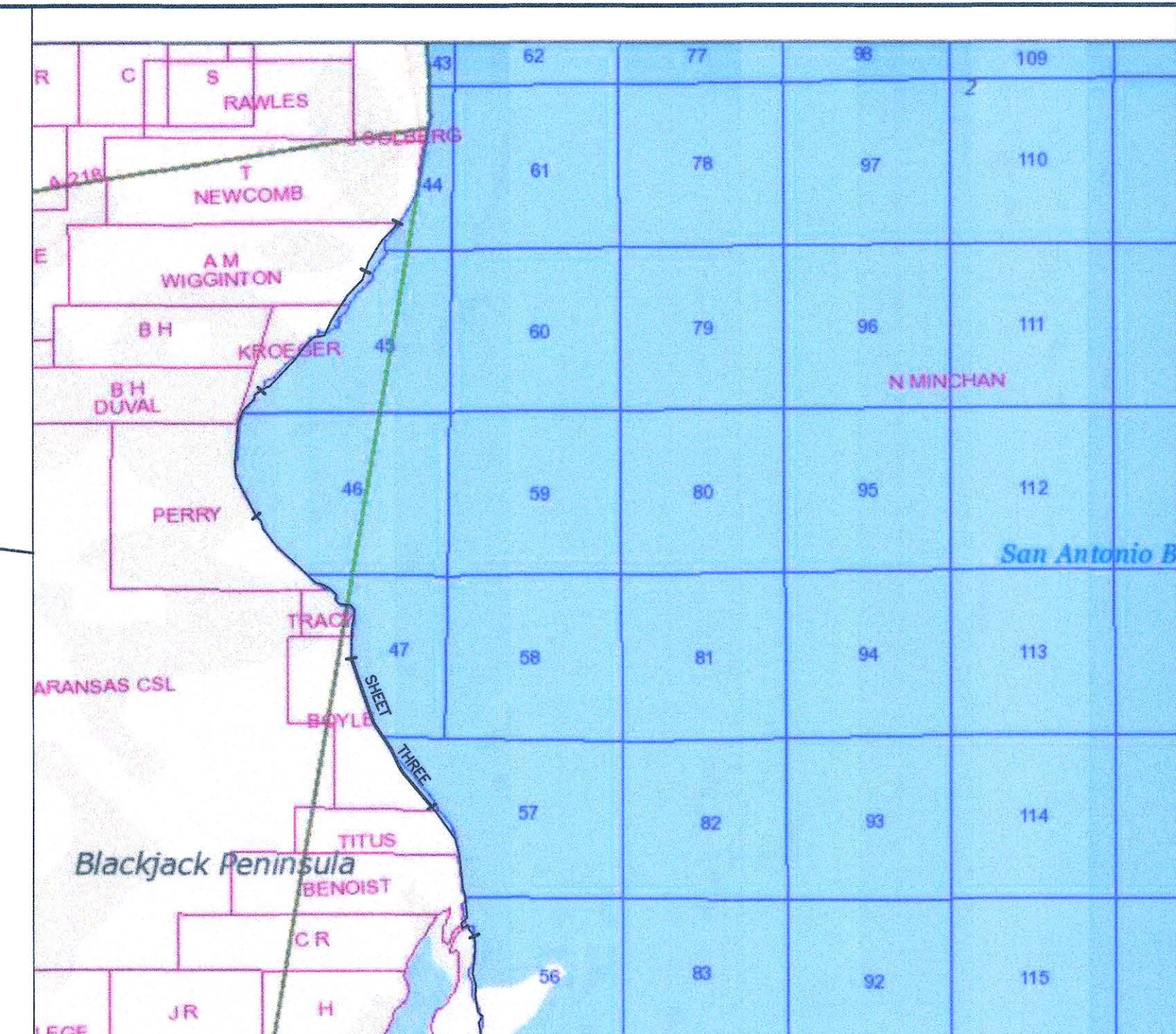
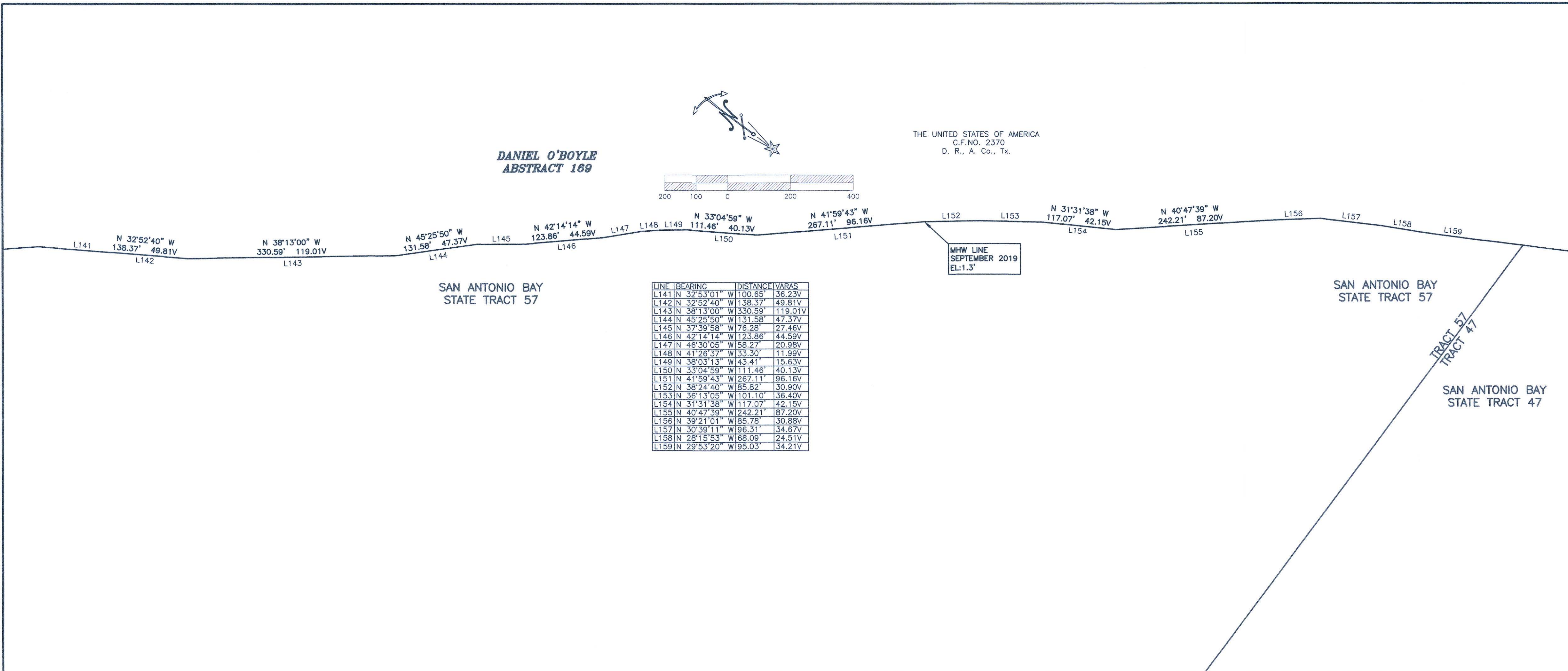
Being the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of Submerged State Tracts 56, 57, 47, 40 and 44; the Partial Western Boundary of Submerged State Tracts 55 and 44; and the Eastern Boundaries of Surveys Aransas CSL, A-229, C Benoist, A-16, E Titus, A-204, D O'Boyle, A-169, H Tracy, A-209, S Perry, A-176, B Duval, A-59, J Kroeger, A-337 and A Wiggington, A-217

TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Aransas
 Co. Calhoun, S.K. No. 17
 File Date 01/12/2021 by K. Schreiber

State of Texas
 County of Aransas
 I, Victoria K. Amason, Clerk of the County Court in and for Aransas County, Texas, do hereby certify that the foregoing instrument of writing dated the _____ day of _____, A.D. 2020, with its certificate of authentication was filed for record in my office the _____ day of _____, A.D. 2020, at _____ o'clock _____ m. and duly recorded the _____ day of _____, A.D. 2020, at _____ o'clock _____ m. in the Plat Records of Aransas County, Texas in Volume **7** Page **100**
 Witness my hand and seal of the County Court, in and for Aransas County, Texas, at office in Rockport, Texas, the day and year last written above.
 Victoria K. Amason
 Deputy
 Clerk's File No. **374482**

NO	DATE	REVISION	CONTR: ANCHOR OEA
			COASTAL BOUNDARY SURVEY OF A PORTION OF ARANSAS NAT'L WILDLIFE REFUGE ADJACENT TO SAN ANTONIO BAY STATE TRACTS 44-47, 56 & 57, FROM NEAR FALSE LIVE OAK POINT TO NORTH REFUGE BOUNDARY, ARANSAS AND CALHOUN COUNTIES, TX
			SCALE: 1" = 100'
			DOWN BY: GAH
			SHEET 2 OF 8
			DATE: SEPT. 2019

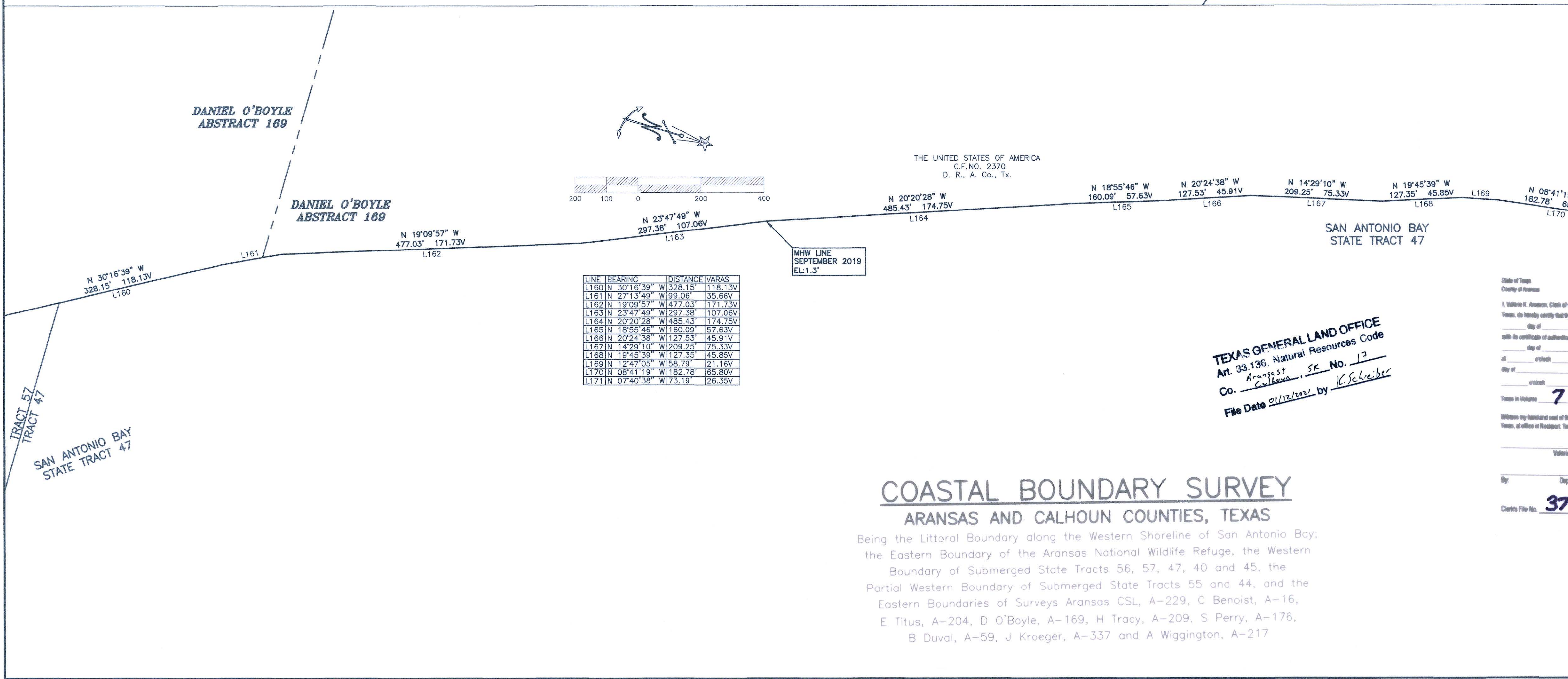
Naismith Marine
 Hydrographic • Geophysical
 Environmental
 www.naismithmarine.com
 (361) 965-0248
 FIRM #10078500



NOTES:

- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.0003272 AND MAPPING ANGLE IS 01° 04' 43".
- COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88
- NGS MONUMENT "877 90038 B"
N: 13,275,073.35
E: 2,677,168.43
EL: 3.9' NAVD88
- NGS MONUMENT "Q 594 1942"
N: 13,295,815.40
E: 2,673,314.74
EL: 13.3' NAVD88
- ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE R8.
- STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
- TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
- UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGL0 ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. LINES ARE SHOWN FOR REFERENCE ONLY.
- EROSION RESPONSE WORK: COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBBEP) PROJECT NO. 1931: DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
- REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, WAS MADE ACCORDING TO LAW; WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Aransas County, SK No. 17
 Co. Aransas, SK No. 17
 File Date 01/12/2020 by K. Schreiber

State of Texas
 County of Aransas
 I, Valerie K. Aranson, Clerk of the County Court and for Aransas County, Texas, do hereby certify that the foregoing instrument of writing dated the _____ day of _____, A.D. 2020, with its certificate of authentication was filed for record in my office on _____ day of _____, A.D. 2020, at _____ o'clock _____ m. and duly recorded in _____ of _____, A.D. 2020, at _____ in the Public Records of Aransas County, Texas on Volume **7** Page **101**

Valerie K. Aranson
 Clerk

By: Deputy
 Clerk's File No. **374482**

COASTAL BOUNDARY SURVEY ARANSAS AND CALHOUN COUNTIES, TEXAS

Being the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of Submerged State Tracts 56, 57, 47, 40 and 45; the Partial Western Boundary of Submerged State Tracts 55 and 44; and the Eastern Boundaries of Surveys Aransas CSL, A-229, C Benoist, A-16, E Titus, A-204, D O'Boyle, A-169, H Tracy, A-209, S Perry, A-176, B Duval, A-59, J Krueger, A-337 and A Wigginton, A-217

SURVEYED: SEPTEMBER 4, 5 & 16, 2019
 SURVEY PERSONNEL:
 CLAY COTTLE, JOE HERNANDEZ
 AND JOSH CANTU

JMA 5/13/2020

JAMES M. NAISMITH
 LICENSED STATE LAND SURVEYOR



NO.	DATE	REVISION

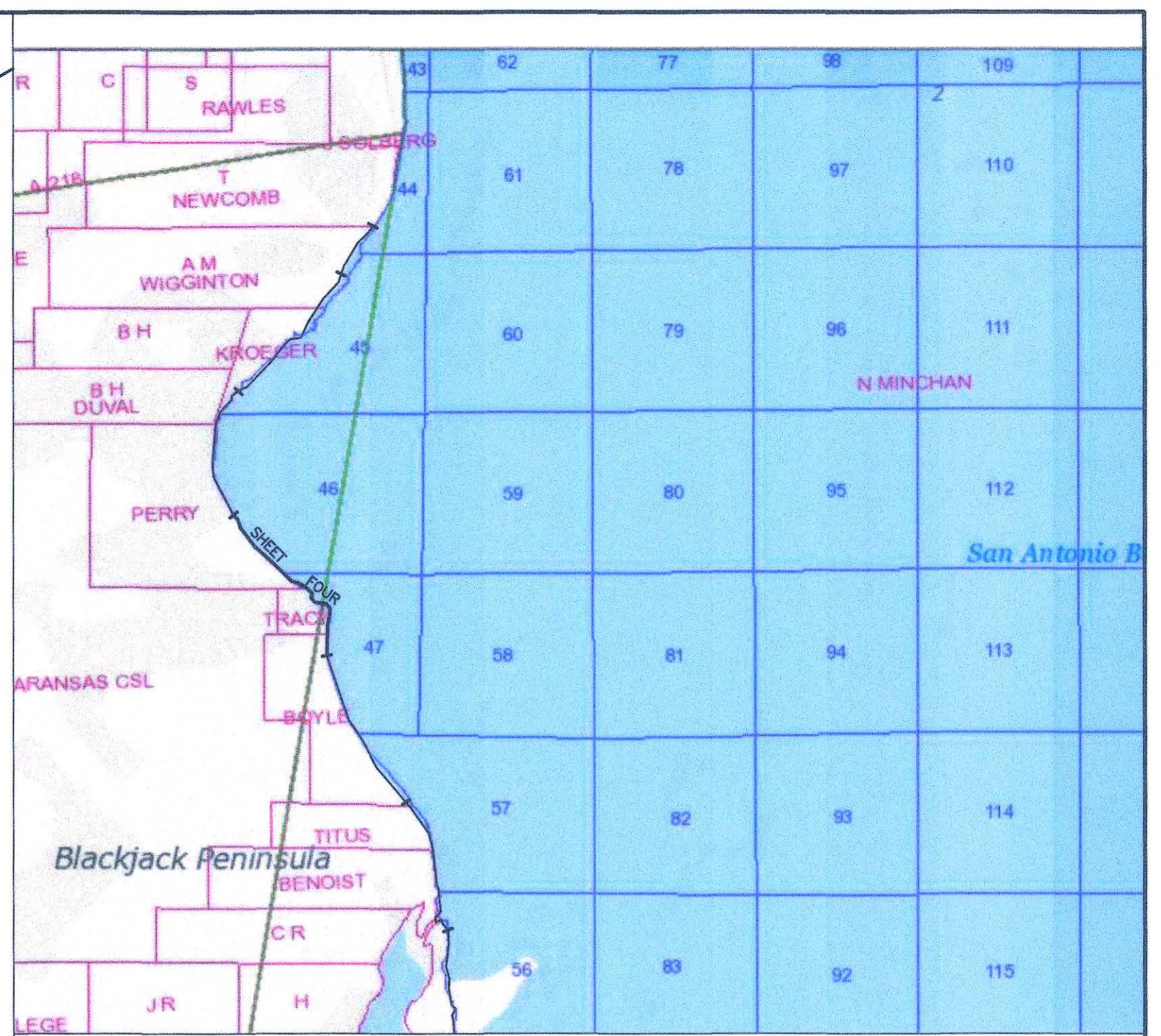
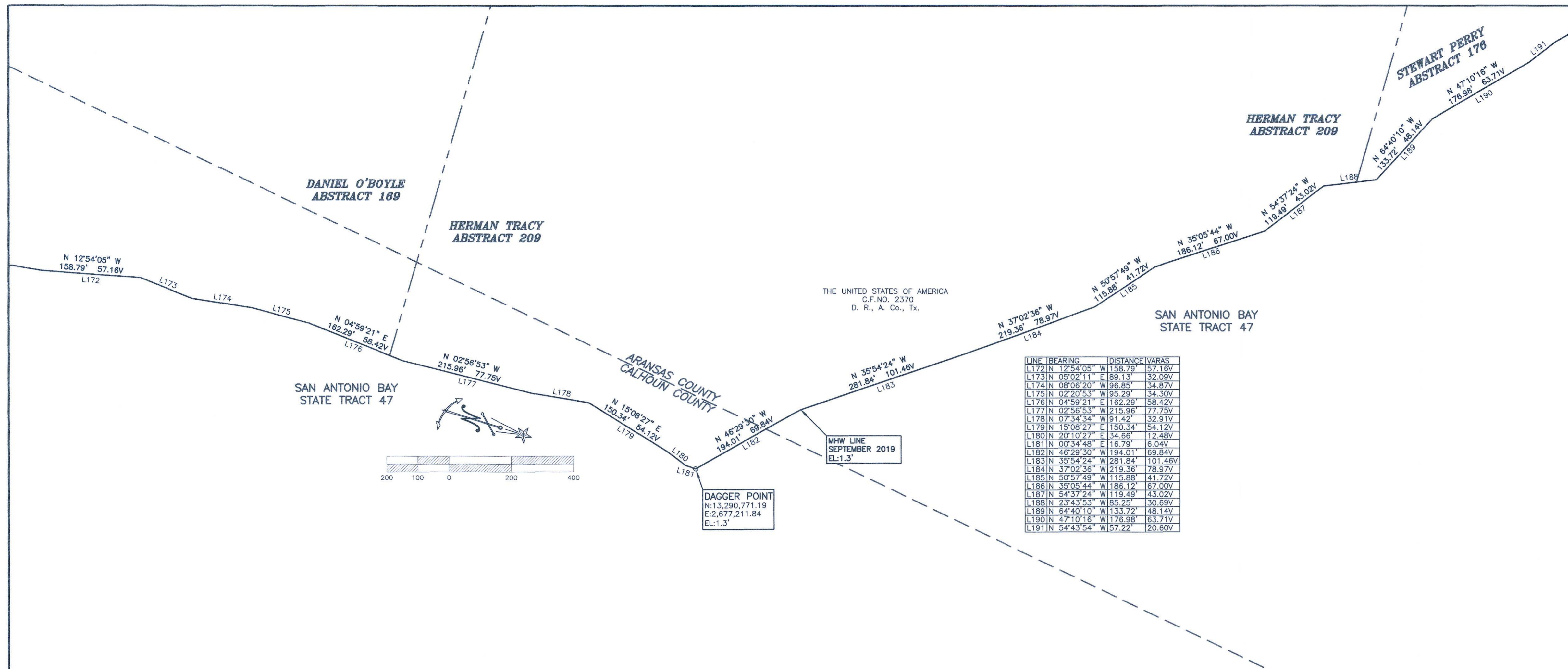
CONTR: ANCHOR OEA

Naismith Marine
 Hydrographic - Geophysical
 Environmental
 www.naismithmarine.com
 (361) 945-0248
 FIRM #10078500

COASTAL BOUNDARY SURVEY OF A PORTION OF ARANSAS NAT'L WILDLIFE REFUGE ADJACENT TO SAN ANTONIO BAY STATE TRACTS 44-47, 56 & 57, FROM NEAR FALSE LIVE OAK POINT TO NORTH REFUGE BOUNDARY, ARANSAS AND CALHOUN COUNTIES, TX

SCALE: 1" = 100'
 DWN. BY: GAH

SHEET 3 OF 8
 DATE: SEPT. 2019



- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.00003272 AND MAPPING ANGLE IS 01° 04' 43".
 - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88

NGS MONUMENT "877 90038 B"

N: 13,275,073.35
E: 2,677,168.43
EL: 3.9' NAVD88

NGS MONUMENT "Q 594 1942"

N: 13,295,815.40
E: 2,673,314.74
EL: 13.3' NAVD88
 - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE RB.
 - STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
 - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
 - UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGLO ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. LINES ARE SHOWN FOR REFERENCE ONLY.
 - EROSION RESPONSE WORK: COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBBEP) PROJECT NO. 1931; DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
 - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.

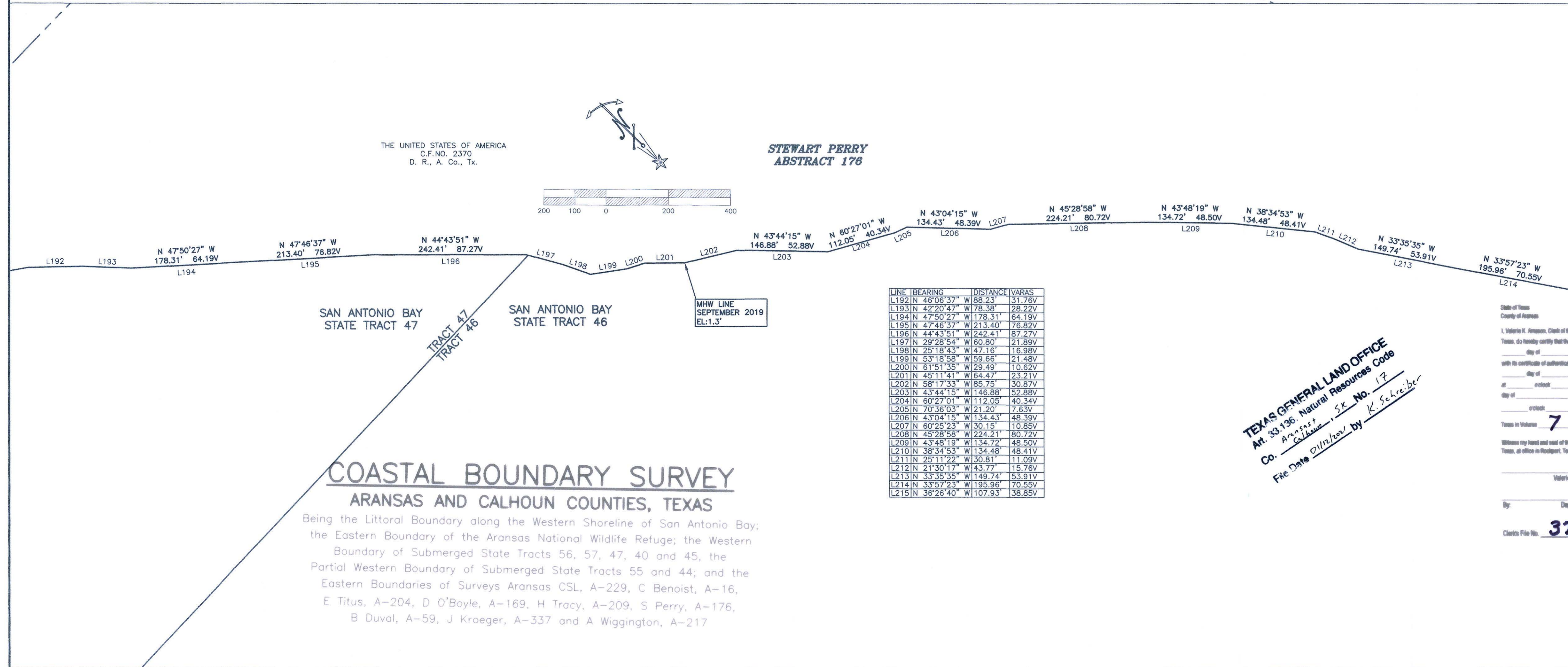
I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, WAS MADE ACCORDING TO LAW; WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN

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.

THERE ARE NO RETAINING WALLS WITHIN THE SURVEYED AREA. THERE IS AN AREA OF FILL OR BUILDUP ALONG THE GULF INTRACOASTAL WATER WAY (GIWW) WHICH EXTENDS WESTERLY TO THE APPARENT ORIGINAL SHORELINE. AN AREA OF THE REFUGE SHORELINE IS PROTECTED BY A FABRIC FORMED CONCRETE MAT WHICH APPEARS TO HAVE BEEN PLACED ON THE SHORELINE WITHOUT ADDED FILL.

SURVEYED: SEPTEMBER 4, 5 & 16, 2019 SURVEY PERSONNEL: CLAY COTTELL, JOE HERNANDEZ AND JOSH CANTU

JMA 5/13/2020
 JAMES M. NAISMITH
 LICENSED STATE LAND SURVEYOR



COASTAL BOUNDARY SURVEY ARANSAS AND CALHOUN COUNTIES, TEXAS

Being the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of Submerged State Tracts 56, 57, 47, 40 and 45; the Partial Western Boundary of Submerged State Tracts 55 and 44; and the Eastern Boundaries of Surveys Aransas CSL, A-229, C Benoist, A-16, E Titus, A-204, D O'Boyle, A-169, H Tracy, A-209, S Perry, A-176, B Duval, A-59, J Kroeger, A-337 and A Wigginton, A-217

TEXAS GENERAL LAND OFFICE
 Mr. 33.136, Natural Resources Code
 Co. *Aransas*, SE No. *13*
 File Date *02/16/20* by *K. Schreiber*

State of Texas
 County of Aransas

I, Valeria K. Amason, Clerk of the County Court in and for Aransas County, Texas, do hereby certify that the foregoing instrument of writing dated the _____ day of _____ A.D. 2020, with its certificate of authentication was filed for record in my office on the _____ day of _____ A.D. 2020, at _____ o'clock _____ m. and duly recorded on the _____ day of _____ A.D. 2020, at _____ o'clock _____ in the Public Records of Aransas County, Texas in Volume 7 Page 102.

Witness my hand and seal of the County Court, in and for Aransas County, Texas, at my office in Houston, Texas, this day and year first written above.

Valeria K. Amason
 Clerk

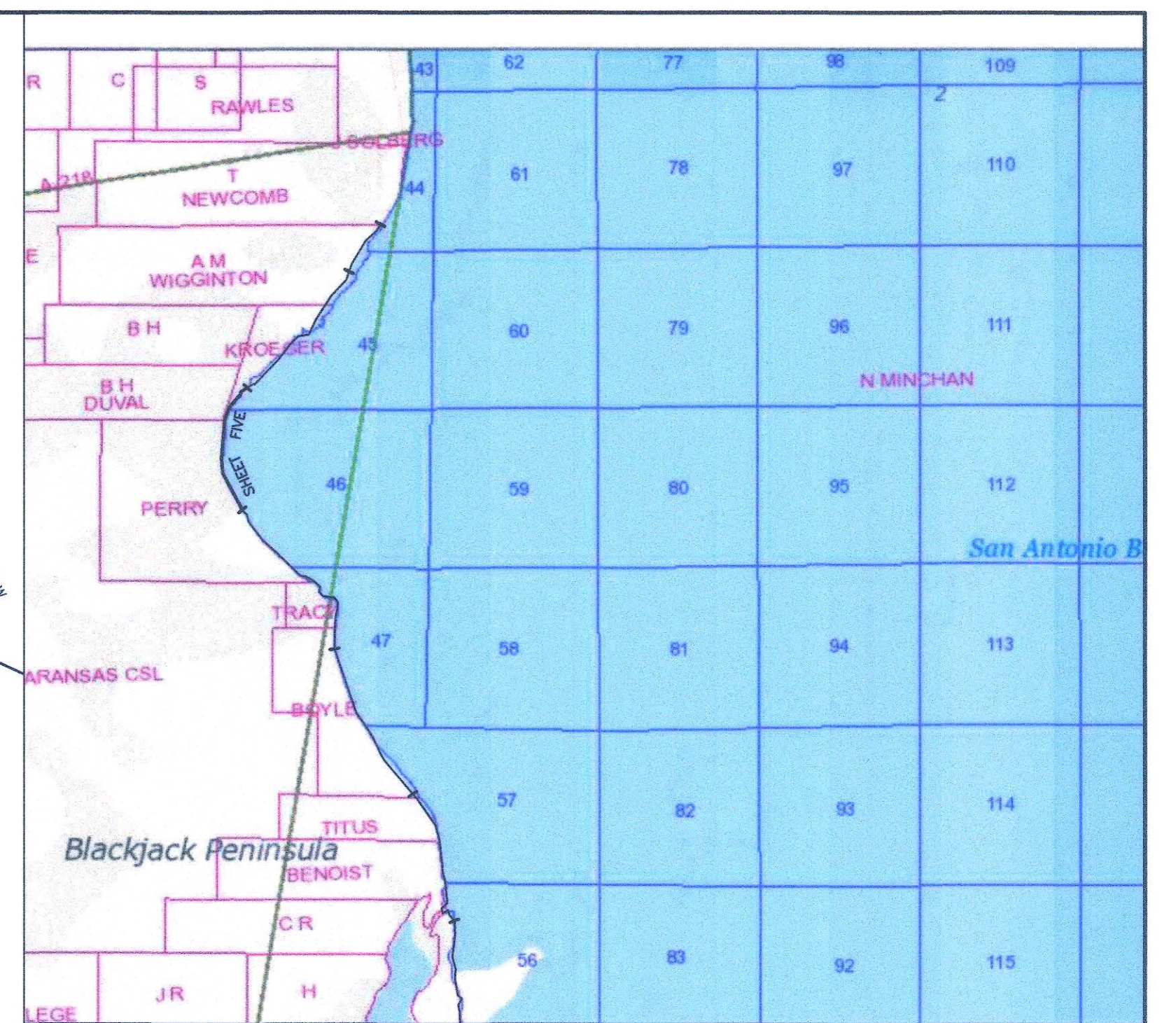
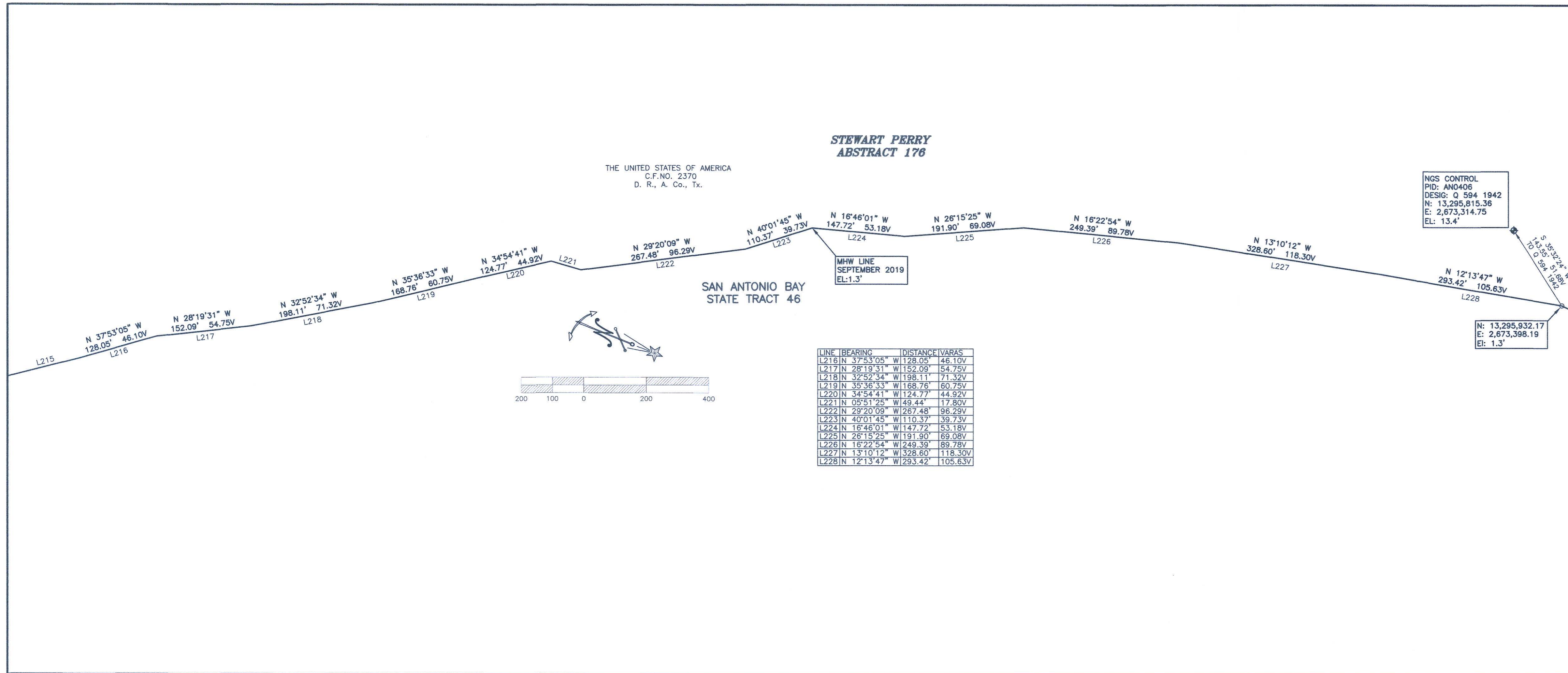
By: _____ Deputy
 Clerk's File No. 374482

NO	DATE	REVISION	CONTR: ANCHOR OEA

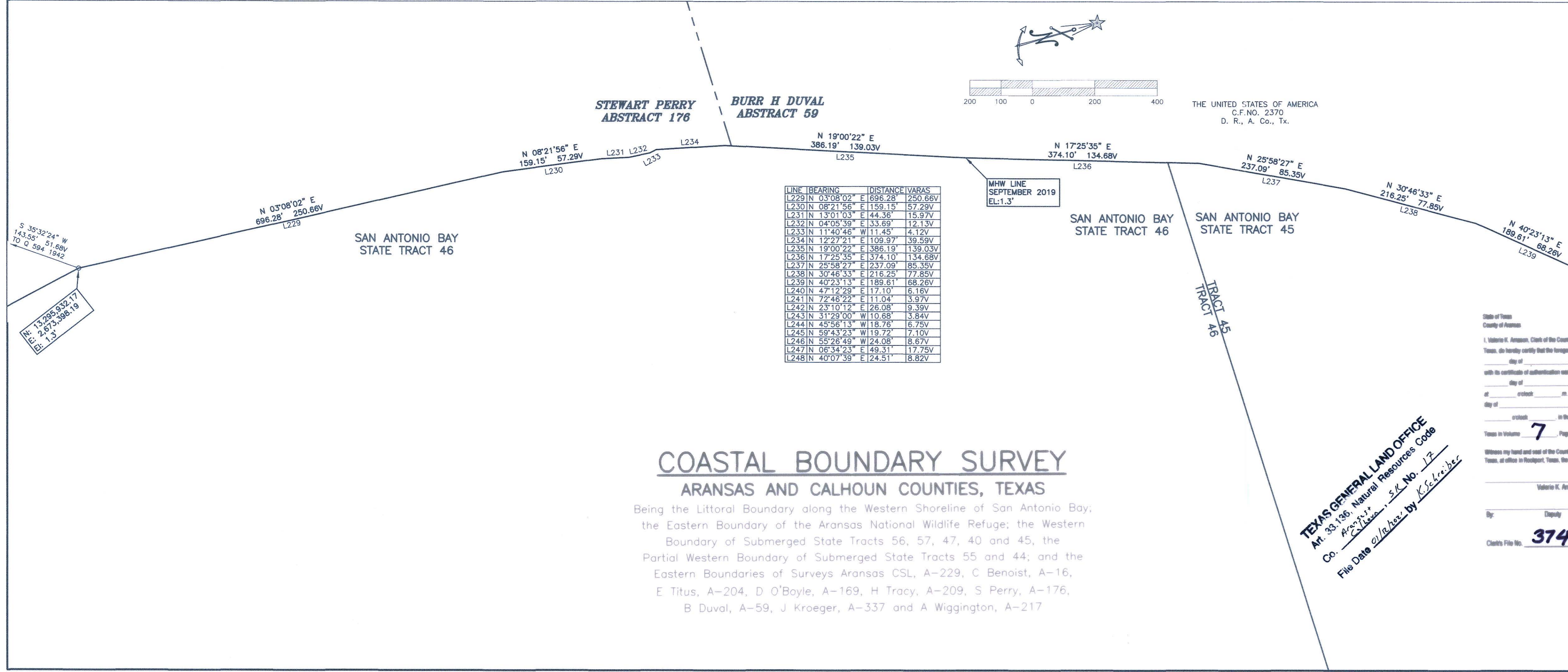
Naismith Marine
 Hydrographic - Geophysical
 Environmental
 www.naismithmarine.com
 (361) 945-0248
 FIRM #10078500

SCALE: 1" = 100'
 DWN. BY: GAH

SHEET 4 OF 8
 DATE: SEPT. 2019



- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.00003272 AND MAPPING ANGLE IS 01° 04' 43".
 - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88
 - NGS MONUMENT "877 90038 B"
 - N: 13,275,073.35
 - E: 2,677,188.43
 - EL: 3.9' NAVD88
 - NGS MONUMENT "Q 594 1942"
 - N: 13,295,815.40
 - E: 2,673,314.74
 - EL: 13.3' NAVD88
 - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE R8.
 - STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
 - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
 - UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGLO ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. LINES ARE SHOWN FOR REFERENCE ONLY.
 - EROSION RESPONSE WORK: COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBBEP) PROJECT NO. 1931: DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
 - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.



COASTAL BOUNDARY SURVEY

ARANSAS AND CALHOUN COUNTIES, TEXAS

Being the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of Submerged State Tracts 56, 57, 47, 40 and 45; the Partial Western Boundary of Submerged State Tracts 55 and 44; and the Eastern Boundaries of Surveys Aransas CSL, A-229, C Benoist, A-16, E Titus, A-204, D O'Boyle, A-169, H Tracy, A-209, S Perry, A-176, B Duval, A-59, J Kroeger, A-337 and A Wigginton, A-217

TEXAS GENERAL LAND OFFICE
 Mr. 83,136, Natural Resources Code
 Co. Aransas, S.K. No. 17
 File Date 01/12/2020 by K. Kroeger

State of Texas
County of Aransas

I, Valerio K. Aransas, Clerk of the County Court in and for Aransas County, Texas, do hereby certify that the foregoing instrument of writing dated the _____ day of _____ A.D. 2020,

with its certificate of authentication was filed for record in my office the _____ day of _____ A.D. 2020,

at _____ o'clock _____ m. and duly recorded by _____ on _____ A.D. 2020 at _____ in the Plat Records of Aransas County.

Witness my hand and seal of the County Court in and for Aransas County, Texas, at office in Rockport, Texas, this day and year next written above.

Valerio K. Aransas
Clerk

7 Page 103
374482

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.

THERE ARE NO RETAINING WALLS WITHIN THE SURVEYED AREA. THERE IS AN AREA OF FILL OR BUILDUP ALONG THE GULF INTRACOASTAL WATER WAY (GIWW) WHICH EXTENDS WESTERLY TO THE APPARENT ORIGINAL SHORELINE. AN AREA OF THE REFUGE SHORELINE IS PROTECTED BY A FABRIC FORMED CONCRETE MAT WHICH APPEARS TO HAVE BEEN PLACED ON THE SHORELINE WITHOUT ADDED FILL.

SURVEYED: SEPTEMBER 4, 5 & 16, 2019 SURVEY PERSONNEL: CLAY COTTLE, JOE HERNANDEZ AND JOSH CANTU

JMA 5/17/2020
 JAMES M. NAISMITH
 LICENSED STATE LAND SURVEYOR

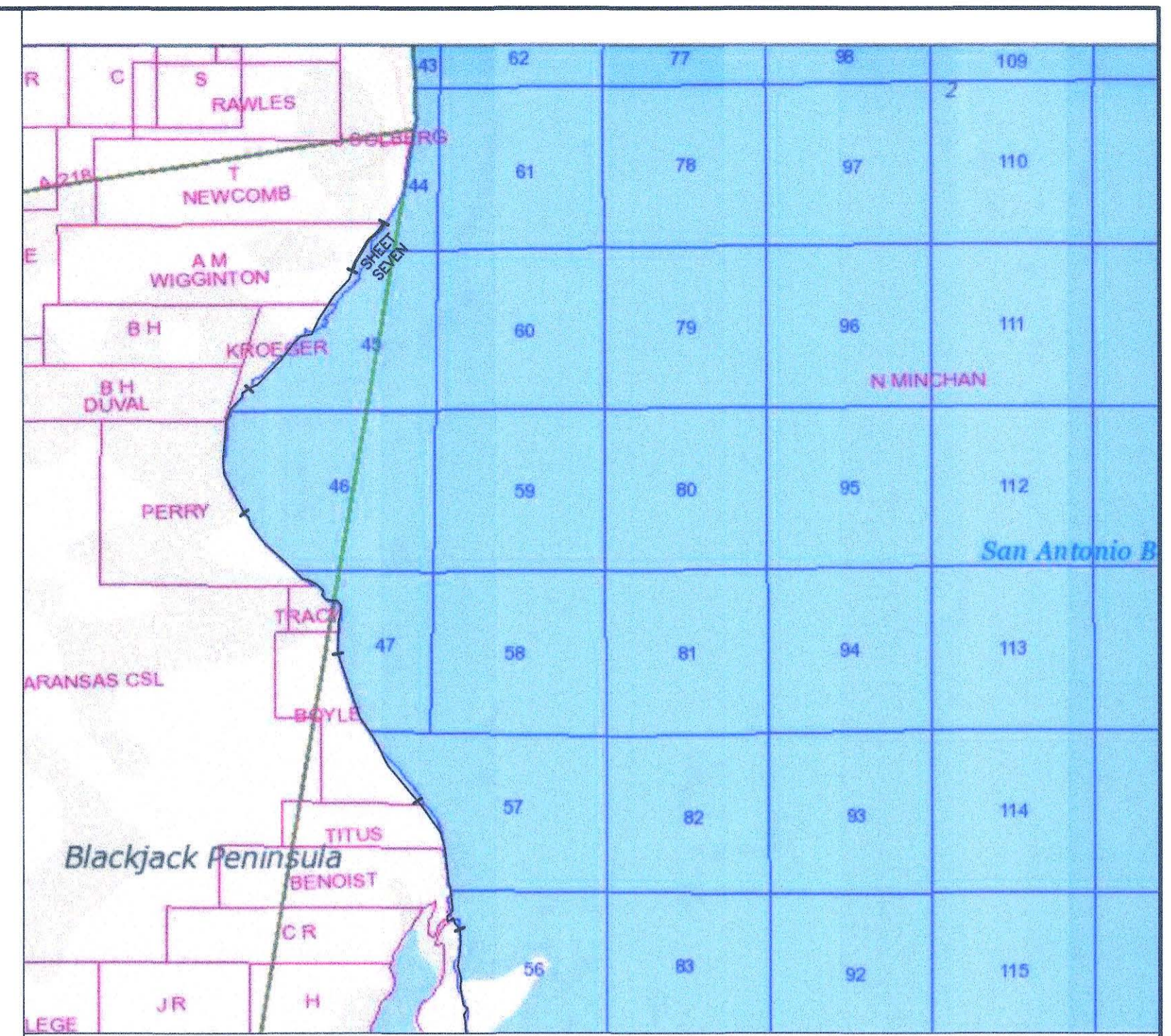
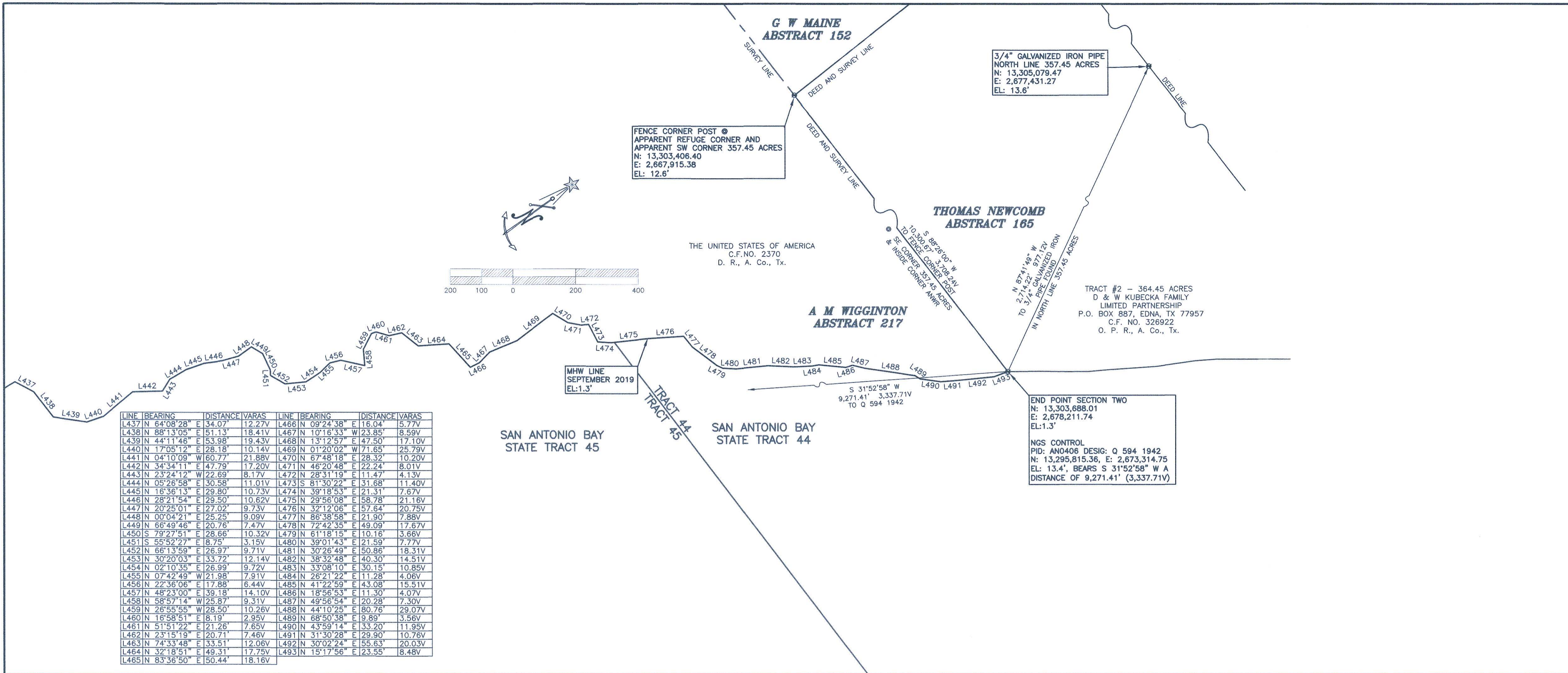
NO.	DATE	REVISION	CONTR.
			ANCHOR OEA

Naismith Marine
Hydrographic - Geophysical
Environmental
www.naismithmarine.com
(361) 945-0248
FIRM #10078500

COASTAL BOUNDARY SURVEY OF A PORTION OF ARANSAS NAT'L WILDLIFE REFUGE ADJACENT TO SAN ANTONIO BAY STATE TRACTS 44-47, 56 & 57, FROM NEAR FALSE LIVE OAK POINT TO NORTH REFUGE BOUNDARY, ARANSAS AND CALHOUN COUNTIES, TX

SCALE: 1" = 100'
DWN. BY: GAH

SHEET 5 OF 8
DATE: SEPT. 2019



- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.00003272 AND MAPPING ANGLE IS 01° 04' 43".
 - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88

NGS MONUMENT "B77 90038 B"
N: 13,275,073.35
E: 2,677,168.43
EL: 3.9' NAVD88

NGS MONUMENT "Q 594 1942"
N: 13,295,815.40
E: 2,673,314.74
EL: 13.3' NAVD88
 - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE R8.
 - STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
 - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
 - UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGLD ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. LINES ARE SHOWN FOR REFERENCE ONLY.
 - EROSION RESPONSE WORK: COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBEP) PROJECT NO. 1931: DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
 - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, WAS MADE ACCORDING TO LAW; WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN

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.

THERE ARE NO RETAINING WALLS WITHIN THE SURVEYED AREA. THERE IS AN AREA OF FILL OR BUILDUP ALONG THE GULF INTRACOASTAL WATERWAY (GIWW) WHICH EXTENDS WESTERLY TO THE APPARENT ORIGINAL SHORELINE. AN AREA OF THE REFUGE SHORELINE IS PROTECTED BY A FABRIC FORMED CONCRETE MAT WHICH APPEARS TO HAVE BEEN PLACED ON THE SHORELINE WITHOUT ADDED FILL.

SURVEYED: SEPTEMBER 4, 5 & 16, 2019 SURVEY PERSONNEL: CLAY COTTLE, JOE HERNANDEZ AND JOSH CANTU

JMA 5/13/2020
 JAMES M. NAISMITH
 LICENSED STATE LAND SURVEYOR

State of Texas
 County of Aransas
 I, Valerie K. Amazon, Clerk of the County Court in and for Aransas County, Texas, do hereby certify that the foregoing instrument of writing, dated the _____ day of _____, A.D. 2020, with its certificate of authentication was filed for record in my office the _____ day of _____, A.D. 2020, at _____ o'clock _____ m. and duly recorded this _____ day of _____, A.D. 2020, at _____ o'clock _____ m. in the Plat Records of Aransas County, Texas in Volume 7 Page 105
 Witness my hand and seal of the County Court, in and for Aransas County, Texas, at office in Rockport, Texas, this day and year last written above.
 Valerie K. Amazon
 Clerk

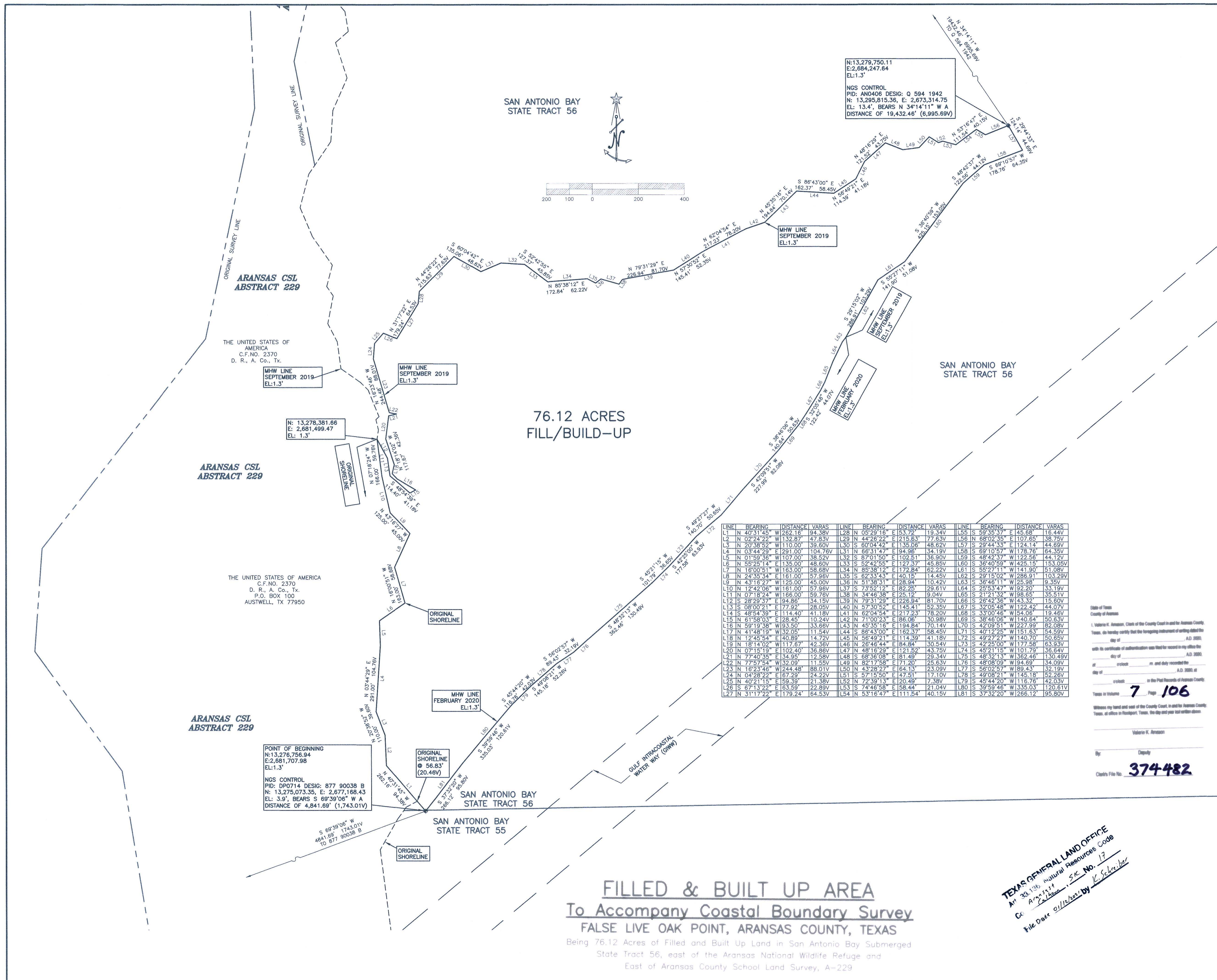
TEXAS CENTRAL LAND OFFICE
 Ar. 33.136, Natural Resources Code
 Co. 4221.177, SR No. 13
 File Date 5/13/2020 by K.S. McVey

COASTAL BOUNDARY SURVEY ARANSAS AND CALHOUN COUNTIES, TEXAS

Being the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of Submerged State Tracts 56, 57, 47, 40 and 45, the Partial Western Boundary of Submerged State Tracts 55 and 44, and the Eastern Boundaries of Surveys Aransas CSL, A-229, C Benoit, A-16, E Titus, A-204, D O'Boyle, A-169, H Tracy, A-209, S Perry, A-176, B Duval, A-59, J Kroeger, A-337 and A Wigginton, A-217

NO	DATE	REVISION	CONTR: ANCHOR OEA
			COASTAL BOUNDARY SURVEY OF A PORTION OF ARANSAS NAT'L WILDLIFE REFUGE ADJACENT TO SAN ANTONIO BAY STATE TRACTS 44-47, 56 & 57, FROM NEAR FALSE LIVE OAK POINT TO NORTH REFUGE BOUNDARY, ARANSAS AND CALHOUN COUNTIES, TX
			SCALE: T= 1/80 DWN. BY: GAH
			SHEET 7 OF 8
			DATE: SEPT. 2019

Naismith Marine
 Hydrographic - Geophysical
 Environmental
 www.naismithmarine.com
 (361) 945-0248
 FIRM #10078500



N:13,279,750.11
E:2,684,247.64
EL:1.3'

NGS CONTROL
PID: AN0406 DESIG: Q 594 1942
N: 13,295,815.36, E: 2,673,314.75
EL: 13.4', BEARS N 34°14'11" W A
DISTANCE OF 19,432.46' (6,995.69V)

N: 13,278,381.66
E: 2,681,499.47
EL: 1.3'

POINT OF BEGINNING
N:13,276,756.94
E:2,681,707.98
EL:1.3'

NGS CONTROL
PID: DP0714 DESIG: 877 90038 B
N: 13,275,073.35, E: 2,677,168.43
EL: 3.9', BEARS S 69°39'06" W A
DISTANCE OF 4,841.69' (1,743.01V)

LINE	BEARING	DISTANCE	VARAS	LINE	BEARING	DISTANCE	VARAS
L1	N 40°31'45"	W 262.16	94.36V	L28	N 05°29'16"	53.72	19.34V
L2	N 02°24'22"	W 132.87	47.83V	L29	N 44°26'22"	E 215.63	77.63V
L3	N 20°38'52"	W 110.00	39.60V	L30	N 60°04'42"	E 135.06	48.62V
L4	N 03°44'29"	E 291.00	104.76V	L31	N 66°31'47"	E 94.96	34.19V
L5	N 01°59'36"	W 107.00	38.52V	L32	N 87°01'50"	E 102.51	36.90V
L6	N 55°29'14"	E 135.00	48.60V	L33	N 52°42'58"	E 127.37	45.89V
L7	N 16°00'51"	W 163.00	58.69V	L34	N 85°38'12"	E 172.84	62.22V
L8	N 24°35'34"	E 161.00	57.96V	L35	N 62°33'43"	E 40.15	14.45V
L9	N 43°16'27"	W 125.00	45.00V	L36	N 51°38'31"	E 28.94	10.42V
L10	N 12°42'06"	W 161.00	57.96V	L37	N 73°52'12"	E 89.25	29.61V
L11	N 07°18'24"	W 166.00	59.76V	L38	N 34°46'38"	E 25.12	9.04V
L12	S 28°29'37"	E 94.86	34.15V	L39	N 79°31'29"	E 226.94	81.70V
L13	S 06°00'21"	E 77.92	28.05V	L40	N 57°30'52"	E 145.41	52.35V
L14	S 48°54'39"	E 114.40	41.18V	L41	N 62°04'54"	E 217.23	78.20V
L15	N 61°58'03"	E 28.45	10.24V	L42	N 71°00'23"	E 86.06	30.98V
L16	N 59°19'36"	W 93.50	33.66V	L43	N 45°35'16"	E 194.84	70.14V
L17	N 41°48'19"	W 32.08	11.54V	L44	N 86°43'00"	E 162.37	58.45V
L18	N 12°45'54"	E 40.89	14.72V	L45	N 56°49'21"	E 114.39	41.18V
L19	N 18°14'02"	W 117.67	42.36V	L46	N 26°46'44"	E 84.84	30.54V
L20	N 07°15'19"	E 102.40	36.86V	L47	N 48°16'29"	E 121.52	43.75V
L21	N 77°40'35"	E 34.92	12.58V	L48	N 68°36'08"	E 81.48	29.34V
L22	N 77°57'54"	W 32.09	11.55V	L49	N 82°17'58"	E 71.20	25.83V
L23	N 16°23'46"	W 244.48	88.01V	L50	N 43°28'27"	E 64.13	23.09V
L24	N 04°28'22"	E 67.29	24.22V	L51	N 57°15'50"	E 47.51	17.10V
L25	N 40°21'15"	E 58.39	21.38V	L52	N 72°39'13"	E 20.49	7.38V
L26	N 67°13'22"	E 63.59	22.89V	L53	N 74°46'58"	E 58.44	21.04V
L27	N 31°17'22"	E 179.24	64.53V	L54	N 53°16'47"	E 111.84	40.15V

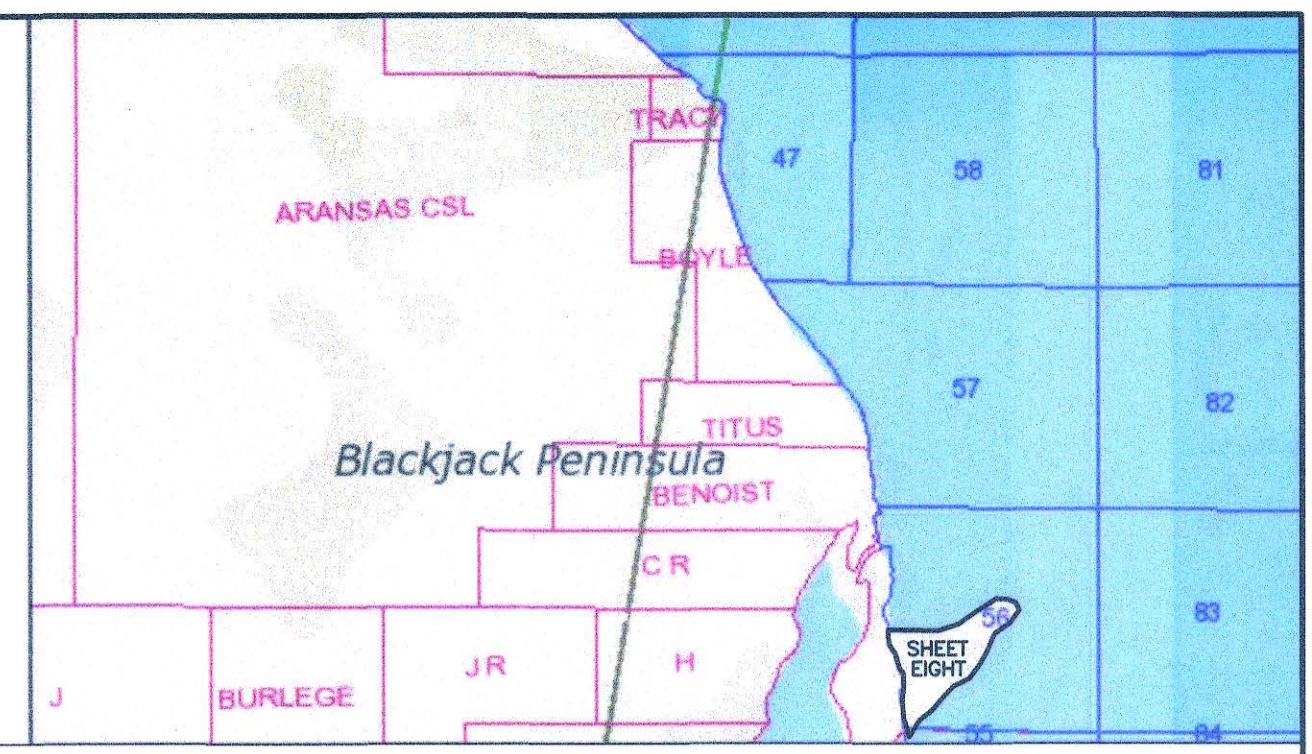
State of Texas
County of Aransas

I, Valerie K. Naismith, Clerk of the County Court in and for Aransas County, Texas, do hereby certify that the foregoing instrument of writing dated the _____ day of _____ A.D. 2020, with its contents of indubitable verity as stated in my office the _____ day of _____ A.D. 2020, at _____, in and County of _____, State of _____, was read to and duly recorded in _____ A.D. 2020, at _____, in the Public Records of Aransas County, Texas on Volume **7** Page **106**.

Witness my hand and seal of the County Court, in and for Aransas County, Texas, at office in Rockport, Texas, this day and year first written above.

Valerie K. Naismith
Clerk

By: _____ Deputy
Clerk's File No. **374482**



- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM (2011), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES GRID. THE SCALE FACTOR IS 1.00003272 AND MAPPING ANGLE IS 01° 04' 43".
 - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENTS & ON OPUS SOLUTIONS. VERTICAL DATUM: NAVD88
 - NGS MONUMENT "877 90038 B"
N:13,275,073.35
E: 2,677,168.43
EL: 3.9' NAVD88
 - NGS MONUMENT "Q 594 1942"
N:13,295,815.40
E: 2,673,314.74
EL: 13.3' NAVD88
 - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 OR TRIMBLE R8.
 - STATE OWNERSHIP BOUNDARY BASED ON MEAN HIGH WATER (MHW) CONTOUR. MHW ELEVATION OF 1.3' FOR SAN ANTONIO BAY WAS DETERMINED FROM ARANSAS NATIONAL WILDLIFE RESERVE TIDE GAUGE AND SEADRIFT TIDE GAUGE.
 - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
 - UPLAND TRACT LINES SHOWN HEREON ARE BASED ON TGL0 ARANSAS COUNTY WORKING SKETCH 16 AND DEED DESCRIPTIONS. LINES ARE SHOWN FOR REFERENCE ONLY.
 - EROSION RESPONSE WORK: COASTAL BEND BAYS AND ESTUARIES PROGRAM (CBEP) PROJECT NO. 1931: DAGGER POINT COASTAL AND MARINE HABITAT PROTECTION AND RESTORATION.
 - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED SEPTEMBER, 2019 FOR ADDITIONAL INFORMATION.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, WAS MADE ACCORDING TO LAW; WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN _____ A.D. 2020, at _____.

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.

THIS SHORELINE SURVEY IS ALONG AN AREA OF FILL OR BUILDUP LOCATED ALONG THE GULF INTRACOASTAL WATER WAY (GIWW). THIS FILL OR BUILDUP APPEARS TO BE A DIRECT RESULT OF THE DEPOSIT OF DREDGE SPOIL FROM THE INITIAL CREATION AND SUBSEQUENT MAINTENANCE OF THE GIWW. A PORTION OF THIS SHORELINE IS PROTECTED BY AN ARTICULATED CONCRETE MAT WHICH APPEARS TO HAVE BEEN PLACED ON THE SHORELINE WITHOUT ADDED FILL IN ADDITION TO THE DREDGE SPOIL.

SURVEYED: SEPTEMBER 4, 5 & 16, 2019 SURVEY PERSONNEL: CLAY COTTLE, JOE HERNANDEZ AND JOSH CANTU
SURVEYED: FEBRUARY 18, 2020 SURVEY PERSONNEL: CLAY COTTLE AND JOE HERNANDEZ

Jmas 5/13/2020
JAMES M. NAISMITH
LICENSED STATE LAND SURVEYOR

FILLED & BUILT UP AREA
To Accompany Coastal Boundary Survey
FALSE LIVE OAK POINT, ARANSAS COUNTY, TEXAS
Being 76.12 Acres of Filled and Built Up Land in San Antonio Bay Submerged State Tract 56, east of the Aransas National Wildlife Refuge and East of Aransas County School Land Survey, A-229

TEXAS GENERAL LAND OFFICE
Ar 35-136 Natural Resources Code
Co. Aransas, SK No. 17
File Date 01/25/2020 by K. Schreiber

NO	DATE	REVISION	CONTR: ANCHOR OEA

Coastal Boundary Survey of an Apparent Fill or Buildup Area in San Antonio Bay State Tract 56, From Near False Live Oak Point to the Littoral Boundary of the Aransas National Wildlife Refuge, Aransas County, TX

SCALE: 1" = 200'
DWN. BY: GAH

SHEET 8 OF 8

DATE: SEPT. 2019



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

Surveying Division
Coastal Boundary Survey Approval

Project: Dagger Point - Aransas NWR - San Antonio Bay State Tracts 44-47, 56 & 57, Aransas & Calhoun Counties

Project No: Coastal Bend Bays and Estuaries (CBBEP) Project # 1931

Project Manager: Amy Nunez, Coastal Resources

Surveyor: James M. Naismith, Licensed State Land Surveyor

Description: Coastal Boundary Survey, dated September 4, 5 & 16, 2009, delineating the Littoral Boundary along the Western Shoreline of San Antonio Bay; the Eastern Boundary of the Aransas National Wildlife Refuge; the Western Boundary of State Submerged Tracts 40, 44, 45, 47, 55, 56 & 57; Eastern Boundaries of Surveys for Aransas CSL, A-229, C B, Benoist, A-16, E. Titus, A-204, D. O'Boyle, A-169, H. Tract, A-209, S. Perry, A-176, B. Duval, A-59, J. Kroeger, A-337 and A. Wiggington, A-217, Aransas and Calhoun Counties, Texas in connection with planned Erosion Response Activity for Coastal Bend Bays and Estuaries Program (CBBEP) # 1931. Dagger Point Coastal and Marine Habitat Protection and Restoration. Centroid coordinates N 28°16'34", W 96°47'54", WGS84. A copy of the survey has been filed in Volume 7, Page 103, Plat Records of Aransas 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: _____

Surveying Division

8/31/2020

Date

Approval Filed as:

Tex.Nat.Res.Code Article 33.136 Aransas County, Sketch No. 17

TEXAS GENERAL LAND OFFICE

Art. 33.136, Natural Resources Code

Co. ARANSAS + CALHOUN, SK No. 17

File Date 01/12/2021 by K. Seiber

Naismith Marine Services, Inc.

www.naismithmarine.com

(361) 945-0248

FIRM #10078500



SEPTEMBER 2019

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Aransas Co. CAE HOWE, SRK No. 17
File Date 01/12/2021 by K. Screiber

COASTAL BOUNDARY SURVEY OF A PORTION OF
ARANSAS NATIONAL WILDLIFE REFUGE ADJACENT TO
SAN ANTONIO BAY STATE TRACTS 44-47, 56 & 57
FROM NEAR FALSE LIVE OAK POINT TO THE NORTH REFUGE BOUNDARY,
ARANSAS AND CALHOUN COUNTIES, TX

This report accompanies a map of survey dated September 2019.



Figure 1: Typical shoreline along the San Antonio Bay Shoreline of the Aransas National Wildlife Refuge.

A coastal boundary survey was conducted along the San Antonio Bay shoreline from a point near False Live Oak Point on the original shoreline of San Antonio Bay (as established from historical documents, including Aerial Imagery, USGS Topographic Survey Maps and USC&GS Navigational Charts) as it existed prior to the creation of the Gulf Intracoastal Water Way (GIWW); to the north boundary of the refuge in Aransas County, Texas. All survey work was performed using survey grade RTK GPS base and rover: Hemisphere S320 receivers. The survey was conducted September 4, 5 & 16, 2019.

SURVEY CONTROL: Two NGS survey markers were used as primary control: "877 90038 B" (DP0714, N:13,275,073.35, E: 2,677,168.43, EL: 3.9' NAVD88).and "Q 594 1942" (AN0406, N: 13,295,815.36, E: 2,673,314.75, EL: 13.4' NAVD88). Positions were based on OPUS solutions.

The north boundary of the refuge was established using a fence corner post found at an apparent inside corner of the refuge, the stump of an old wooden fence post on the apparent north boundary line of the refuge and a 3/4" galvanized iron pipe called for and found in the north line of the tract north of and adjoining the easterly north line of the refuge.

Table 1: NGS benchmarks were used as primary control for the survey.

	Northing	Easting	Elevation
NGS BENCHMARKS			
NGS '877 90038 B'	13,275,073.35	2,677,168.43	3.9'
NGS 'Q 594 1942'	13,295,815.36	2,673,314.75	13.4'

Datum is NAD 83 (2011), South Central Zone of the Texas Coordinate System (US Feet). Orthometric height was calculated using geoid 2012b and is referenced to NAVD88 datum.



Figure 2: NGS benchmark "877 90038 B" (N:13,275,073.35, E: 2,677,168.43, EL: 3.9' NAVD88)

TEXAS GENERAL LAND OFFICE
 Art. 6513c Natural Resources Code
 Co. ARANSAS + CALHOUN No. 17

Aransas National Wildlife Refuge, Page 2 File Date 01/12/2021 by K. Schreiber



Figure 3: NGS benchmark "Q 594 1942" (N: 13,295,815.36, E: 2,673,314.75, EL: 13.4' NAVD88)



Figure 4: The NORTH end point of the MHW line (littoral boundary) was tied to an apparent refuge corner which was marked with a wooden fence corner post (N:13,303,406.40, E: 2,667,915.38, EL: 12.6')



TEXAS GENERAL LAND OFFICE

Art. 33.136. NATURAL Resources Code

CO. ARANSAS
CACHOON

SK. No. 17

Aransas National Wildlife Refuge, Page 3

File Date 01/21/2021 By: K. Schreiber

STATE OWNERSHIP BOUNDARY: As referenced to this survey, the elevation of MHW on the San Antonio Bay shoreline is 1.3 feet (datum is NAVD88). The tide gauge "Aransas Wildlife Refuge" and the tide gauge "Seadrift" were used to establish MHW along the shore of San Antonio Bay.

EXISTING FILL: There is an area of apparent build up adjacent and contiguous to and east of the original shoreline at the south end of the survey. Based on historic documents, that area was originally created from dredge spoil when the Gulf Intracoastal Waterway (GIWW) was cut through False Live Oak Point.

FIELD NOTES for the littoral boundary of the Aransas National Wildlife Refuge (the refuge) as described in Deed from the San Antonio Loan and Trust Company to the United States of America, recorded November 22, 1937 in Clerk's File No. 2370 of the Deed Records of Aransas County, Texas; along a portion of the original San Antonio Bay shoreline and thence along the MHW line of the current shoreline, adjacent to San Antonio Bay state tracts 44-47, 56 & 57 in Aransas & Calhoun Counties, Texas. Distances, bearings, and Coordinates are grid, North American Datum of 1983 (2011), South Central zone of the Texas coordinate system;

SECTION ONE

Beginning at a point, (N: 13,276,722.55, E: 2,681,586.72) on the original shoreline of San Antonio Bay and the southeast littoral boundary of the refuge; from which NGS monument "877 90038 B" (N:13,275,073.35, E: 2,677,168.43, EL: 3.9), bears S 69°32'51" W a distance of 4,716.05 feet (1,697.78V).

Thence along the original shoreline of San Antonio Bay and the east littoral boundary of the refuge the following courses:

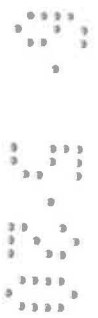
- N 35°34'57" E a distance of 63.91 feet (23.01V);
- N 61°29'20" E a distance of 53.65 feet (19.31V);
- N 40°31'45" W a distance of 205.40 feet (73.94V);
- N 02°24'22" W a distance of 132.87 feet (47.83V);
- N 20°38'52" W a distance of 110.00 feet (39.60V);
- N 03°44'29" E a distance of 291.00 feet (104.76V);
- N 01°59'36" W a distance of 107.00 feet (38.52V);
- N 55°25'14" E a distance of 135.00 feet (48.60V);
- N 16°00'51" W a distance of 163.00 feet (58.68V);
- N 24°35'34" E a distance of 161.00 feet (57.96V);
- N 43°16'27" W a distance of 125.00 feet (45.00V);
- N 12°42'06" W a distance of 161.00 feet (57.96V);
- N 07°18'24" W a distance of 166.00 feet (59.76V) to a point, (N: 13,278,381.66, E: 2,681,499.77, EL. 1.3') on the MHW (Mean High Water) line on the current San Antonio Bay shoreline;

Thence along the MHW line on the current San Antonio Bay shoreline, continuing along the littoral boundary of the refuge, the following courses:

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. ARANSAS / CALHOUN, SK No. 17
File Date 01/12/2021 by K. Schreiber

N 08°48'12" E a distance of 40.65 feet (14.63V);
 N 13°26'36" W a distance of 46.97 feet (16.91V);
 N 46°27'03" E a distance of 18.82 feet (6.78V);
 N 22°11'57" W a distance of 124.62 feet (44.86V);
 N 44°39'51" W a distance of 46.19 feet (16.63V);
 N 54°47'12" W a distance of 104.90 feet (37.76V);
 N 07°36'03" W a distance of 118.86 feet (42.79V);
 N 27°22'14" W a distance of 89.14 feet (32.09V);
 N 11°02'39" E a distance of 124.30 feet (44.75V);
 N 34°27'13" W a distance of 49.69 feet (17.89V);
 N 14°37'35" E a distance of 96.95 feet (34.90V);
 N 34°47'18" W a distance of 150.85 feet (54.31V);
 N 22°47'05" W a distance of 138.49 feet (49.86V);
 N 14°38'17" E a distance of 151.18 feet (54.42V);
 N 34°05'04" E a distance of 171.49 feet (61.74V);
 N 03°46'09" E a distance of 136.67 feet (49.20V);
 N 23°57'15" E a distance of 152.91 feet (55.05V);
 N 17°52'13" W a distance of 162.25 feet (58.41V);
 N 48°43'20" E a distance of 73.85 feet (26.59V);
 N 09°27'20" W a distance of 87.70 feet (31.57V);
 N 41°27'31" W a distance of 103.77 feet (37.36V);
 N 19°47'17" E a distance of 152.38 feet (54.86V);
 N 42°15'45" W a distance of 99.18 feet (35.70V);
 N 07°08'52" W a distance of 61.38 feet (22.10V);
 N 68°19'02" W a distance of 87.37 feet (31.45V);
 N 04°55'27" E a distance of 161.25 feet (58.05V);
 N 68°27'14" E a distance of 46.43 feet (16.71V);
 N 00°43'05" W a distance of 146.29 feet (52.66V);
 N 44°17'46" W a distance of 66.92 feet (24.09V);
 N 76°27'39" W a distance of 54.85 feet (19.75V);
 S 65°03'09" W a distance of 176.96 feet (63.71V);
 S 48°59'52" W a distance of 64.06 feet (23.06V) to the **end point** (N: 13,280,904.37,
 E: 2,680,937.30, EL:1.3') of this Section One on the southeast shoreline of the mouth of a
 slough between San Antonio Bay and the north end of Mustang Lake; from which NGS
 monument "Q 594 1942" (N: 13,295,815.36, E: 2,673,314.75, EL: 13.4') bears N 27°04'35" W
 a distance of 16,746.37 feet (6,028.69V) and the beginning point of hereinbelow described
 Section Two (N:13,280,963.75, E:2,680,855.30, EL:1.3'), on the northwest shoreline of the
 mouth of said slough between San Antonio Bay and the north end of Mustang Lake, the
 MHW line and the littoral boundary of the refuge, bears N 54°05'25" W a distance of 101.24
 feet (36.45V).

TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas + Cameron, SIC 17
 File Date 01/12/2021 by K. Schneider



SECTION TWO

Beginning at a point, (N:13,280,963.75, E:2,680,855.30, EL:1.3') on the northwest shoreline of the
 mouth of a slough between San Antonio Bay and the north end of Mustang Lake, on the MHW
 (Mean High Water) line on the San Antonio Bay shoreline and on the littoral boundary of the

refuge; from which NGS monument "877 90038 B" (N:13,275,073.35, E: 2,677,168.43, EL: 3.9), bears S 32°02'35" W a distance of 6,949.09 feet (2,501.67V) and the end point of hereinabove described Section One (N: 13,280,904.37, E: 2,680,937.30, EL:1.3'), on the southeast shoreline of the mouth of said slough between San Antonio Bay and the north end of Mustang Lake, bears S 54°05'25" E a distance of 101.24 feet (36.45V);

Thence along the MHW line, the San Antonio Bay shoreline and the littoral boundary of the refuge the following courses:

N 00°03'37" E a distance of 109.15 feet (39.29V);
N 01°55'38" E a distance of 105.91 feet (38.13V);
N 08°43'23" E a distance of 114.26 feet (41.13V);
N 26°11'35" E a distance of 79.77 feet (28.72V);
N 05°58'19" W a distance of 148.39 feet (53.42V);
N 08°46'38" E a distance of 145.14 feet (52.25V);
N 03°11'30" W a distance of 87.58 feet (31.53V);
N 34°32'55" E a distance of 85.85 feet (30.91V);
N 36°38'40" E a distance of 72.79 feet (26.20V);
N 13°12'56" E a distance of 101.14 feet (36.41V) to Live Oak Point (N:13,281,969.30, E:2,681,028.60, EL:1.3');

Thence continuing along the MHW line, the San Antonio Bay shoreline and the littoral boundary of the refuge the following courses:

N 26°13'25" W a distance of 194.79 feet (70.12V);
N 36°48'50" W a distance of 59.06 feet (21.26V);
N 03°11'55" E a distance of 68.11 feet (24.52V);
N 33°20'48" W a distance of 50.82 feet (18.30V);
N 09°00'20" E a distance of 46.24 feet (16.65V);
N 03°25'59" E a distance of 48.60 feet (17.50V);
N 19°13'35" W a distance of 63.59 feet (22.89V);
N 18°44'19" W a distance of 75.71 feet (27.26V);
N 07°27'56" W a distance of 175.73 feet (63.26V);
N 36°05'34" E a distance of 46.22 feet (16.64V);
N 15°40'56" W a distance of 93.29 feet (33.58V);
N 13°58'34" W a distance of 138.12 feet (49.72V);
N 34°06'23" W a distance of 143.26 feet (51.57V);
N 08°08'11" E a distance of 41.87 feet (15.07V);
N 19°03'15" W a distance of 69.37 feet (24.97V);
N 26°11'34" E a distance of 52.72 feet (18.98V);
N 49°25'14" W a distance of 79.54 feet (28.63V);
N 28°21'00" W a distance of 26.48 feet (9.53V);
N 05°23'17" W a distance of 64.15 feet (23.09V);
N 45°34'10" E a distance of 36.14 feet (13.01V);
N 08°16'13" E a distance of 53.61 feet (19.30V);
N 03°52'00" W a distance of 149.88 feet (53.96V);
N 34°10'22" W a distance of 73.10 feet (26.32V);

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas + Galveston, SK No. 17
File Date 6/1/2021 by K. Seckreider

N 16°51'00" W a distance of 131.05 feet (47.18V);
 N 62°37'50" W a distance of 15.71 feet (5.66V);
 N 22°34'15" W a distance of 58.28 feet (20.98V);
 N 13°53'10" W a distance of 156.69 feet (56.41V);
 N 55°56'52" W a distance of 32.04 feet (11.53V);
 N 22°39'57" W a distance of 93.63 feet (33.71V);
 N 20°26'29" W a distance of 139.15 feet (50.09V);
 N 34°12'52" W a distance of 131.44 feet (47.32V);
 N 79°51'23" W a distance of 29.98 feet (10.79V);
 N 47°55'45" W a distance of 175.35 feet (63.13V);
 N 27°30'36" W a distance of 72.52 feet (26.11V);
 N 14°39'12" W a distance of 23.15 feet (8.33V);
 N 12°10'57" W a distance of 81.52 feet (29.35V);
 N 64°22'38" W a distance of 44.68 feet (16.08V);
 N 48°25'36" W a distance of 53.66 feet (19.32V);
 N 28°04'08" W a distance of 76.78 feet (27.64V);
 N 49°30'41" W a distance of 82.01 feet (29.52V);
 N 35°15'45" W a distance of 88.84 feet (31.98V);
 N 07°54'59" W a distance of 46.17 feet (16.62V);
 N 31°24'03" W a distance of 83.05 feet (29.90V);
 N 31°14'53" W a distance of 176.01 feet (63.36V);
 N 56°41'41" W a distance of 68.40 feet (24.62V);
 N 34°03'17" W a distance of 143.92 feet (51.81V);
 N 41°39'05" W a distance of 126.35 feet (45.49V);
 N 32°53'01" W a distance of 100.65 feet (36.23V);
 N 32°52'40" W a distance of 138.37 feet (49.81V);
 N 38°13'00" W a distance of 330.59 feet (119.01V);
 N 45°25'50" W a distance of 131.58 feet (47.37V);
 N 37°39'58" W a distance of 76.28 feet (27.46V);
 N 42°14'14" W a distance of 123.86 feet (44.59V);
 N 46°30'05" W a distance of 58.27 feet (20.98V);
 N 41°26'37" W a distance of 33.30 feet (11.99V);
 N 38°03'13" W a distance of 43.41 feet (15.63V);
 N 33°04'59" W a distance of 111.46 feet (40.13V);
 N 41°59'43" W a distance of 267.11 feet (96.16V);
 N 38°24'40" W a distance of 85.82 feet (30.90V);
 N 36°13'05" W a distance of 101.10 feet (36.40V);
 N 31°31'38" W a distance of 117.07 feet (42.15V);
 N 40°47'39" W a distance of 242.21 feet (87.20V);
 N 39°21'01" W a distance of 85.78 feet (30.88V);
 N 30°39'11" W a distance of 96.31 feet (34.67V);
 N 28°15'53" W a distance of 68.09 feet (24.51V);
 N 29°53'20" W a distance of 95.03 feet (34.21V);
 N 30°16'39" W a distance of 328.15 feet (118.13V);
 N 27°13'49" W a distance of 99.06 feet (35.66V);
 N 19°09'57" W a distance of 477.03 feet (171.73V);



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas + Calhoun, SE No. 17
 File Date 01/12/2021 by K. Schreiber

N 23°47'49" W a distance of 297.38 feet (107.06V);
 N 20°20'28" W a distance of 485.43 feet (174.75V);
 N 18°55'46" W a distance of 160.09 feet (57.63V);
 N 20°24'38" W a distance of 127.53 feet (45.91V);
 N 14°29'10" W a distance of 209.25 feet (75.33V);
 N 19°45'39" W a distance of 127.35 feet (45.85V);
 N 12°47'05" W a distance of 58.79 feet (21.16V);
 N 08°41'19" W a distance of 182.78 feet (65.80V);
 N 07°40'38" W a distance of 73.19 feet (26.35V);
 N 12°54'05" W a distance of 158.79 feet (57.16V);
 N 05°02'11" E a distance of 89.13 feet (32.09V);
 N 08°06'20" W a distance of 96.85 feet (34.87V);
 N 02°20'53" W a distance of 95.29 feet (34.30V);
 N 04°59'21" E a distance of 162.29 feet (58.42V);
 N 02°56'53" W a distance of 215.96 feet (77.75V);
 N 07°34'34" W a distance of 91.42 feet (32.91V);
 N 15°08'27" E a distance of 150.34 feet (54.12V);
 N 20°10'27" E a distance of 34.66 feet (12.48V);
 N 00°34'48" E a distance of 16.79 feet (6.04V) to Dagger Point (N:13,290,771.19,
 E:2,677,211.84, EL:1.3');

Thence continuing along the MHW line, the San Antonio Bay shoreline and the littoral boundary of the refuge the following courses:

N 46°29'30" W a distance of 194.01 feet (69.84V);
 N 35°54'24" W a distance of 281.84 feet (101.46V);
 N 37°02'36" W a distance of 219.36 feet (78.97V);
 N 50°57'49" W a distance of 115.88 feet (41.72V);
 N 35°05'44" W a distance of 186.12 feet (67.00V);
 N 54°37'24" W a distance of 119.49 feet (43.02V);
 N 23°43'53" W a distance of 85.25 feet (30.69V);
 N 64°40'10" W a distance of 133.72 feet (48.14V);
 N 47°10'16" W a distance of 176.98 feet (63.71V);
 N 54°43'54" W a distance of 57.22 feet (20.60V);
 N 46°06'37" W a distance of 88.23 feet (31.76V);
 N 42°20'47" W a distance of 78.38 feet (28.22V);
 N 47°50'27" W a distance of 178.31 feet (64.19V);
 N 47°46'37" W a distance of 213.40 feet (76.82V);
 N 44°43'51" W a distance of 242.41 feet (87.27V);
 N 29°28'54" W a distance of 60.80 feet (21.89V);
 N 25°18'43" W a distance of 47.16 feet (16.98V);
 N 53°18'58" W a distance of 59.66 feet (21.48V);
 N 61°51'35" W a distance of 29.49 feet (10.62V);
 N 45°11'41" W a distance of 64.47 feet (23.21V);
 N 58°17'33" W a distance of 85.75 feet (30.87V);
 N 43°44'15" W a distance of 146.88 feet (52.88V);

TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas County, SK No. 17
 File Date 01/12/2011 by K. Schreiber

N 60°27'01" W a distance of 112.05 feet (40.34V);
 N 70°36'03" W a distance of 21.20 feet (7.63V);
 N 43°04'15" W a distance of 134.43 feet (48.39V);
 N 60°25'23" W a distance of 30.15 feet (10.85V);
 N 45°28'58" W a distance of 224.21 feet (80.72V);
 N 43°48'19" W a distance of 134.72 feet (48.50V);
 N 38°34'53" W a distance of 134.48 feet (48.41V);
 N 25°11'22" W a distance of 30.81 feet (11.09V);
 N 21°30'17" W a distance of 43.77 feet (15.76V);
 N 33°35'35" W a distance of 149.74 feet (53.91V);
 N 33°57'23" W a distance of 195.96 feet (70.55V);
 N 36°26'40" W a distance of 107.93 feet (38.85V);
 N 37°53'05" W a distance of 128.05 feet (46.10V);
 N 28°19'31" W a distance of 152.09 feet (54.75V);
 N 32°52'34" W a distance of 198.11 feet (71.32V);
 N 35°36'33" W a distance of 168.76 feet (60.75V);
 N 34°54'41" W a distance of 124.77 feet (44.92V);
 N 05°51'25" W a distance of 49.44 feet (17.80V);
 N 29°20'09" W a distance of 267.48 feet (96.29V);
 N 40°01'45" W a distance of 110.37 feet (39.73V);
 N 16°46'01" W a distance of 147.72 feet (53.18V);
 N 26°15'25" W a distance of 191.90 feet (69.08V);
 N 16°22'54" W a distance of 249.39 feet (89.78V);
 N 13°10'12" W a distance of 328.60 feet (118.30V);
 N 12°13'47" W a distance of 293.42 feet (105.63V) to a point (N: 13,295,932.17, E: 2,673,398.19, El: 1.3'); from which NGS monument "Q 594 1942" (N: 13,295,815.36, E: 2,673,314.75, El: 13.4') bears S 35°32'24" W a distance of 143.55 feet (51.68V);



Thence continuing along the MHW line, the San Antonio Bay shoreline and the littoral boundary of the refuge the following courses:

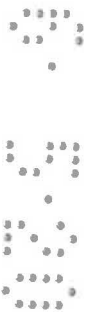
N 03°08'02" E a distance of 696.28 feet (250.66V);
 N 08°21'56" E a distance of 159.15 feet (57.29V);
 N 13°01'03" E a distance of 44.36 feet (15.97V);
 N 04°05'39" E a distance of 33.69 feet (12.13V);
 N 11°40'46" W a distance of 11.45 feet (4.12V);
 N 12°27'21" E a distance of 109.97 feet (39.59V);
 N 19°00'22" E a distance of 386.19 feet (139.03V);
 N 17°25'35" E a distance of 374.10 feet (134.68V);
 N 25°58'27" E a distance of 237.09 feet (85.35V);
 N 30°46'33" E a distance of 216.25 feet (77.85V);
 N 40°23'13" E a distance of 189.61 feet (68.26V);
 N 47°12'29" E a distance of 17.10 feet (6.16V);
 N 72°46'22" E a distance of 11.04 feet (3.97V);
 N 23°10'12" E a distance of 26.08 feet (9.39V);
 N 31°29'00" W a distance of 10.68 feet (3.84V);

TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas Co., 512 No. 17
 File Date 01/12/2021 by K. Seheri

N 45°56'13" W a distance of 18.76 feet (6.75V);
N 59°43'23" W a distance of 19.72 feet (7.10V);
N 55°26'49" W a distance of 24.08 feet (8.67V);
N 06°34'23" E a distance of 49.31 feet (17.75V);
N 40°07'39" E a distance of 24.51 feet (8.82V);
N 04°39'33" E a distance of 19.96 feet (7.19V);
N 32°20'35" E a distance of 18.91 feet (6.81V);
N 68°38'44" E a distance of 34.41 feet (12.39V);
S 82°37'35" E a distance of 31.48 feet (11.33V);
S 51°52'55" E a distance of 38.65 feet (13.91V);
S 65°14'35" E a distance of 24.69 feet (8.89V);
N 62°22'33" E a distance of 10.52 feet (3.79V);
S 53°10'06" E a distance of 41.39 feet (14.90V);
N 86°19'26" E a distance of 83.75 feet (30.15V);
N 18°27'54" E a distance of 19.24 feet (6.93V);
N 41°09'41" E a distance of 39.56 feet (14.24V);
N 35°54'34" E a distance of 35.77 feet (12.88V);
N 81°40'25" E a distance of 19.40 feet (6.98V);
N 35°57'25" E a distance of 37.70 feet (13.57V);
N 66°55'51" E a distance of 48.26 feet (17.37V);
N 45°16'15" E a distance of 53.98 feet (19.43V);
N 28°20'20" E a distance of 100.98 feet (36.35V);
N 70°55'27" E a distance of 79.74 feet (28.71V);
N 10°22'56" E a distance of 64.14 feet (23.09V);
N 32°11'09" W a distance of 91.35 feet (32.89V);
N 52°52'01" W a distance of 39.62 feet (14.26V);
N 09°15'55" E a distance of 40.27 feet (14.50V);
N 30°56'31" E a distance of 38.46 feet (13.85V);
N 56°07'11" E a distance of 19.37 feet (6.97V);
N 32°24'25" E a distance of 46.54 feet (16.75V);
N 62°13'26" E a distance of 36.35 feet (13.09V);
N 41°47'11" E a distance of 27.99 feet (10.08V);
N 32°46'08" E a distance of 67.86 feet (24.43V);
N 34°48'21" E a distance of 79.18 feet (28.50V);
N 56°51'50" E a distance of 38.78 feet (13.96V);
S 50°09'51" E a distance of 77.23 feet (27.80V);
N 71°38'02" E a distance of 17.11 feet (6.16V);
N 37°08'10" E a distance of 28.16 feet (10.14V);
N 78°48'53" E a distance of 26.60 feet (9.58V);
S 87°01'05" E a distance of 39.60 feet (14.26V);
N 79°23'51" E a distance of 49.46 feet (17.81V);
S 64°03'00" E a distance of 46.32 feet (16.68V);
N 78°55'17" E a distance of 30.91 feet (11.13V);
N 57°09'10" E a distance of 25.00 feet (9.00V);
N 50°22'39" E a distance of 43.45 feet (15.64V);
N 68°17'08" E a distance of 27.89 feet (10.04V);

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas, Co./hour, SK No. 17
File Date 01/12/2021 by K. Schreiber

N 02°52'55" E a distance of 11.69 feet (4.21V);
N 20°47'57" W a distance of 26.86 feet (9.67V);
N 70°52'33" W a distance of 8.33 feet (3.00V);
N 06°44'34" W a distance of 11.71 feet (4.22V);
N 81°26'54" E a distance of 24.81 feet (8.93V);
N 62°33'35" E a distance of 16.60 feet (5.98V);
N 07°01'55" W a distance of 27.49 feet (9.90V);
N 10°39'34" E a distance of 32.04 feet (11.54V);
N 34°31'04" E a distance of 23.95 feet (8.62V);
N 79°09'09" E a distance of 18.81 feet (6.77V);
S 84°11'11" E a distance of 16.49 feet (5.94V);
N 43°03'06" E a distance of 18.84 feet (6.78V);
S 89°30'26" E a distance of 18.61 feet (6.70V);
N 37°04'31" E a distance of 9.38 feet (3.38V);
N 26°25'12" E a distance of 12.71 feet (4.58V);
N 53°06'41" E a distance of 14.69 feet (5.29V);
S 59°06'55" E a distance of 10.95 feet (3.94V);
N 89°02'40" E a distance of 8.39 feet (3.02V);
N 69°44'08" E a distance of 19.00 feet (6.84V);
N 23°39'47" E a distance of 8.60 feet (3.10V);
N 22°31'26" W a distance of 15.32 feet (5.52V);
N 01°58'37" W a distance of 14.38 feet (5.18V);
N 65°02'35" E a distance of 46.41 feet (16.71V);
S 89°44'58" E a distance of 18.30 feet (6.59V);
N 53°21'20" E a distance of 20.07 feet (7.23V);
N 20°21'42" E a distance of 7.32 feet (2.64V);
N 02°16'37" W a distance of 15.05 feet (5.42V);
N 53°30'01" E a distance of 33.47 feet (12.05V);
N 13°54'06" W a distance of 22.12 feet (7.96V);
N 56°15'57" W a distance of 35.92 feet (12.93V);
N 40°56'46" W a distance of 42.87 feet (15.43V);
N 02°13'05" E a distance of 53.90 feet (19.40V);
N 55°28'39" E a distance of 54.82 feet (19.74V);
N 85°43'29" E a distance of 37.16 feet (13.38V);
S 43°17'18" E a distance of 65.05 feet (23.42V);
N 22°13'39" E a distance of 7.62 feet (2.74V);
N 03°01'08" W a distance of 25.60 feet (9.22V);
N 70°33'53" E a distance of 27.35 feet (9.85V);
S 81°24'01" E a distance of 21.20 feet (7.63V);
N 36°15'40" E a distance of 22.97 feet (8.27V);
S 89°28'45" E a distance of 19.81 feet (7.13V);
N 42°17'52" E a distance of 8.91 feet (3.21V);
N 53°18'22" W a distance of 30.71 feet (11.06V);
N 00°19'41" E a distance of 26.54 feet (9.55V);
N 22°42'20" E a distance of 23.12 feet (8.32V);
N 50°30'22" E a distance of 16.12 feet (5.80V);



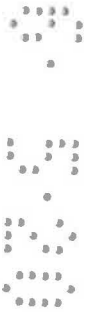
TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas Sr, SR No. 17
Calhoun
File Date 01/12/2021 by K. Schreiber

N 32°35'24" W a distance of 32.78 feet (11.80V);
N 45°40'24" W a distance of 53.44 feet (19.24V);
N 50°03'58" W a distance of 48.36 feet (17.41V);
N 05°35'01" E a distance of 32.80 feet (11.81V);
N 33°27'42" E a distance of 56.66 feet (20.40V);
N 29°57'21" E a distance of 46.06 feet (16.58V);
N 24°37'26" E a distance of 45.37 feet (16.33V);
N 21°15'27" E a distance of 47.43 feet (17.07V);
N 05°18'10" E a distance of 19.15 feet (6.89V);
N 36°42'25" W a distance of 25.18 feet (9.06V);
N 27°51'33" E a distance of 27.96 feet (10.07V);
S 66°38'07" E a distance of 13.99 feet (5.04V);
N 55°41'51" E a distance of 19.41 feet (6.99V);
S 58°41'10" E a distance of 74.79 feet (26.92V);
N 52°49'26" E a distance of 30.45 feet (10.96V);
N 45°05'29" E a distance of 45.60 feet (16.42V);
N 05°42'02" E a distance of 5.76 feet (2.07V);
N 05°36'59" W a distance of 28.47 feet (10.25V);
N 55°53'07" E a distance of 36.61 feet (13.18V);
N 49°39'33" E a distance of 27.62 feet (9.94V);
N 45°51'50" E a distance of 43.57 feet (15.69V);
N 37°54'16" E a distance of 38.03 feet (13.69V);
N 41°38'23" E a distance of 27.44 feet (9.88V);
N 48°41'10" E a distance of 37.14 feet (13.37V);
N 61°28'42" E a distance of 28.25 feet (10.17V);
N 70°28'17" E a distance of 41.10 feet (14.80V);
S 28°52'24" E a distance of 68.60 feet (24.70V);
N 64°32'33" E a distance of 21.43 feet (7.71V);
S 83°15'44" E a distance of 54.89 feet (19.76V);
S 53°03'08" E a distance of 37.53 feet (13.51V);
S 27°59'53" E a distance of 32.83 feet (11.82V);
S 34°21'56" E a distance of 39.19 feet (14.11V);
S 45°43'39" E a distance of 38.48 feet (13.85V);
N 73°04'19" E a distance of 10.03 feet (3.61V);
N 15°16'10" W a distance of 30.25 feet (10.89V);
N 12°18'14" E a distance of 23.46 feet (8.45V);
N 62°01'59" E a distance of 17.42 feet (6.27V);
S 88°22'26" E a distance of 24.67 feet (8.88V);
N 32°57'38" E a distance of 23.55 feet (8.48V);
N 81°22'22" E a distance of 11.73 feet (4.22V);
N 19°50'00" W a distance of 47.18 feet (16.98V);
N 10°25'36" E a distance of 35.87 feet (12.91V);
N 32°02'13" E a distance of 20.33 feet (7.32V);
S 67°40'44" E a distance of 21.25 feet (7.65V);
N 38°40'04" E a distance of 50.27 feet (18.10V);
N 72°01'05" E a distance of 48.10 feet (17.32V);



TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas, SE No. 17
File Date 01/12/2011 by K. Schreiber

N 11°23'31" E a distance of 25.33 feet (9.12V);
 N 30°42'24" W a distance of 53.72 feet (19.34V);
 N 05°20'51" W a distance of 68.13 feet (24.53V);
 N 03°27'46" E a distance of 49.14 feet (17.69V);
 N 05°54'56" E a distance of 26.44 feet (9.52V);
 N 09°37'55" W a distance of 10.21 feet (3.68V);
 N 35°06'37" W a distance of 25.04 feet (9.01V);
 N 17°53'09" W a distance of 26.46 feet (9.53V);
 N 13°25'13" E a distance of 157.81 feet (56.81V);
 N 12°33'59" W a distance of 12.03 feet (4.33V);
 N 19°20'24" E a distance of 27.59 feet (9.93V);
 N 50°30'11" E a distance of 79.96 feet (28.79V);
 N 22°46'44" E a distance of 68.46 feet (24.65V);
 N 05°36'59" W a distance of 30.85 feet (11.11V);
 N 13°43'55" E a distance of 60.26 feet (21.69V);
 N 55°36'50" E a distance of 89.26 feet (32.13V);
 N 30°27'17" E a distance of 64.95 feet (23.38V);
 N 35°09'26" E a distance of 89.26 feet (32.13V);
 N 35°08'09" E a distance of 61.36 feet (22.09V);
 N 19°31'19" E a distance of 31.82 feet (11.46V);
 N 07°18'43" E a distance of 32.29 feet (11.62V);
 N 54°29'14" E a distance of 61.77 feet (22.24V);
 N 13°43'00" E a distance of 50.25 feet (18.09V);
 N 26°25'34" E a distance of 22.51 feet (8.10V);
 N 35°09'32" W a distance of 46.42 feet (16.71V);
 N 05°53'34" W a distance of 8.44 feet (3.04V);
 N 87°58'23" E a distance of 22.62 feet (8.14V);
 S 52°18'16" E a distance of 20.66 feet (7.44V);
 N 66°47'29" E a distance of 26.31 feet (9.47V);
 N 10°17'20" E a distance of 19.15 feet (6.89V);
 N 48°10'22" E a distance of 83.19 feet (29.95V);
 N 39°43'03" E a distance of 111.99 feet (40.32V);
 N 51°36'19" E a distance of 69.01 feet (24.84V);
 N 41°16'52" E a distance of 39.87 feet (14.35V);
 N 36°06'29" E a distance of 39.16 feet (14.10V);
 N 68°56'05" E a distance of 43.15 feet (15.53V);
 N 52°03'17" E a distance of 29.76 feet (10.71V);
 N 46°37'59" E a distance of 54.58 feet (19.65V);
 N 59°12'45" E a distance of 36.83 feet (13.26V);
 N 35°54'37" E a distance of 26.94 feet (9.70V);
 N 02°10'25" W a distance of 30.53 feet (10.99V);
 N 19°39'25" E a distance of 26.45 feet (9.52V);
 N 57°22'43" E a distance of 44.41 feet (15.99V);
 N 11°10'11" E a distance of 52.48 feet (18.89V);
 N 40°18'03" E a distance of 66.12 feet (23.80V);
 N 11°34'49" E a distance of 81.05 feet (29.18V);



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas +
Cs/houn, SR No. 17
 File Date 01/12/2021 by K. Schreiber

N 20°33'36" W a distance of 24.47 feet (8.81V);
 N 18°10'42" E a distance of 25.12 feet (9.04V);
 N 31°41'07" E a distance of 59.11 feet (21.28V);
 N 39°29'13" E a distance of 74.22 feet (26.72V);
 N 27°28'40" E a distance of 30.21 feet (10.88V);
 N 03°59'21" E a distance of 21.56 feet (7.76V);
 N 08°31'40" W a distance of 29.48 feet (10.61V);
 N 19°49'44" W a distance of 22.33 feet (8.04V);
 N 04°59'08" E a distance of 31.30 feet (11.27V);
 N 64°08'28" E a distance of 34.07 feet (12.27V);
 N 88°13'05" E a distance of 51.13 feet (18.41V);
 N 44°11'46" E a distance of 53.98 feet (19.43V);
 N 17°05'12" E a distance of 28.18 feet (10.14V);
 N 04°10'09" W a distance of 60.77 feet (21.88V);
 N 34°34'11" E a distance of 47.79 feet (17.20V);
 N 23°24'12" W a distance of 22.69 feet (8.17V);
 N 05°26'58" E a distance of 30.58 feet (11.01V);
 N 16°36'13" E a distance of 29.80 feet (10.73V);
 N 28°21'54" E a distance of 29.50 feet (10.62V);
 N 20°25'01" E a distance of 27.02 feet (9.73V);
 N 00°04'21" E a distance of 25.25 feet (9.09V);
 N 66°49'46" E a distance of 20.76 feet (7.47V);
 S 79°27'51" E a distance of 28.66 feet (10.32V);
 S 55°52'27" E a distance of 8.75 feet (3.15V);
 N 66°13'59" E a distance of 26.97 feet (9.71V);
 N 30°20'03" E a distance of 33.72 feet (12.14V);
 N 02°10'35" E a distance of 26.99 feet (9.72V);
 N 07°42'49" W a distance of 21.98 feet (7.91V);
 N 22°36'06" E a distance of 17.88 feet (6.44V);
 N 48°23'00" E a distance of 39.18 feet (14.10V);
 N 58°57'14" W a distance of 25.87 feet (9.31V);
 N 26°55'55" W a distance of 28.50 feet (10.26V);
 N 16°58'51" E a distance of 8.19 feet (2.95V);
 N 51°51'22" E a distance of 21.26 feet (7.65V);
 N 23°15'19" E a distance of 20.71 feet (7.46V);
 N 74°33'48" E a distance of 33.51 feet (12.06V);
 N 32°18'51" E a distance of 49.31 feet (17.75V);
 N 83°36'50" E a distance of 50.44 feet (18.16V);
 N 09°24'38" E a distance of 16.04 feet (5.77V);
 N 10°16'33" W a distance of 23.85 feet (8.59V);
 N 13°12'57" E a distance of 47.50 feet (17.10V);
 N 01°20'02" W a distance of 71.65 feet (25.79V);
 N 67°48'18" E a distance of 28.32 feet (10.20V);
 N 46°20'48" E a distance of 22.24 feet (8.01V);
 N 28°31'19" E a distance of 11.47 feet (4.13V);
 S 81°30'22" E a distance of 31.68 feet (11.40V);



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas + Calhoun, Sec No. 17
 File Date 01/12/2021 by K. Seheiber

N 39°18'53" E a distance of 21.31 feet (7.67V);
 N 29°56'08" E a distance of 58.78 feet (21.16V);
 N 32°12'06" E a distance of 57.64 feet (20.75V);
 N 86°38'58" E a distance of 21.90 feet (7.88V);
 N 72°42'35" E a distance of 49.09 feet (17.67V);
 N 61°18'15" E a distance of 10.16 feet (3.66V);
 N 39°01'43" E a distance of 21.59 feet (7.77V);
 N 30°26'49" E a distance of 50.86 feet (18.31V);
 N 38°32'48" E a distance of 40.30 feet (14.51V);
 N 33°08'10" E a distance of 30.15 feet (10.85V);
 N 26°21'22" E a distance of 11.28 feet (4.06V);
 N 41°22'59" E a distance of 43.08 feet (15.51V);
 N 18°56'53" E a distance of 11.30 feet (4.07V);
 N 49°56'54" E a distance of 20.28 feet (7.30V);
 N 44°10'25" E a distance of 80.76 feet (29.07V);
 N 68°50'38" E a distance of 9.89 feet (3.56V);
 N 43°59'14" E a distance of 33.20 feet (11.95V);
 N 31°30'28" E a distance of 29.90 feet (10.76V);
 N 30°02'24" E a distance of 55.63 feet (20.03V);

Thence N 15°17'56" E, continuing along the MHW line, the San Antonio Bay shoreline and the littoral boundary of the refuge, a distance of 23.55 feet (8.48V) to the **end point** (N: 13,303,688.01, E: 2,678,211.74, EL:1.3') of this Section Two at the most easterly northeast corner of the refuge and at the southeast corner of that tract of land described as Tract #2 - 357.45 acres in Warranty Deed from Daniel P Kubecka and wife, Wanda Kubecka, to D & W Kubecka Family Limited Partnership recorded December 27, 2012 in Clerk's File No. 326922 of the Official Public Records of Aransas County, Texas; from which NGS monument "Q 594 1942" (N: 13,295,815.36, E: 2,673,314.75, EL: 13.4') bears S 31°52'58" W a distance of 9,271.41 feet (3,337.71V), a fence corner post (N: 13,303,406.40, E: 2,667,915.38, EL: 12.6') found at an apparent inside corner of the refuge and at the apparent southwest corner of said 357.45 acre tract, bears S 88°26'00" W a distance of 10,300.67 feet (3,708.24V), and a 3/4" galvanized iron pipe found (N: 13,305,079.47, E: 2,677,431.27, EL: 13.6') in the north line of said 357.45 acre tract, bears N 87°41'49" W a distance of 2,714.22 feet (977.12V).




 James M. Naismith, RPLS, LSLs
 Naismith Marine Services, Inc.



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas, Cellery, SR No. 17
 File Date 01/12/2021 by K. Schreiber

Naismith Marine Services, Inc.

www.naismithmarine.com
(361) 945-0248
FIRM #10078500



TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Aransas
Co./houn
File Date 01/12/2021 by K. Schreiber
SK No. 17

SEPTEMBER 2019

COASTAL BOUNDARY SURVEY OF AN AREA OF
APPARENT FILL OR BUILDUP WITHIN
SAN ANTONIO BAY STATE TRACT 56
FROM NEAR FALSE LIVE OAK POINT TO THE EAST LITTORAL BOUNDARY
OF THE ARANSAS NATIONAL WILDLIFE REFUGE,
ARANSAS COUNTY, TX

This report accompanies a map of survey dated September 2019.



Figure 1: Typical shoreline along the San Antonio Bay Shoreline of the Aransas National Wildlife Refuge.

A coastal boundary survey was conducted along the San Antonio Bay shoreline from a point near False Live Oak Point on the original shoreline of San Antonio Bay (as established from historical documents, including Aerial Imagery, USGS Topographic Survey Maps and USC&GS Navigational Charts) as it existed prior to the creation of the Gulf Intracoastal Water Way (GIWW); to a point on the east boundary of the refuge in Aransas County, Texas. All survey work was performed using survey grade RTK GPS base and rover: Hemisphere S320 receivers. The survey was conducted September 4, 5 & 16, 2019.

SURVEY CONTROL: Two NGS survey markers were used as primary control: "877 90038 B" (DP0714, N:13,275,073.35, E: 2,677,168.43, EL: 3.9' NAVD88).and "Q 594 1942" (AN0406, N: 13,295,815.36, E: 2,673,314.75, EL: 13.4' NAVD88). Positions were based on OPUS solutions.

Table 1: NGS benchmarks were used as primary control for the survey.

	Northing	Easting	Elevation
NGS BENCHMARKS			
NGS '877 90038 B'	13,275,073.35	2,677,168.43	3.9'
NGS 'Q 594 1942'	13,295,815.36	2,673,314.75	13.4'

Datum is NAD 83 (2011), South Central Zone of the Texas Coordinate System (US Feet). Orthometric height was calculated using geoid 2012b and is referenced to NAVD88 datum.



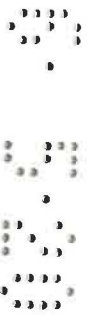
TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas + Calhoun, 52 No. 17
 File Date 01/12/2021 by K. Schreiber



Figure 3: NGS benchmark “Q 594 1942” (N: 13,295,815.36, E: 2,673,314.75, EL: 13.4’ NAVD88)

STATE OWNERSHIP BOUNDARY: As referenced to this survey, the elevation of MHW on the San Antonio Bay shoreline is 1.3 feet (datum is NAVD88). The tide gauge “Aransas Wildlife Refuge” and the tide gauge “Seadrift” were used to establish MHW along the shore of San Antonio Bay.

EXISTING FILL: The shoreline surveyed and described hereinbelow is along an area of apparent fill or build up. Based on examination of historical documents, including Aerial Imagery, USGS Topographic Survey Maps and USC&GS Navigational Charts; this area was created from dredge spoil when the Gulf Intracoastal Waterway (GIWW) was cut through False Live Oak Point. Articulated concrete mats have been placed on that area of the shore for erosion control. The MHW line along the bank of the GIWW in that area is along those concrete mats.



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas, SK No. 17
 File Date 01/12/2021 by K. Schreiber



Figure 5: The current (September 2019, February 2020) MHW (red), original Aransas County School Land Survey No. 68, Abstract 229 (February 1878, blue) and Gulf Intracoastal Waterway overlaid on 1884 Coast and Geodetic Survey Coast Chart No. 108 of Pass Cavallo, Lavaca and San Antonio Bays



TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Aransas, Calhoun, SIC No. 17
 File Date 01/12/2021 by K. Schreiber

FIELD NOTES for the littoral boundary along the San Antonio Bay shoreline of an approximately 76.12 acre area of apparent fill or buildup within San Antonio Bay Tract 56, in Aransas County, Texas. Distances, bearings, and Coordinates are grid, North American Datum of 1983 (2011), South Central zone of the Texas coordinate system;

Beginning at a point, (N:13,276,756.94, E:2,681,707.98, EL:1.3') on the MHW (Mean High Water) line on the San Antonio Bay shoreline, on the northwest bank of the Gulf Intracoastal Waterway (GIWW) along its cut through False Live Oak Point, said bank being surfaced with articulated concrete mats; from which NGS monument "877 90038 B" (N:13,275,073.35, E: 2,677,168.43, EL: 3.9'), bears S 69°39'06" W a distance of 4,841.69 feet (1,743.01V).

Thence N 40°31'45" W, departing said articulated concrete mat and continuing inland, at 56.83 feet (20.46V) passing a point on the original shoreline of San Antonio Bay and on the east littoral boundary of the Aransas National Wildlife Refuge, and continuing along said original shoreline of San Antonio Bay and along the east littoral boundary of said Aransas National Wildlife Refuge, in all, a distance of 262.16 feet (94.38V), to a point;

Thence continuing along the original shoreline of San Antonio Bay and along the east littoral boundary of the refuge the following courses:

N 02°24'22" W a distance of 132.87 feet (47.83V);
N 20°38'52" W a distance of 110.00 feet (39.60V);
N 03°44'29" E a distance of 291.00 feet (104.76V);
N 01°59'36" W a distance of 107.00 feet (38.52V);
N 55°25'14" E a distance of 135.00 feet (48.60V);
N 16°00'51" W a distance of 163.00 feet (58.68V);
N 24°35'34" E a distance of 161.00 feet (57.96V);
N 43°16'27" W a distance of 125.00 feet (45.00V);
N 12°42'06" W a distance of 161.00 feet (57.96V);
N 07°18'24" W a distance of 166.00 feet (59.76V) to a point, (N: 13,278,381.66, E: 2,681,499.77, EL. 1.3') on the MHW (Mean High Water) line on the current San Antonio Bay shoreline;

Thence continuing along the MHW line on the current San Antonio Bay shoreline the following courses:

S 28°29'37" E a distance of 94.86 feet (34.15V);
S 08°00'21" E a distance of 77.92 feet (28.05V);
S 48°54'39" E a distance of 114.40 feet (41.18V);
N 61°58'03" E a distance of 28.45 feet (10.24V);
N 59°19'38" W a distance of 93.50 feet (33.66V);
N 41°48'19" W a distance of 32.05 feet (11.54V);
N 12°45'54" E a distance of 40.89 feet (14.72V);
N 18°14'02" W a distance of 117.67 feet (42.36V);
N 07°15'19" E a distance of 102.40 feet (36.86V);
N 77°40'35" E a distance of 34.95 feet (12.58V);

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas, Calhoun, SE No. 17
File Date 01/12/2021 by K. Schreiber

N 77°57'54" W a distance of 32.09 feet (11.55V);
 N 16°23'46" W a distance of 244.48 feet (88.01V);
 N 04°28'22" E a distance of 67.29 feet (24.22V);
 N 40°21'15" E a distance of 59.39 feet (21.38V);
 S 67°13'22" E a distance of 63.59 feet (22.89V);
 N 31°17'22" E a distance of 179.24 feet (64.53V);
 N 05°29'16" E a distance of 53.72 feet (19.34V);
 N 44°26'22" E a distance of 215.63 feet (77.63V);
 S 60°04'42" E a distance of 135.06 feet (48.62V);
 N 66°31'47" E a distance of 94.96 feet (34.19V);
 S 87°01'50" E a distance of 102.51 feet (36.90V);
 S 52°42'55" E a distance of 127.37 feet (45.85V);
 N 85°38'12" E a distance of 172.84 feet (62.22V);
 S 62°33'43" E a distance of 40.15 feet (14.45V);
 N 51°38'31" E a distance of 28.94 feet (10.42V);
 S 73°52'12" E a distance of 82.25 feet (29.61V);
 N 34°46'38" E a distance of 25.12 feet (9.04V);
 N 79°31'29" E a distance of 226.94 feet (81.70V);
 N 57°30'52" E a distance of 145.41 feet (52.35V);
 N 62°04'54" E a distance of 217.23 feet (78.20V);
 N 71°00'23" E a distance of 86.06 feet (30.98V);
 N 45°35'16" E a distance of 194.84 feet (70.14V);
 S 86°43'00" E a distance of 162.37 feet (58.45V);
 N 56°49'21" E a distance of 114.39 feet (41.18V);
 N 26°46'44" E a distance of 84.84 feet (30.54V);
 N 48°16'29" E a distance of 121.52 feet (43.75V);
 S 68°36'08" E a distance of 81.49 feet (29.34V);
 N 82°17'58" E a distance of 71.20 feet (25.63V);
 N 43°28'27" E a distance of 64.13 feet (23.09V);
 S 57°15'50" E a distance of 47.51 feet (17.10V);
 N 72°39'13" E a distance of 20.49 feet (7.38V);
 S 74°46'58" E a distance of 58.44 feet (21.04V);
 N 53°16'47" E a distance of 111.54 feet (40.15V);
 S 59°35'37" E a distance of 45.68 feet (16.44V);
 N 68°02'35" E a distance of 107.65 feet (38.75V);

TEXAS GENERAL LAND OFFICE
 Art. 33.136, Natural Resources Code
 Co. Comal, 511 No. 17
 File Date 01/12/2021 by K. Schreiber

Thence S 29°44'33" E, continuing along the MHW line on the current San Antonio Bay shoreline, at approximately 90 feet passing the northwest edge of an articulated concrete mat, and continuing along the MHW line and on said articulated concrete mat, in all, a distance of 124.14 feet (44.69V) to a point (N: N:13,279,750.11, E:2,684,247.64, EL:1.3') on the northwest bank of the Gulf Intracoastal Waterway (GIWW) along its cut through False Live Oak Point; from which NGS monument "Q 594 1942" (N: 13,295,815.36, E: 2,673,314.75, EL: 13.4') bears N 34°14'11" W a Distance of 19,432.46 feet (6,995.69V);

Thence continuing along the MHW line on the current San Antonio Bay shoreline, the northwest bank of said GIWW and along said articulated concrete mat the following courses:

- S 69°10'57" W a distance of 178.76 feet (64.35V);
- S 48°42'37" W a distance of 122.56 feet (44.12V);
- S 36°40'59" W a distance of 425.15 feet (153.05V);
- S 55°27'11" W a distance of 141.90 feet (51.08V);
- S 29°15'02" W a distance of 286.91 feet (103.29V);
- S 36°46'11" W a distance of 25.98 feet (9.35V);
- S 25°53'47" W a distance of 92.20 feet (33.19V);
- S 21°21'32" W a distance of 98.65 feet (35.51V);
- S 26°42'36" W a distance of 43.32 feet (15.60V);
- S 32°05'48" W a distance of 122.42 feet (44.07V);
- S 33°00'46" W a distance of 54.06 feet (19.46V);
- S 38°46'06" W a distance of 140.64 feet (50.63V);
- S 42°09'51" W a distance of 227.99 feet (82.08V);
- S 40°12'25" W a distance of 151.63 feet (54.59V);
- S 49°27'27" W a distance of 140.70 feet (50.65V);
- S 42°25'00" W a distance of 177.58 feet (63.93V);
- S 45°21'15" W a distance of 101.79 feet (36.64V);
- S 48°32'13" W a distance of 362.46 feet (130.49V);
- S 48°08'09" W a distance of 94.69 feet (34.09V);
- S 56°02'57" W a distance of 89.43 feet (32.19V);
- S 49°08'21" W a distance of 145.18 feet (52.26V);
- S 45°44'20" W a distance of 116.76 feet (42.03V);
- S 39°59'46" W a distance of 335.03 feet (120.61V);
- S 37°32'20" W a distance of 266.12 feet (95.80V) to the Point of Beginning, encompassing 76.12 acres, more or less.


James M. Naismith, RPLS, LSLs
Naismith Marine Services, Inc.

5/13/2020



TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Aransas / Calhoun, No. 17
File Date 01/12/2021 by K. Schreiber