

ANNEX 3

Geotech

SECTION 1

Maps of Closest Borings

Borings from Eustis Job 09318

Used for

Bayou Lacombe Levees Alternative 4

Boring 09318

western det basin 21309 (10')

detention basin 21311 (10')

Marina 09318 (40')

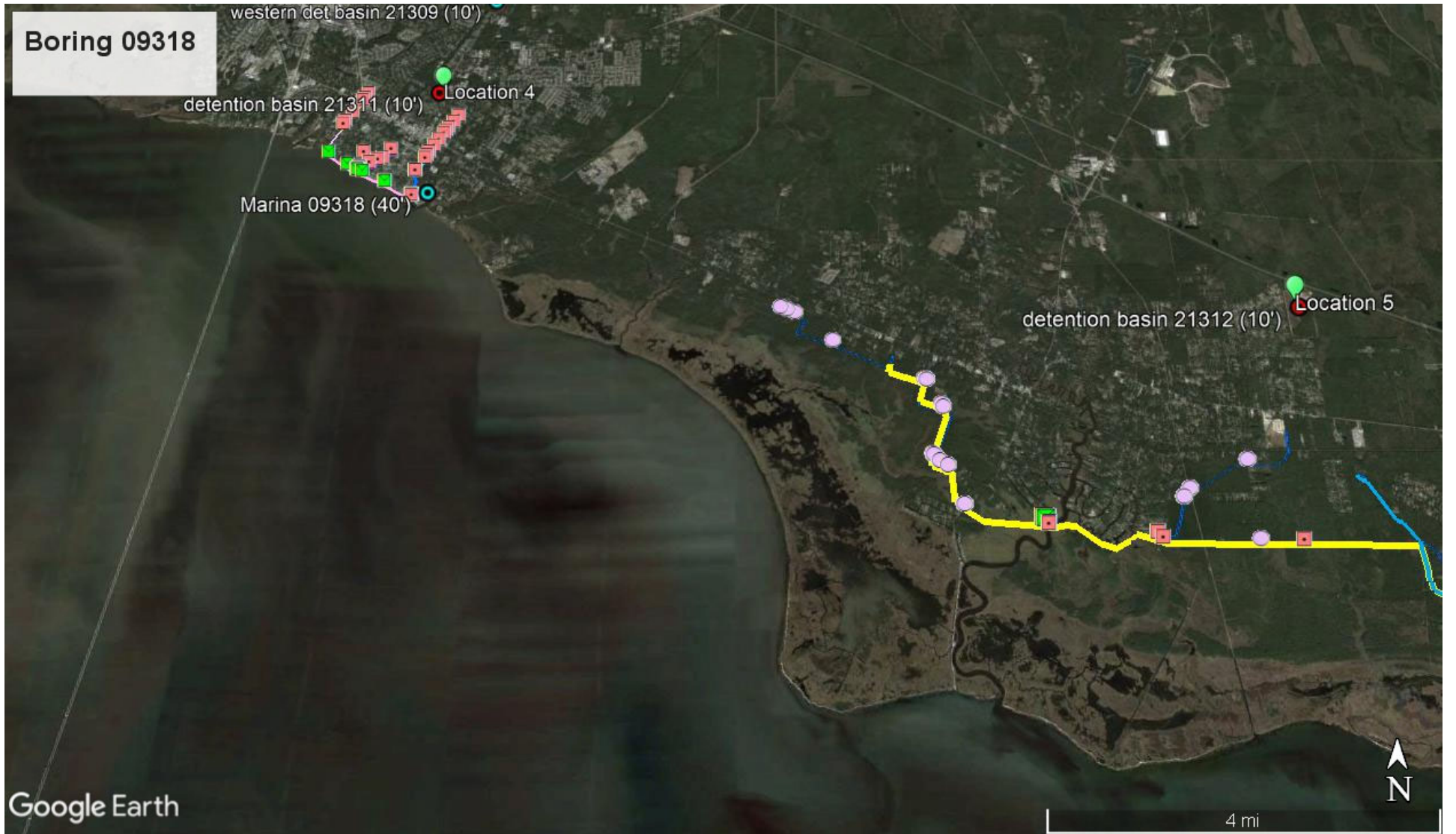
Location 4

detention basin 21312 (10')

Location 5

Google Earth

4 mi

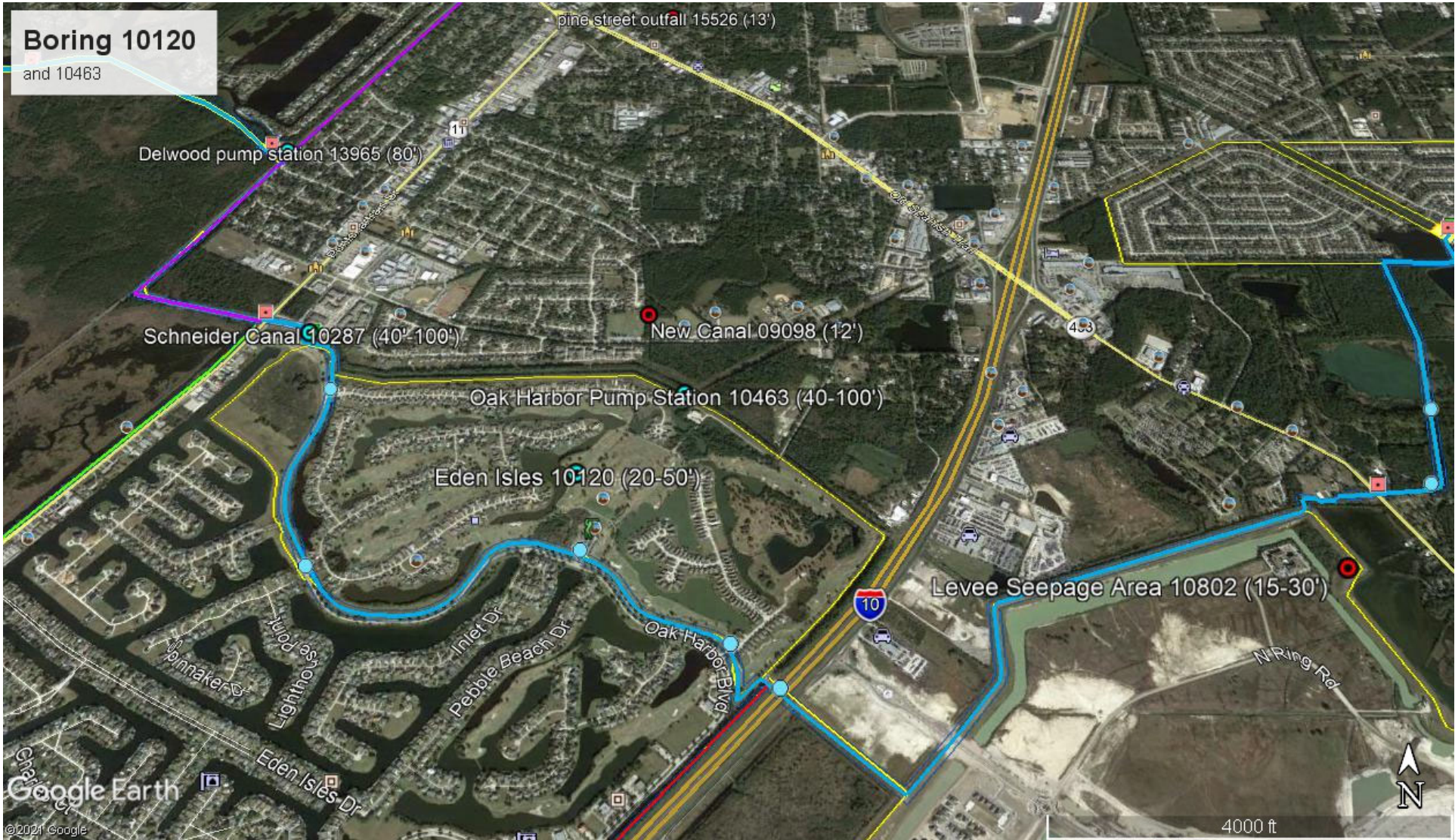


Borings from Eustis Job 10120
Used for South Slidell Levees Alternative 6

Borings from Eustis Job 10463
Used for
W-14 Floodgate/Old Spanish Trail Floodgate Alternative 6

Boring 10120

and 10463



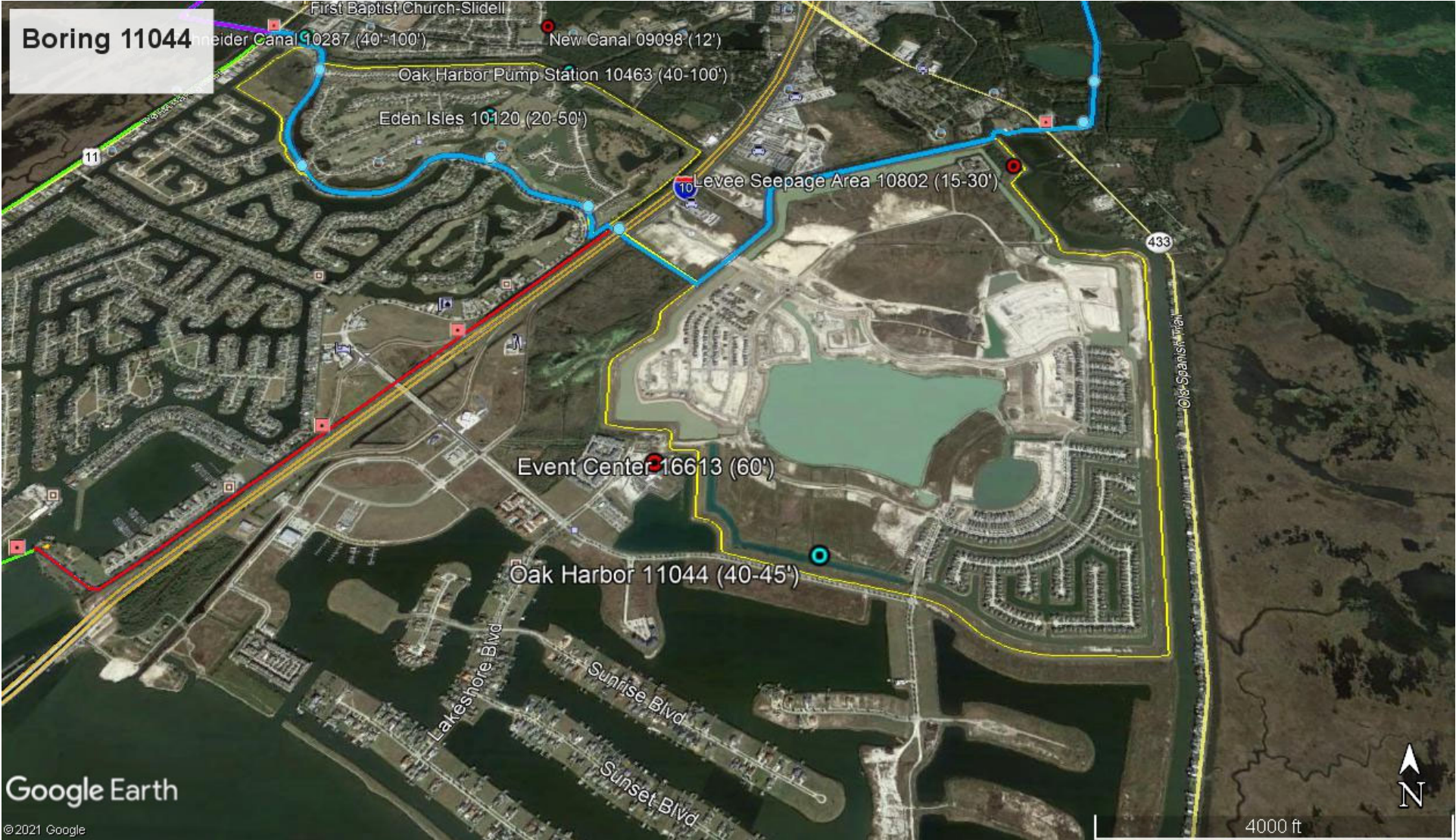
Google Earth

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4000 ft

Borings from Eustis Job 11044

Used for South Oak Harbor Levees Alternative 6



Boring 11044

Google Earth

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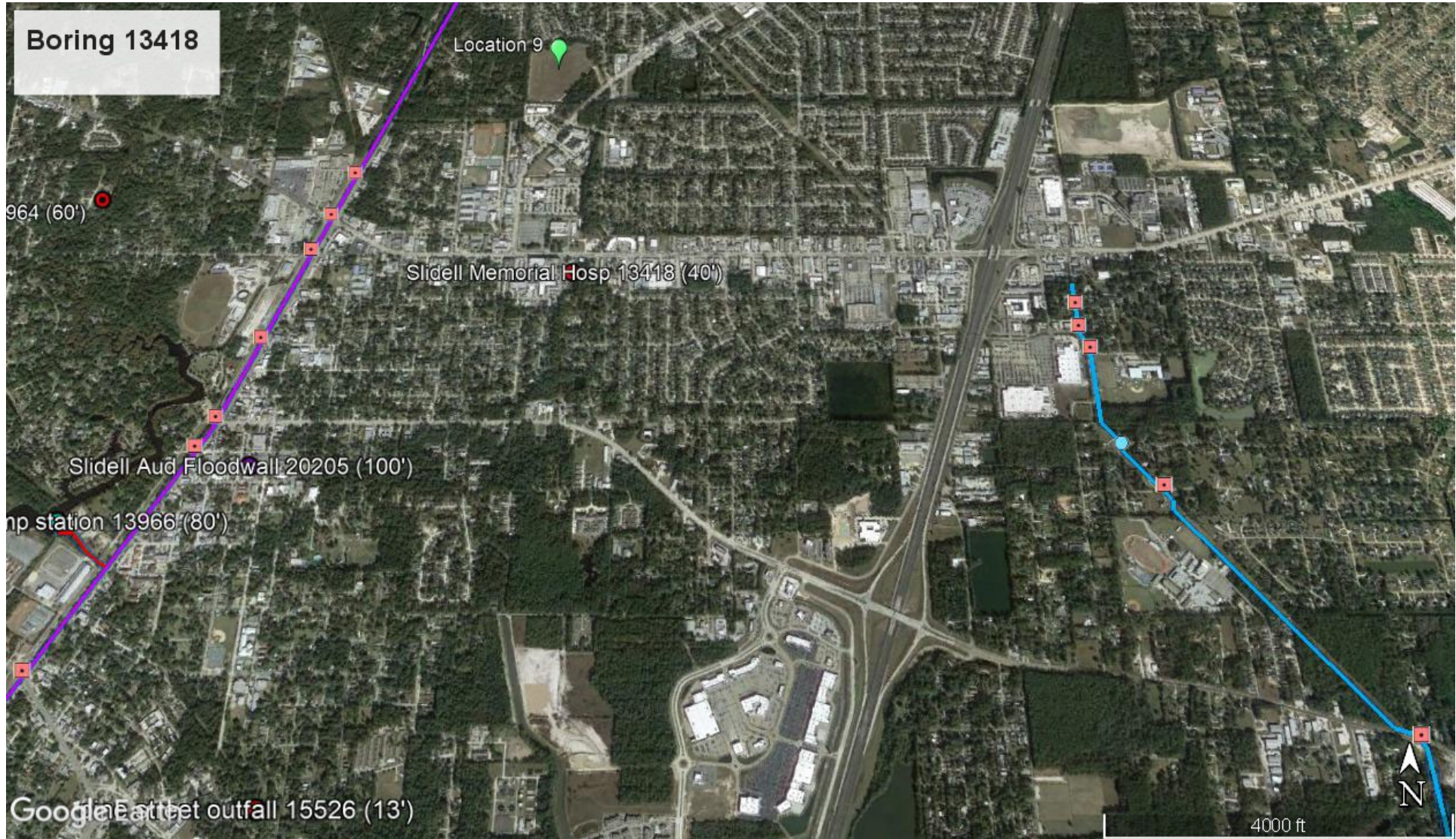
4000 ft

Borings from Eustis Job 13418

Used for

Pearl River Levees Alternative 7

Boring 13418



Borings from Eustis Job 13965

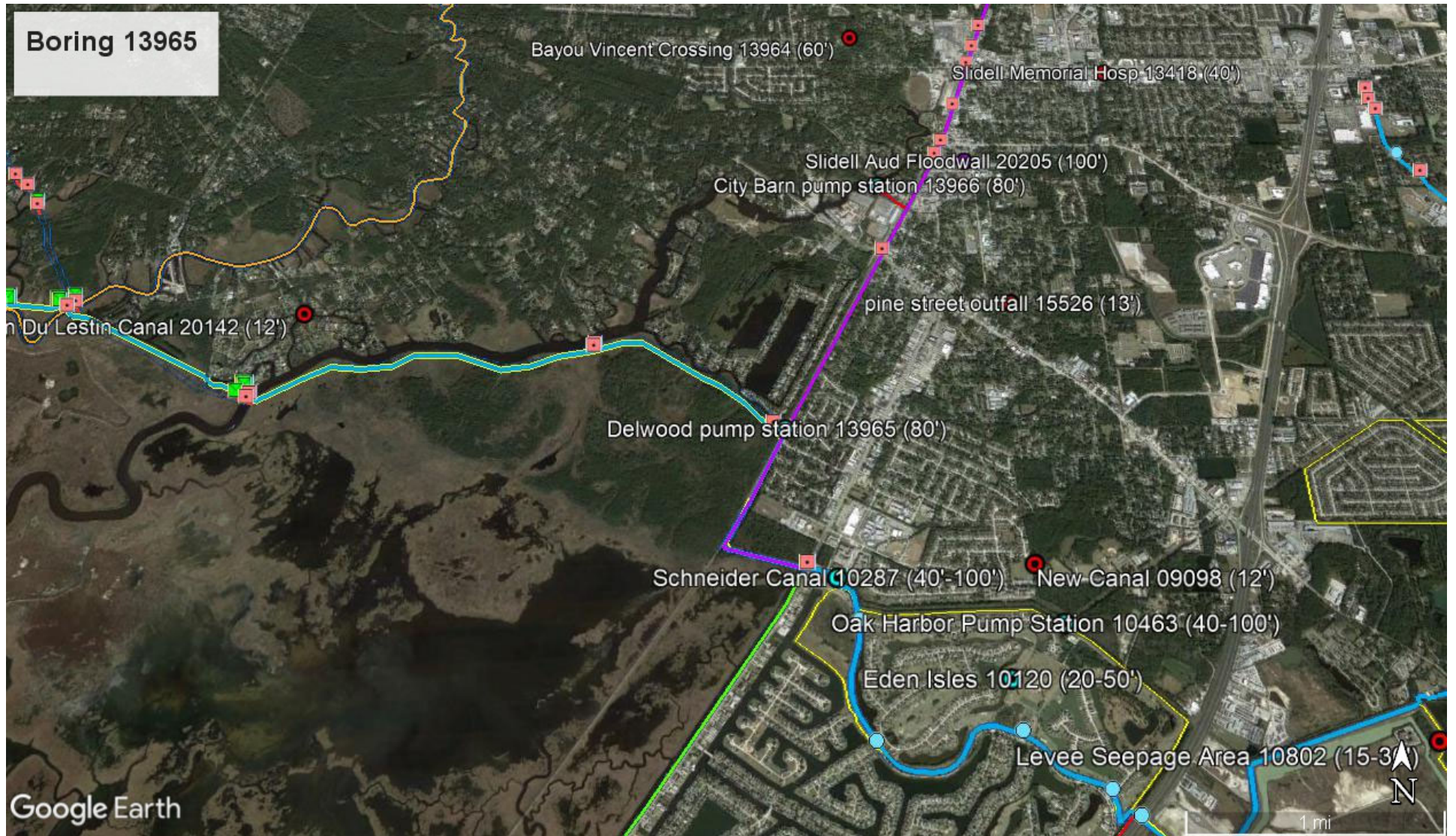
Used for

Bayou Lacombe Flood Gate Alternative 4

Bayou Liberty/Bayou Vincent/Bayou Bonfouca Structures Alternative 5

West Slidell Levees Alternative 5

Boring 13965



Google Earth

Borings from Eustis Job 16613

Used for

Eden Isles Levees Alternative 6

Eden Isles Structures/I-10 Gates Alternative 6

Boring 16613

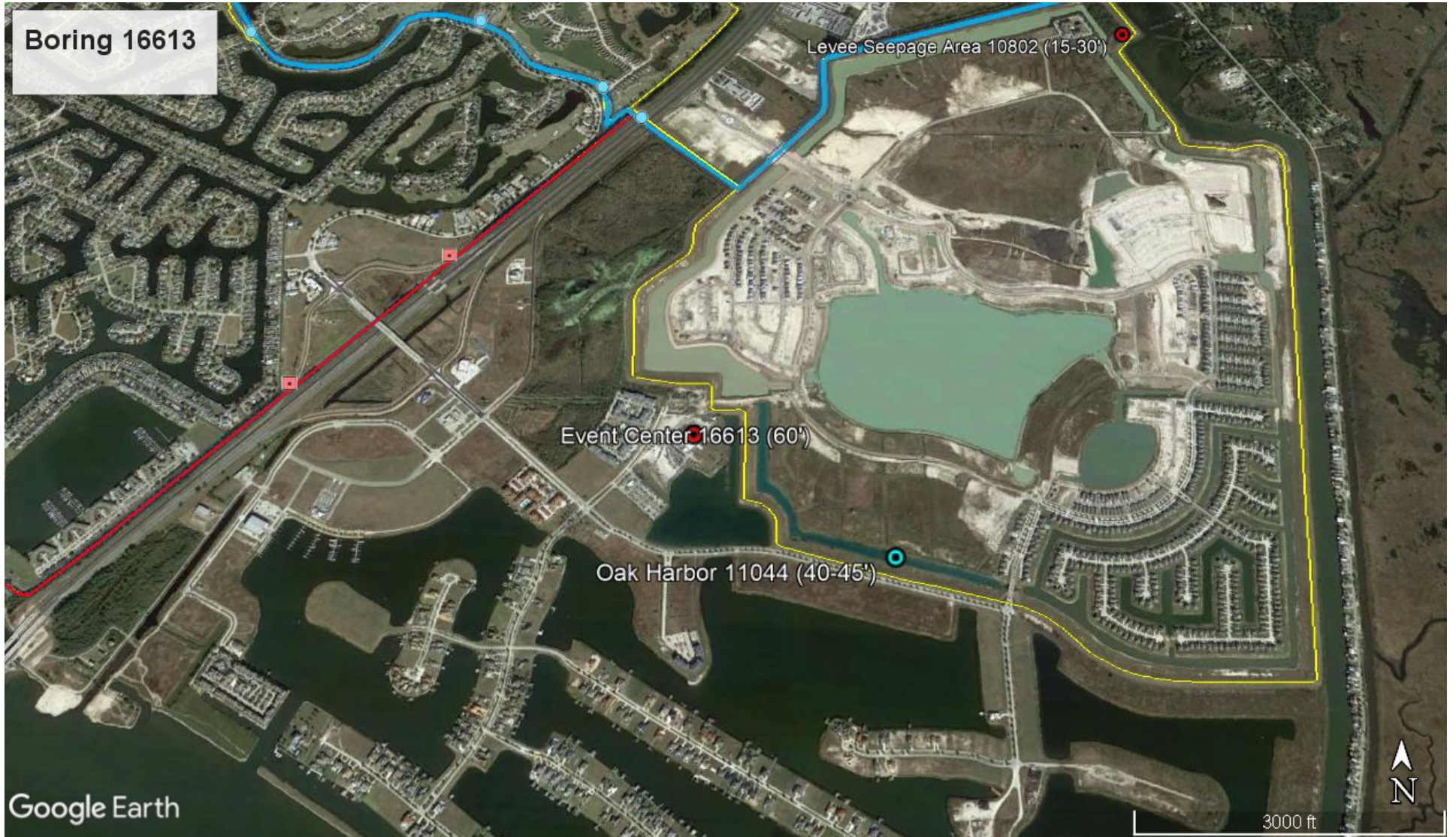
Levee Seepage Area 10802 (15-30')

Event Center 16613 (60')

Oak Harbor 11044 (40-45')

Google Earth

3000 ft

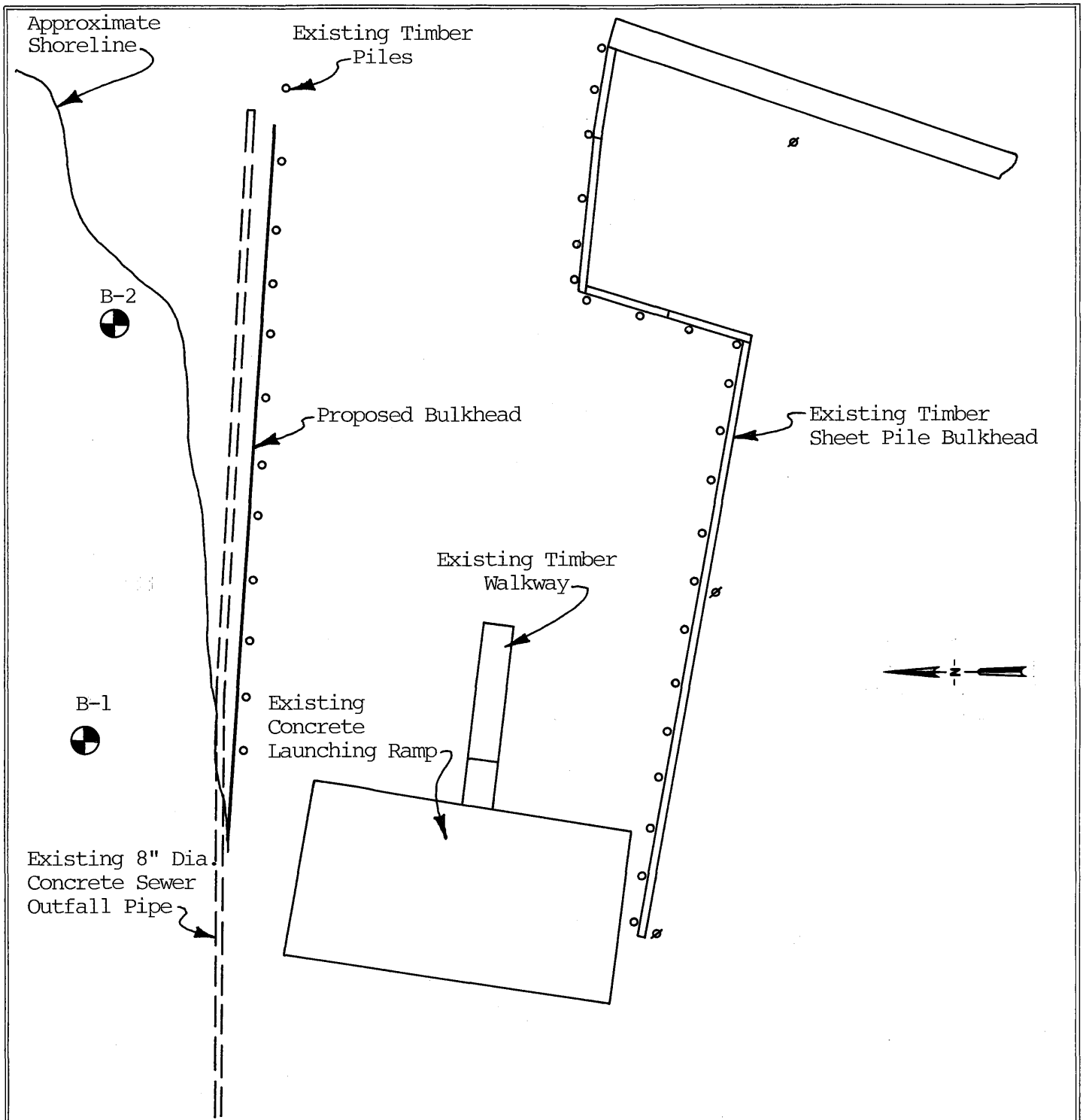


SECTION 2
Borings Taken from
Eustis St. Tammany Projects

Borings from Eustis Job 09318

Used for

Bayou Lacombe Levees Alternative 4



LOCATION OF BORINGS

Scale: 1" = 20'

Geotechnical Investigation
 City of Mandeville
 Marina Improvements
 Mandeville, Louisiana

For: City of Mandeville, Louisiana

Dyer & Moody, Inc., Consulting Engineers, Baker, Louisiana

Fig. 1

LOG OF BORING
EUSTIS ENGINEERING COMPANY
 SOIL AND FOUNDATION CONSULTANTS
 METAIRIE, LA.

Name of Project: City of Mandeville

Marina Improvements, Mandeville, Louisiana

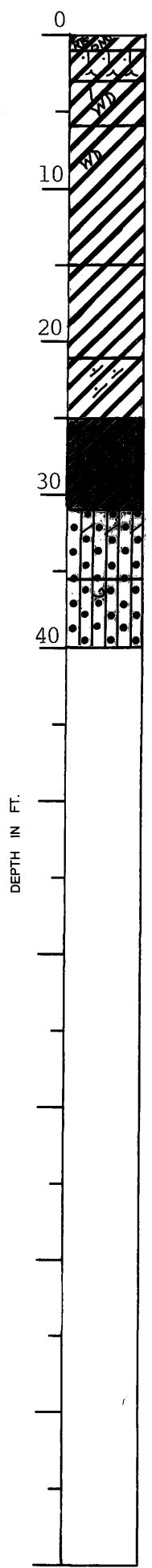
For: City of Mandeville, Louisiana

Dyer & Moody, Inc., Consulting Engineers, Baker, Louisiana

Boring No. 2 Soil Technician R. Elkins Date 26 December 1985

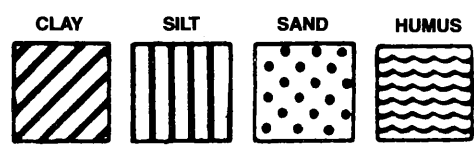
Ground Elev. _____ Datum _____ Gr. Water Depth See Text

Sample No.	SAMPLE Depth - Feet		DEPTH STRATUM Feet		VISUAL CLASSIFICATION	*STANDARD PENETRATION TEST	
	From	To	From	To			
1	0.0	0.5	0.0	1.0	Very soft gray clay w/roots & organic matter		
2	1.5	2.5	1.0	3.0	Soft gray & tan clay w/sandy silt & humus layers		
3	4.5	5.5	3.0	6.0	Very soft gray clay w/trace of silt & wood		
4	7.5	8.5	6.0		Medium stiff tan & gray clay w/wood		
5	10.5	11.5			Ditto		
6	13.5	14.5		15.0	Medium stiff tan & gray clay		
7	18.0	19.0	15.0	21.0	Stiff tan & gray clay		
8	23.0	24.0	21.0	25.0	Medium stiff gray clay w/sandy clay pockets & lenses		
9	28.0	29.0	25.0	31.0	Medium stiff greenish-gray sandy clay w/sand layers		
10	33.0	34.5	31.0	35.5	Medium dense gray silty sand w/clay layers	7	21
11	35.5	37.0	35.5		Dense gray silty sand	7	34
12	38.5	40.0		40.0	Dense gray silty sand w/trace of shell fragments	12	40



*Number in first column indicates number of blows of 140-lb. hammer dropped 30 in. required to seat 2-in. O. D. splitspoon sampler 6 in. Number in second column indicates number of blows of 140-lb. hammer dropped 30 in. required to drive 2-in. O. D. splitspoon sampler 1 ft. after seating 6 in.

WHILE THIS LOG OF BORING IS CONSIDERED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT ITS RESPECTIVE LOCATION ON THE DATE SHOWN, IT IS NOT WARRANTED THAT IT IS REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.



Remarks: _____

Predominant type shown heavy. Modifying type shown light.

Fig. 3

Geotechnical Investigation
City of Mandeville
Marina Improvements
Mandeville, Louisiana

For: City of Mandeville, Louisiana

Dyer & Moody, Inc., Consulting Engineers, Baker, Louisiana

SUMMARY OF LABORATORY TEST RESULTS

BORING 1

Sample No.	Depth In Feet	Classification	Water Content Percent	Density PCF		Unconfined Compressive Strength PSF
				Dry	Wet	
1	1.5	Very soft gray sandy clay w/clayey sand layers & humus pockets	27.1	88.6	112.6	295*
2	4.5	Soft gray & tan sandy clay w/concretions	26.2	97.1	122.5	770
3	7.5	Stiff gray & tan clay w/sand pockets	29.5	93.9	121.6	2455
4	10.5	Medium stiff gray & tan clay w/vertical clayey sand lenses	31.3	89.3	117.2	1135*
5	13.5	Medium stiff gray & tan clay	43.8	77.4	111.3	1685
6	18.0	Stiff gray & tan clay	24.3	104.0	129.2	2385
7	23.0	Stiff gray clay w/sand pockets	29.7	92.2	119.6	2240
8	28.0	Stiff greenish-gray sandy clay w/clayey sand layers	23.1	101.8	125.3	----

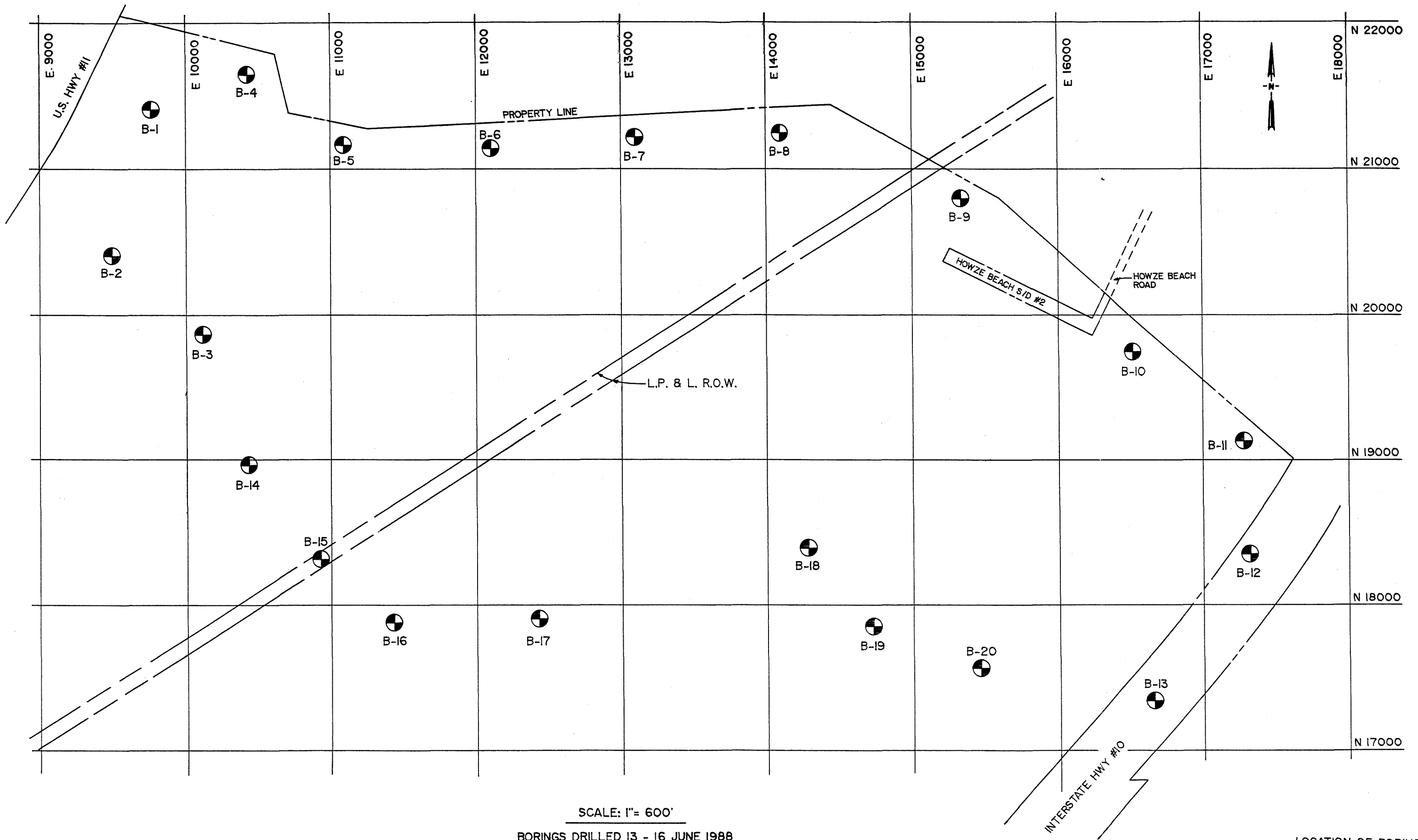
BORING 2

2	1.5	Soft gray & tan clay w/sandy clay layers & humus pockets	43.8	71.6	102.9	535
3	4.5	Very soft gray clay w/organic matter & decayed roots	58.9	63.3	100.5	460
4	7.5	Medium stiff gray & tan clay w/few roots	41.3	80.0	113.0	1235
5	10.5	Medium stiff tan & gray clay	42.9	78.5	112.2	1690
6	13.5	Ditto	46.2	73.6	107.6	1105
7	18.0	Stiff tan & gray clay	29.6	92.5	119.9	3515
8	23.0	Medium stiff gray clay w/sand pockets	29.1	93.2	120.3	1420
9	28.0	Medium stiff greenish-gray sandy clay w/clayey sand layers & pockets	20.5	105.9	127.6	1390*

*Unconsolidated Undrained Triaxial Compression Test - One Specimen; Confined at the approximate overburden pressure.

Fig. 4

Borings from Eustis Job 10120
Used for South Slidell Levees Alternative 6



SCALE: 1" = 600'
 BORINGS DRILLED 13 - 16 JUNE 1988

LOCATION OF BORINGS
 EDEN ISLES EXPANSION
 PROPOSED LEVEE SYSTEM
 VICINITY OF SLIDELL, LOUISIANA



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/15/88 Boring: 1 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
1.00			[Symbol: Diagonal lines, top-left to bottom-right]	Medium stiff tan & gray silty clay w/organic matter & roots	CL	1	2-3	26	94	118	UC	—	930				
5				Stiff gray silty clay w/decayed wood	CL	2	5-6	19	111	132	UC	—	1520				
1.50			[Symbol: Diagonal lines, top-left to bottom-right]	Stiff gray & tan clay w/silt lenses & pockets	CH	3	8-9										
10				Stiff tan & gray clay w/silt lenses	CH	4	11-12	24	100	125	UC	—	1280				
15				Stiff tan & gray clay w/silt lenses	CH	5	14-15										
20	2.10		[Symbol: Diagonal lines, top-left to bottom-right]	Soft gray clay w/sand layers	CH	6	19-20	44	77	110	UC	—	1400				
25	2.50			Soft gray clay w/sand layers	CH	7	24-25										
30	0.75		[Symbol: Diagonal lines, top-left to bottom-right]	Medium stiff gray fissured clay w/shell layers	CH	8	29-30	46	74	108	UC	—	330	63	21	42	
35	0.60			Medium stiff gray fissured clay w/shell layers	CH	9	34-35										
40	0.90		[Symbol: Diagonal lines, top-left to bottom-right]	Stiff greenish-gray fissured clay w/silt lenses	CH	10	39-40	55	66	105	UC	—	750				
45	2.50			Stiff greenish-gray fissured clay w/silt lenses	CH	11	44-45										
50	2.75		[Symbol: Diagonal lines, top-left to bottom-right]			12	49-50	35	85	115	UC	—	1120				

Boring offset 40 feet west of staked location.



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 2 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
0.45				Medium compact gray clayey silt	ML	1	2-3	22	105	127	OB	—	765	25	19	6	
5	0.35			Medium stiff light gray silty clay	CL	2	5-6	22	104	127	UC	—	740				
10	1.25			Medium stiff greenish-gray silty clay	CL	3	8-9	23	102	125	UC	—	920				
15	1.65			Medium stiff greenish-gray & tan clay w/silt pockets	CH	4	11-12	36	85	116	UC	—	855				
	1.75			Stiff gray & tan clay w/silt lenses	CH	5	14-15										
20	1.75			Stiff tan & gray clay	CH	6	18-19	47	75	109	UC	—	1100				

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 3 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	β	C	LL	PL	PI	
					Loose black organic clay w/roots & humus	OH	1	0-1	148									
1.10					Medium stiff dark gray silty clay w/roots	CL	2	2-3	24	101	124	UC	—	725				
5					Medium stiff greenish-gray silty clay	CL	3	5-6	25	99	124	UC	—	860				
0.50					Stiff gray & tan clay w/silty sand pockets	CH	4	8-9	24	101	125	UC	—	1220				
1.80					Medium stiff gray & tan clay w/silt lenses	CH	5	11-12										
1.95					Stiff gray & tan clay	CH	6	14-15	37	84	115	UC	—	690				
15					Stiff gray & tan clay	CH	7	18-19										
2.45																		
1.50																		
20																		

Boring drilled at staked location

LOG OF BORING AND TEST RESULTS



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: 6.2' Job No: 10120 Date Drilled: 6/13/88 Boring: 4 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests			
									Dry	Wet	Type	β	C	LL	PL	PI				
5 10 15 20	0.40 0.80	28 29 55 31 18		Loose tan fine sand	SP	1	1-2	4												
				Very loose tan & gray clayey sand	SC	2	4-5	17	116	136	UC	—	135							
				Medium dense tan sand w/some clay	SP	3	6-7	13	119	134										
				Medium dense tan & gray fine sand	SP	4	8-9													
				Very dense tan & gray fine sand	SP	5	10-11													
				Dense tan & gray fine sand	SP	6	12-13													
				Dense tan & gray fine sand	SP	7	14-15													
				Medium dense gray fine sand	SP	8	19-20													

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/15/88 Boring: 5 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	SPT Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
5 10 15 20	0.30 1.55 1.90 1.50 1.50			Loose tan & gray sand w/roots & some silt	SP	1	2-3	16	98	114	OB	—	440				
				Very soft gray & tan sandy clay	CL	2	5-6	23	103	126	UC	—	210				
				Stiff tan & gray clay w/few silt pockets	CH	3	8-9	30	92	120	UC	—	1805				
				Stiff tan & gray silty clay	CL	4	11-12	28	94	121	UC	—	1045				
						5	14-15										
				Stiff tan & gray fissured clay	CH	6	19-20	43	77	110	UC	—	1090				

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: 6.3' Job No: 10120 Date Drilled: 6/15/88 Boring: 6 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests	
									Dry	Wet	Type	β	C	LL	PL	PI		
5 10 15 20	1.20	17 24 32		Medium dense tan sand w/roots & trace of clay	SP	1	2-3	16	94	109	OB	—	985					
				Medium stiff gray & tan sandy clay	CL	2	5-6	22	105	127	OB	—	805					
				Stiff tan & gray sandy clay	CL	3	8-9	17	112	131	UC	—	1040					
				Medium dense tan & gray clayey sand	SC	4	11-12	22	104	127								
				Medium dense tan sand	SP	5	13-14											
					SP	6	16-17											
				Dense tan sand	SP	7	19-20											

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/15/88 Boring: 7 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
				Medium compact gray & tan clayey silt	ML	1	2-3	22	103	125	OB	—	885				
5	0.90			Medium stiff gray & tan silty clay	CL	2	5-6	23	103	127	UC	—	590				
				Medium stiff greenish-gray & tan silty clay	CL	3	8-9	34	88	118	UC	—	755				
10	0.75			Soft light gray silty clay w/clayey silt layers	CL	4	11-12	26	97	122	OB	—	355				
				Medium stiff tan & gray fissured clay w/silt lenses	CH	5	14-15										
15	1.50																
20	1.75					6	19-20	49	73	108	UC	—	690				

Boring drilled at staked location



Ground Elev.:		Datum:		Gr. Water Depth: See Text		Job No: 10120		Date Drilled: 6/15-16/88		Boring: 8		Refer To "Legends & Notes"			Other Tests					
Scale In Feet	PP	SPT	SYMBOL	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits						
									Dry	Wet	Type	ϕ	C	LL		PL	PI			
5 10 15 20 25 30 35 40 45 50	1.50 1.10 1.60 2.20 2.00 0.75 2.50 0.40 0.75 0.30 1.85 2.30			Medium compact gray & tan clayey silty w/some sand	ML	1	1-2	22	97	118	OB	—	695							
				Soft dark gray silty clay w/roots	CL	2	3-4	24	100	124	UC	—	445							
				Stiff tan & gray silty clay	CL	3	5-6	20	108	129	UC	—	1610							
						4	8-9	23	102	126	UC	—	1195							
						5	11-12													
						6	14-15	Medium stiff gray & tan fissured clay w/silt lenses	CH	6	14-15	38	81	112	UC	—	595			
						7	19-20			7	19-20									
						8	24-25	Medium stiff gray clay w/trace of silt & shell fragments	CH	8	24-25	48	74	109	UC	—	745	66	21	45
						9	28-29	Stiff greenish-gray clay w/silty sand lenses & pockets	CH	9	28-29	28	96	122	UC	—	1090			
						10	33-34	Medium stiff gray clay w/silty sand lenses & shell fragments	CH	10	33-34	44	76	109	UC	—	710			
						11	38-39	Medium stiff gray clay w/shell fragments	CH	11	38-39	58	66	104	UC	—	875	79	22	57
						12	42-43	Medium stiff gray & brown clay w/decayed wood, organic clay layers and roots	CH	12	42-43	101	44	88	UC	—	585			
						13	43-44	Stiff dark gray silty clay	CL	13	43-44	27	97	123	UC	—	1440			
						14	48-49	Medium stiff gray clay w/silty sand pockets	CH	14	48-49	28	95	121	UC	—	865			1.20

Boring drilled at staked location

LOG OF BORING AND TEST RESULTS

Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana



Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 9 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests	
									Dry	Wet	Type	β	C	LL	PL	PI		
0.25				Very soft gray & tan silty clay	CL	1	2-3	36	82	112	UC	—	215					
0.75				Soft tan & gray silty clay	CL	2	5-6	28	96	122	UC	—	490	40	20	20		
2.25				Stiff tan & gray clay w/silt pockets	CH	3	8-9	22	103	126	UC	—	1385					
1.75				Medium stiff gray & tan clay	CH	4	11-12											
1.25				w/silt lenses		5	14-15	34	86	115	UC	—	800					
1.15				Stiff tan & gray clay	CH	6	18-19											

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 10 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
0.95				Medium stiff tan & gray clay w/many silt lenses & pockets	CH	1	2-3	23	102	125	UC	—	765				
5 1.50				Medium stiff gray & tan clay w/clayey silt lenses & pockets	CH	2	5-6	23	103	126	UC	—	950				
10 2.25				Stiff gray & tan clay	CH	3	8-9										
1.75				Medium stiff gray & tan clay w/silt lenses	CH	4	11-12	35	86	116	UC	—	850				
15 1.95				Stiff tan & gray clay	CH	5	14-15										
20 1.75						6	18-19	44	77	111	UC	—	1075				

Boring drilled at staked location

LOG OF BORING AND TEST RESULTS



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 11 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			T.V. TSF	Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI		
5	1.40			Stiff gray & tan sandy clay w/clay pockets & roots	CL	1	2-3	17	112	131	UC	—	1520					
				Medium dense dark gray silty sand w/roots	SM	2	5-6	22	92	112	OB	—	685					
	0.90			Medium stiff gray & tan sandy clay	CL	3	8-9	21	106	128	UC	—	885					
10	1.50			Very stiff tan & gray sandy clay w/clay layers	CL	4	11-12	19	108	129	UC	—	2130					
15	2.50			Very stiff gray & tan clay w/sand pockets	CH	5	14-15											
20	1.70			Stiff tan & gray clay w/clayey silt layers	CH	6	18-19	34	86	115	OB	—	1055					1.18

Boring drilled at staked location

LOG OF BORING AND TEST RESULTS



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: 5.0' Job No: 10120 Date Drilled: 6/15/88 Boring: 12 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
5 10 15 20		26		Medium dense tan & gray sand w/clay pockets & trace of shell fragments	SP	1	1-2	15									
		21		Medium dense gray sand	SP	2	4-5	27									
				Very loose gray clayey sand w/small roots & organic matter	SC	3	6-7	21									
				Very soft gray & tan sandy clay w/roots	CL	4	8-9	23									
	2.25			Stiff gray & tan sandy clay	CL	5	11-12	17	111	130	UC	—	1370				
	1.95			Very stiff gray & tan clay w/sand pockets	CH	6	14-15	18	110	130	UC	—	3105				
	1.90			Stiff gray & tan clay w/sandy clay layers	CH	7	18-19	18	105	124	OB	—	1510				

Boring drilled at staked location

LOG OF BORING AND TEST RESULTS



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/15/88 Boring: 13 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
		28		Medium dense tan & gray sand w/trace of clay & shells	SP	1	1-2	7									
5		18		Medium dense tan & gray sand w/shells	SP	2	4-5	11									
		3		Very loose gray shells w/sand	SI	3	7-8										
10		2		Very loose brown & gray organic clayey sand w/small roots	SC	4	9-10	32									
				Very loose gray clayey sand w/small roots	SC	5	11-12	20									
15	2.25			Medium dense tan & gray clayey sand	SC	6	14-15	20	107	128	OB	—	770				
20	2.20			Stiff gray & tan clay w/sand pockets	CH	7	18-19	21	105	127	UC	—	1745				

Boring drilled at staked location

LOG OF BORING AND TEST RESULTS



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 14 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			T.V. TSF	Other Tests																																	
									Dry	Wet	Type	φ	C	LL	PL	PI																																			
5 10 15 20	0.85 1.25 0.70 1.20 1.60			Medium dense gray & tan clayey sand w/small roots	SC	1	2-3	17	110	129	OB	—	620																																						
				Medium stiff tan & gray sandy clay	CL													2	5-6	23	103	126	UC	—	630	0.875																									
				Medium stiff gray & tan fissured clay w/sand pockets & lenses	CH																						3	8-9	35	85	115	UC	—	540	0.975																
				Medium stiff gray & tan clay w/sandy silt lenses & pockets	CH																															4	11-12	37	84	115			0.375								
				Medium stiff gray & tan clay w/clayey silt layers	CH																																							5	14-15	41	80	112	OB	—	735
				Stiff gray & tan clay	CH																																														

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: 7.7' Job No: 10120 Date Drilled: 6/13/88 Boring: 15 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			T.V. TSF	Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI		
1.00			1-1	Stiff tan & gray clay w/sandy silt lenses & pockets	CH	1	2-3	22	104	127	UC	—	1390					
0.70			1-1	Medium stiff gray & tan clay w/sandy silt pockets & shell fragments	CH	2	5-6	33	88	117	UC	—	625	55	21	34	0.475	
0.75			1-1	Medium stiff gray & tan silty clay w/sand pockets & decayed roots	CL	3	8-9	29	94	121	UC	—	645					
0.60			1-1	Medium stiff dark gray & tan sandy clay w/decayed roots	CL	4	11-12	21	108	131	UC	—	620					
0.80			1-1	Medium stiff tan & gray sandy clay w/decayed roots	CL	5	14-15	23	103	127	UC	—	865					
1.10			1-1	Medium compact gray & tan clayey silt w/clay lenses	ML	6	18-19	30	93	120	OB	—	615					
1.30			1-1	Stiff tan & gray clay w/silt pockets & lenses	CH	7	23-24											
2.20			1-1	Medium stiff tan & gray fissured clay	CH	8	28-29	44	78	112	UC	—	770				1.25	
2.00			1-1			9	33-34											
1.60			1-1	Medium stiff gray clay w/sand pockets & shell fragments	CH	10	38-39	29	92	119	UC	—	990				0.900	
1.15			1-1	Medium stiff gray fissured clay w/sand pockets & shell fragments	CH	11	43-44											
1.25			1-1			12	48-49	54	69	106	UC	—	760				0.600	

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/13/88 Boring: 16 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			T.V. TSF	Other Tests
									Dry	Wet	Type	φ	C	LL	PL	PI		
1.00				Medium stiff greenish-gray & tan clay w/silty clay layers & organic matter	CH	1	2-3	38	86	119	UC	—	640					
5 0.70				Medium stiff tan & gray sandy clay w/clay lenses & organic matter	CL	2	5-6	24	99	122	UC	—	950					
10 0.65				Soft greenish-gray & tan silty clay w/trace of organic matter	CL	3	8-9	38	83	115								
10 0.70				Medium stiff gray & tan silty clay w/roots & trace of sand	CL	4	11-12	25	102	127	UC	—	560	43	20	23		
15 1.20				Stiff greenish-gray & tan clay w/sand pockets	CH	5	14-15	27	99	125	UC	—	1110				1.63	
20 1.35						6	18-19											

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/13/88 Boring: 17 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
1.10				Soft tan & gray clay w/clayey silt pockets	CH	1	2-3	37	84	115	UC	—	435				
0.85				Soft greenish-gray & tan clay w/sandy clay layers	CH	2	5-6	32	89	118	UC	—	360				
0.40				Loose gray clayey sand w/humus & roots	SC	3	8-9	28	94	120	OB	—	425				
0.75				Soft gray & tan sandy clay w/decayed roots	CL	4	11-12	23	103	127	UC	—	365				
2.20				Stiff greenish-gray & tan clay w/sand pockets	CH	5	14-15	23	102	127	UC	—	1585				
1.50				Stiff tan & gray clay w/silt lenses & pockets	CH	6	18-19										

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/16/88 Boring: 18 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	φ	C	LL	PL	PI	
1.25				Medium stiff gray & tan silty clay	CL	1	2-3	22	102	125	UC	—	890				
5				Medium stiff dark gray silty clay w/roots	CL	2	5-6	20	107	128	UC	—	695				
10				Soft gray & tan silty clay w/roots & trace of sand	CL	3	8-9	26	97	122	UC	—	410	47	21	26	
15				Stiff light gray clay w/silt lenses & pockets	CH	4	11-12	21	106	128	UC	—	1755				
20				Medium stiff gray & tan clay w/silt pockets	CH	5	14-15										
						6	18-19	34	86	114	UC	—	905				

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/15/88 Boring: 19 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests	
									Dry	Wet	Type	β	C	LL	PL	PI		
0.50				Medium stiff tan & gray silty clay w/trace of sand	CL	1	2-3	25	98	122	UC	—	860					
5 0.05				Medium stiff gray & tan clay w/clayey silt lenses	CH	2	5-6	23	101	124	UC	—	560					
10 0.50				Medium compact gray clayey silt w/many roots	ML	3	8-9	22	103	126	OB	—	830					
0.85				Soft gray & tan sandy clay	CL	4	11-12	24	101	126	OB	—	325					
15 2.20				Stiff gray & tan sandy clay w/silt pockets	CL	5	14-15	20	106	128	UC	—	1185					
20 2.85				Very stiff gray & tan clay w/sand pockets	CH	6	18-19	25	99	123	UC	—	2055					

Boring drilled at staked location



Eden Isles Expansion, Proposed Levee System, Vicinity of Slidell, Louisiana

Ground Elev.: Datum: Gr. Water Depth: See Text Job No: 10120 Date Drilled: 6/15/88 Boring: 20 Refer To "Legends & Notes"

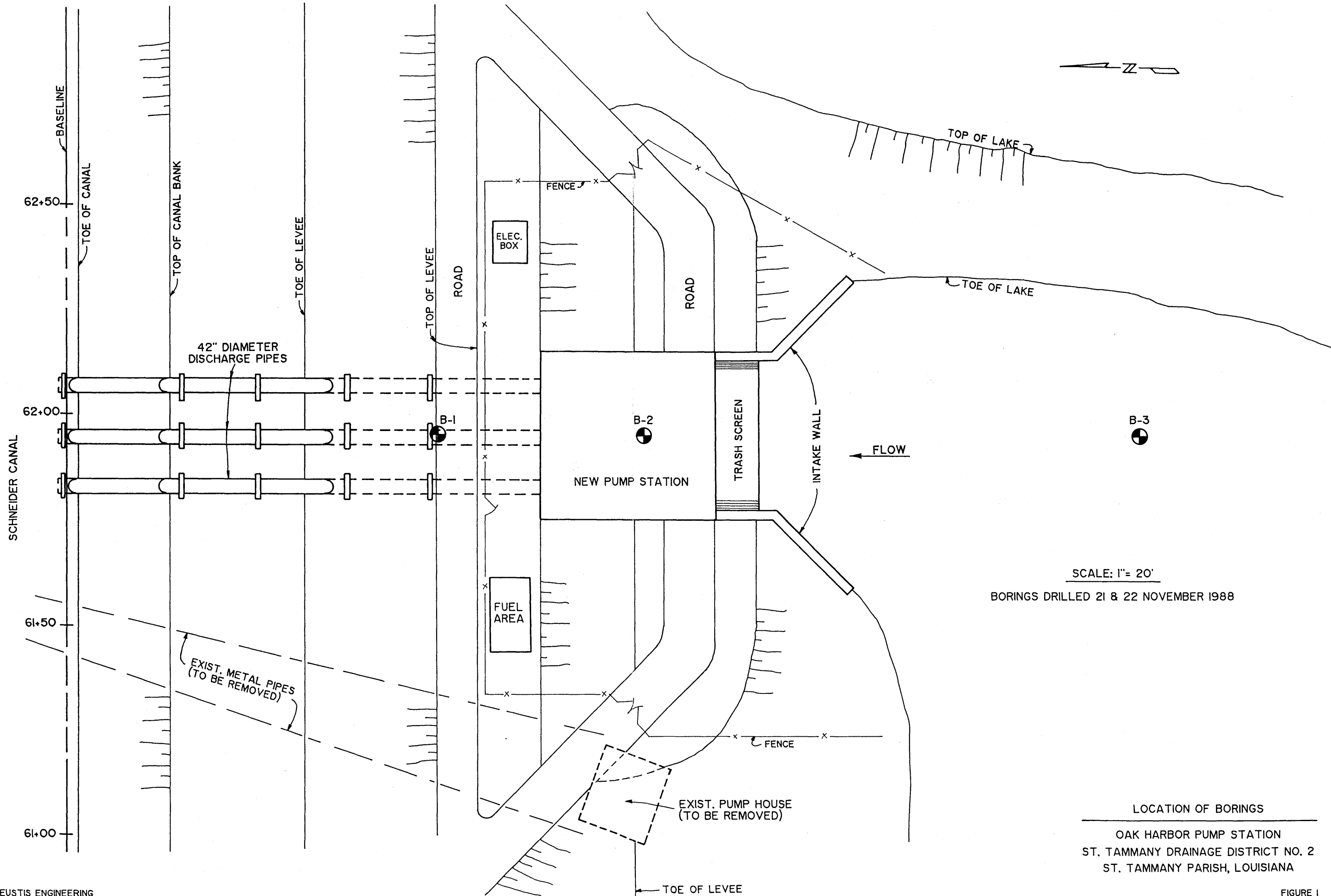
Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
0.75			CH FILL	Medium stiff tan & gray clay w/silt pockets & trace of organic matter (fill)	CH	1	2-3	36	84	114	UC	—	575				
1.20			CH FILL	Medium stiff greenish-gray & tan clay w/sand pockets & lenses (fill)	CH	2	5-6	22	99	121	UC	—	595				
			CL	Very soft gray sandy clay w/organic matter & some roots	CL	3	8-9	26									
0.85			CL	Medium stiff gray & tan sandy clay w/few small roots	CL	4	11-12	19	110	131	UC	—	620				
1.25			CL	Stiff gray & tan sandy clay	CL	5	14-15	23	100	123	UC	—	1020				
1.30			CH	Medium stiff gray & tan clay w/silty sand lenses & layers	CH	6	18-19	29	93	119	UC	—	810				
2.55			CH	Very stiff gray & tan clay w/silt lenses & pockets	CH	7	23-24										
3.05			CH	Stiff greenish-gray clay	CH	8	28-29	41	80	113	UC	—	1825				
0.60			CH	Medium stiff gray clay w/trace of shell fragments & clayey sand layers	CH	9	33-34										
0.95			CH	Soft gray clay w/sand lenses & layers	CH	10	38-39	36	82	111	UC	—	345				
0.65			CH	Medium stiff gray clay w/shell fragments	CH	11	43-44										
0.70			CH	Medium stiff gray clay w/shell fragments	CH	12	48-49	53	70	107	UC	—	895				

Boring drilled at staked location

Borings from Eustis Job 10463

Used for

W-14 Floodgate/Old Spanish Trail Floodgate Alternative 6

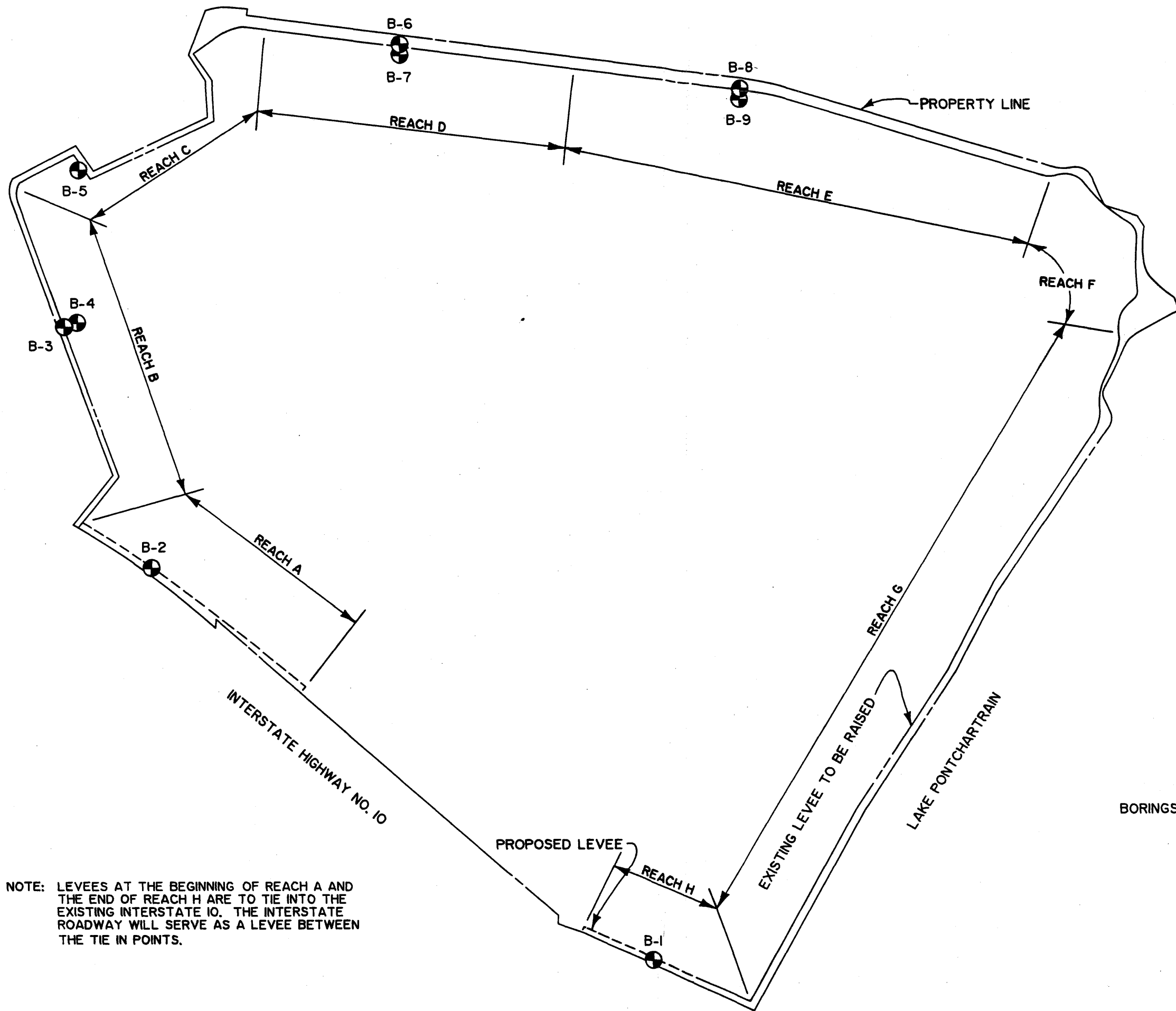


SCALE: 1" = 20'
 BORINGS DRILLED 21 & 22 NOVEMBER 1988

LOCATION OF BORINGS
 OAK HARBOR PUMP STATION
 ST. TAMMANY DRAINAGE DISTRICT NO. 2
 ST. TAMMANY PARISH, LOUISIANA

Borings from Eustis Job 11044

Used for South Oak Harbor Levees Alternative 6



SCALE: 1"=1200'
 BORINGS DRILLED 4-9 APRIL 1990

NOTE: LEVEES AT THE BEGINNING OF REACH A AND THE END OF REACH H ARE TO TIE INTO THE EXISTING INTERSTATE 10. THE INTERSTATE ROADWAY WILL SERVE AS A LEVEE BETWEEN THE TIE IN POINTS.

LOCATION OF BORINGS
 PERIMETER LEVEE SYSTEM
 OAK HARBOR
 EAST SIDE OF INTERSTATE 10
 VICINITY OF SLIDELL, LOUISIANA



Perimeter Levee System, Oak Harbor, East Side of Interstate 10, Vicinity of Slidell, Louisiana

Ground Elev.: -1.50 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/03/90 Boring: 1 Refer To "Legends & Notes"

Scale in Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth in Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
0.50				Medium stiff gray & tan silty clay w/clay & clayey silt pockets, organic matter & roots (fill)	CL	1	2-3	41									
0.75				Medium stiff gray & tan clay w/silty sand lenses & organic clay layers (fill)	CH	2	5-6	42	80	113	UC	—	670				
0.60				Medium stiff gray & light gray sandy clay w/silty sand pockets & lenses	CL	3	8-9	19	112	133	UC	—	1020				
0.20				Very soft gray clay w/sand & organic clay pockets & decayed roots	CH	4	11-12	60	65	103	UC	—	250				
0.15						5	14-15	83	53	97	UC	—	155	92	26	66	
2.50				Very stiff gray & light gray sandy clay	CL	6	18-19	20	107	128	UC	—	4570				
2.35				Stiff gray & greenish-gray silty clay	CL	7	23-24	25	98	122	UC	—	1160				
		29		Medium dense gray fine sand w/clayey sand pockets	SP	8	27-28										
		6		Loose gray fine sand	SP	9	29-30										
		6		w/clay layers		10	32-33										
0.20				Medium stiff gray clay w/sand pockets & lenses	CH	11	35-36										
						12	38-39	46	76	111	OB	—	590				



Ground Elev.: 1.0 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/04/90 Boring: 2 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests		
									Dry	Wet	Type	β	C	LL	PL	PI			
1.20				Medium stiff gray & tan silty clay w/clayey silt & clayey sand layers & roots	CL	1	2-3	21	104	125	OB	—	840						
0.75						2	5-6	23	103	127	UC	—	690						
1.50				Stiff tan & gray clay w/sand & silt pockets & lenses	CH	3	8-9	22	104	127	UC	—	1425						
1.90						4	11-12	27	96	122	UC	—	1135						
1.50						5	14-15												
1.50						6	18-19	37	84	115	UC	—	940						
1.70				w/fissures		7	23-24												
0.75						8	28-29	32	91	120	OB	—	455						
1.75				Stiff gray clay w/clayey sand & silty sand pockets	CH	9	33-34	28	95	121	UC	—	960						
0.50						10	38-39	58	66	104	UC	—	480	79	24	55			



Ground Elev.: 6.78 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/04/90 Boring: 3 Refer To "Legends & Notes"

Scale in Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth in Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
1.50				Stiff tan & gray clay w/sand pockets & clayey sand layers (fill)	CH	1	2-3	24	102	125	UC	—	1375	56	20	36	
0.60				Medium stiff tan & gray clay w/clayey silt & clayey sand pockets (fill)	CH	2	5-6	22	104	127	UC	—	685				
0.10				Soft tan & gray silty clay w/concretions & clayey silt layers	CL	3	8-9	22	103	126	OB	—	250				
1.75				Very stiff gray & tan sandy clay w/sand & clayey sand pockets & roots	CL	4	11-12	17	113	132	UC	—	2170				
2.25				Very stiff tan & gray clay w/sandy clay layers	CH	5	14-15										
3.50						6	18-19	25	101	126	UC	—	3560				
2.30				Stiff tan & gray clay w/silt pockets	CH	7	23-24										
2.20				w/fissures		8	28-29	40	80	113	UC	—	1540				
0.70				Loose gray & tan clayey sand	SC	9	33-34										
1.75				Stiff gray & tan clay w/silt pockets & lenses	CH	10	38-39	34	87	116	UC	—	1090				
0.60				Medium stiff gray clay w/shell fragments	CH	11	43-44	58	66	104	UC	—	650				



Ground Elev.: 0.5 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/05/90 Boring: 4 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	SPU	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	β	C	LL	PL	PI	
0.10					Soft gray & tan sandy clay w/roots & concretions	CL	1	2-3	23	105	129	OB	—	255				
5 0.60					Medium stiff gray & tan clay w/sand pockets & lenses	CH	2	5-6	24	104	128	OB	—	445				
10 1.30					Stiff tan & gray silty clay w/clayey sand pockets	CL	3	8-9	28	96	123	UC	—	940				
15 2.60					Stiff tan & gray clay w/clayey silt lenses & fissures	CH	4	11-12	29	93	121	UC	—	1200				
20 2.10					Stiff tan & gray clay w/fissures & clayey sand layers & concretions	CH	5	14-15	45	77	111	UC	—	1120				
25 1.16					Medium stiff gray & tan clay w/clayey silt pockets & shell fragments	CH	6	18-19	44	78	112	UC	—	1650				
30 1.70					Medium stiff gray clay w/clayey silt & silty sand lenses, layers & shell fragments	CH	7	23-24	29	91	118	UC	—	785				
35 0.60							8	28-29	45	78	112	UC	—	560				
40 0.50							9	33-34	57	68	106	UC	—	520				
							10	38-39										



Ground Elev.: -1.50 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/05/90 Boring: 5 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	β	C	LL	PL	PI	
0.10					Very soft black humus	Pt	1	2-3	517	11	67	UC	—	60	448	131	317	
0.20					Loose gray silty fine sand w/clayey sand layers	SM	2	5-6	26	98	124	OB	—	375				
1.70					Stiff gray sandy clay w/clayey sand pockets, layers & lenses	CL	3	8-9	19	111	132	UC	—	1695				
3.75					Stiff gray & greenish-gray sandy clay w/sand pockets	CL	4	11-12	17	111	130	UC	—	1350				
4.20					Stiff light gray sandy clay w/clayey sand pockets & layers	CL	5	14-15	17	115	134	OB	—	1470				
2.75					Medium dense to dense light gray silty fine sand	SM	6	17-18										
42			42		Dense gray fine sand w/trace of wood	SP	7	19-20										
46			46				8	22-23										
27			27		Medium dense gray fine sand	SP	9	25-26										
47			47		Dense gray fine sand	SP	10	29-30										
37			37				11	34-35										
50=10"			50=10"		Very dense gray fine sand	SP	12	39-40										



Perimeter Levee System, Oak Harbor, East Side of Interstate 10, Vicinity of Slidell, Louisiana

Ground Elev.: 5.55 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/06/90 Boring: 6 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	ϕ	C	LL	PL	PI	
0.75				Medium stiff tan & gray clay w/roots & clayey sand pockets (fill)	CH	1	2-3	30	90	117	UC	—	700				
1.60				Medium stiff to stiff tan & gray clay w/silty clay & sandy clay pockets & layers	CH	2	5-6	31	93	121	UC	—	1070				
1.20				Soft tan & gray clay w/silty clay layers	CH	3	8-9	24	102	127	UC	—	900				
0.90				Loose gray clayey sand w/clay pockets	SC	4	11-12	35	88	119	UC	—	430				
0.00				Stiff gray sandy clay w/clayey sand layers	CL	5	14-15	21									
2.75				Stiff gray & tan clay w/sandy silt pockets & fissures	CH	6	18-19	14	121	138	OB	—	1890	25	19	6	
1.30				Medium stiff tan & gray clay w/silt pockets & decayed wood	CH	8	28-29	39	83	115	UC	—	965				
1.75				Soft gray sandy clay w/clayey sand pockets & shell fragments	CL	9	33-34	34	89	119	UC	—	370	35	20	15	
0.40				Stiff gray clay w/silt pockets & lenses & shell fragments	CH	10	38-39	40	81	113	UC	—	1025				
1.30				Very stiff greenish-gray clay w/silty clay layers & pockets	CH	11	43-44	25	99	124	UC	—	2625				
3.10																	



Ground Elev.: -1.50 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/10/90 Boring: 7 Refer To "Legends & Notes"

Scale in Feet	PP	SPT	SPT Blows	Symbol	Visual Classification	USC	Sample Number	Depth in Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
0.30					Medium stiff dark brown organic clay w/humus layers	OH	1	2-3	234	22	72	UC	—	590				
5 0.10					Very soft dark brown & gray organic clay w/humus & sand pockets	OH	2	5-6	166	30	80	UC	—	130	169	41	128	
0.90					Medium stiff light gray sandy clay w/clayey sand layers	CL	3	8-9	21	106	128	OB	—	735				
10 1.20					Medium dense gray clayey sand w/sandy clay pockets	SC	4	11-12	14	121	139	OB	—	1380				
15 37					Dense gray & tan silty fine sand	SM	5	13-14										
1.40			8		Medium stiff gray & greenish-gray clay	CH	6	16-17										
20 1.40					Stiff tan & gray clay	CH	7	18-19	45	75	109	UC	—	1050				
25 0.50					Loose gray clayey sand w/clay pockets & organic matter	SC	8	23-24										
30 1.50					Stiff gray clay w/clayey sand pockets & organic matter	CH	9	28-29	30	93	120	UC	—	1020				
35 0.50					Medium stiff gray clay w/shell fragments & organic matter	CH	10	33-34	60	63	102	UC	—	640	82	24	58	
40 2.20					Stiff greenish-gray clay w/silt pockets & layers	CH	11	38-39	30	92	120	OB	—	1045				



Ground Elev.: 7.17 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/09/90 Boring: 8 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	β	C	LL	PL	PI	
0.75				Medium dense tan & gray clayey sand w/trace of clay	SC	1	2-3	13	117	133	OB	—	730				
0.80				Dense light gray & tan fine sand w/clay pockets	SP	2	5-6	16	114	132	OB	—	2070				
0.40				Loose gray clayey sand w/organic matter	SC	3	8-9	15	118	136	OB	—	465				
1.50				Medium dense tan & gray clayey sand	SC	4	11-12	16	116	135	OB	—	845				
1.60		50=11"		Very dense tan & gray fine sand w/clay pockets	SP	5	16-17										
20		8		Loose tan & gray fine sand w/clay layers	SP	6	19-20										
25	1.70	5		Medium stiff gray & tan clay w/silt lenses, sand pockets & fissures	CH	7	22-23										
25	1.70			Stiff tan & gray clay w/silt & sand pockets	CH	8	24-25	40	80	111	UC	—	585				
30	1.60			Stiff tan & gray clay w/silt & sand pockets	CH	9	28-29	46	76	111	UC	—	1405				
35	1.90			Stiff gray & tan clay w/fissures	CH	10	33-34	46	76	110	UC	—	1040				
40				Loose gray clayey sand w/clay layers & organic matter	SC	11	38-39										
40				Very stiff greenish-gray clay w/silty sand pockets & shell fragments	CH	12	43-44	34	87	117	UC	—	1085				
45																	



Perimeter Levee System, Oak Harbor, East Side of Interstate 10, Vicinity of Slidell, Louisiana

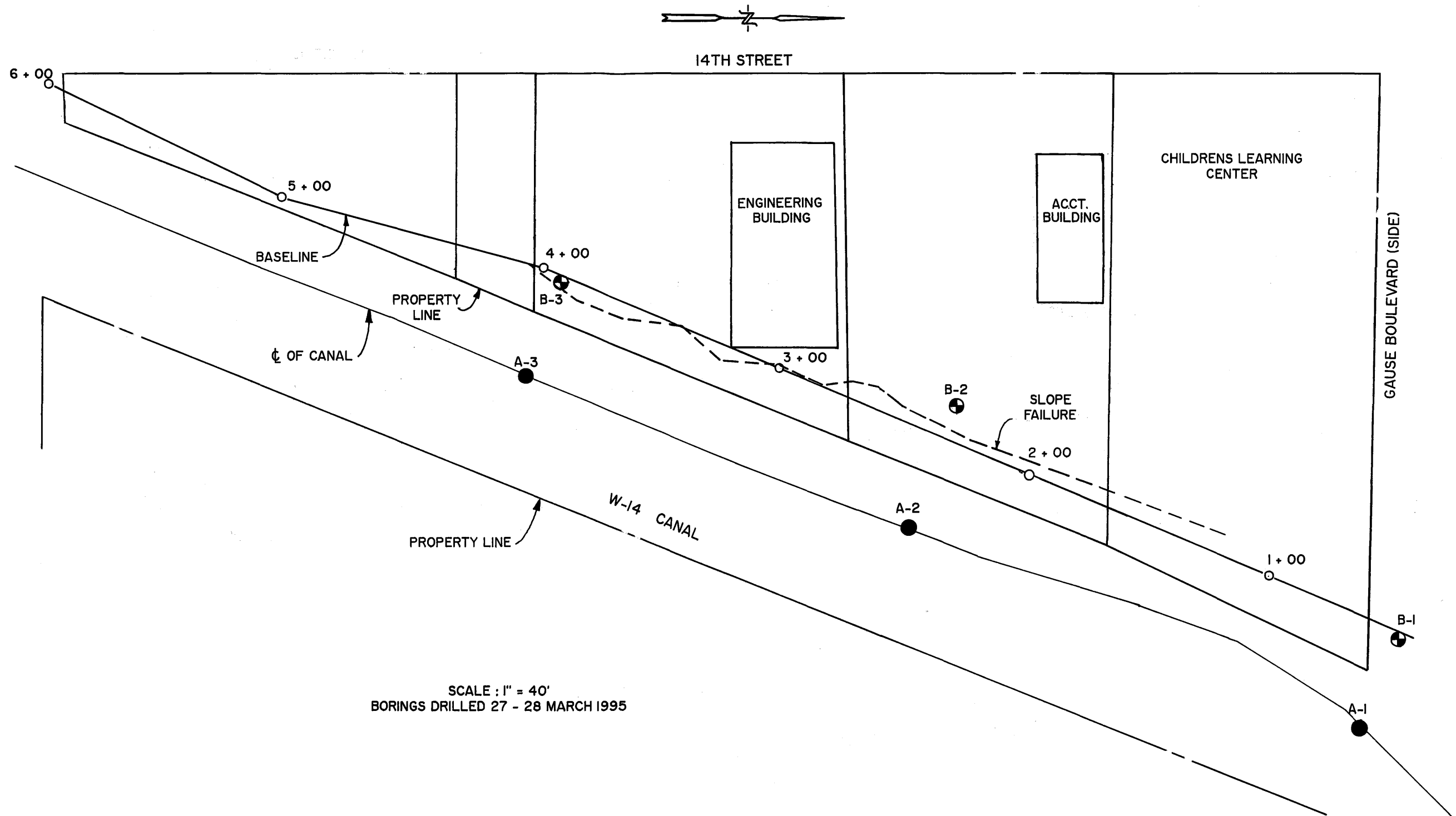
Ground Elev.: 1.25 Datum: NGVD Gr. Water Depth: See Text Job No: 11044 Date Drilled: 4/09/90 Boring: 9 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	β	C	LL	PL	PI	
0.75					Medium dense gray & tan clayey sand w/humus layers, roots & organic matter	SC	1	2-3	16	116	135	OB	—	515				
0.75					Loose gray & tan fine sand w/clay pockets	SP	2	5-6	16	116	135	OB	—	745	15	12	3	
0.70					Medium dense gray fine sand	SP	3	8-9	18	110	130	OB	—	380				
		13			Medium dense gray fine sand	SP	4	10-11										
		4			Soft gray & tan clay w/silt pockets	CH	5	13-14	35									
1.70					Medium stiff gray & tan clay w/silty sand pockets	CH	6	14-15	30	93	121	UC	—	835				
3.10					Stiff tan & gray clay w/silty clay & sand pockets	CH	7	18-19	34	87	117	UC	—	1060				
2.10					Stiff gray & tan clay w/fissures	CH	8	23-24										
1.60					Stiff gray & tan clay w/fissures	CH	9	28-29	46	75	110	UC	—	1200				
					Stiff greenish-gray sandy clay w/clayey sand & clay layers	CL	10	34-35										
1.60					Medium stiff gray sandy clay w/shell fragments	CL	11	39-40	35	87	117	UC	—	655				
0.50					Medium stiff gray sandy clay w/shell fragments	CL	11	39-40	35	87	117	UC	—	655				

Borings from Eustis Job 13418

Used for

Pearl River Levees Alternative 7



LOCATION OF BORINGS
 SLIDELL MEMORIAL HOSPITAL
 BANK STABILIZATION STUDY
 W-14 DRAINAGE CANAL
 SLIDELL, LOUISIANA

LOG OF BORING AND TEST RESULTS
 SLIDELL MEMORIAL HOSPITAL, BANK STABILIZATION STUDY
 W-14 DRAINAGE CANAL, SLIDELL, LOUISIANA



Ground Elev.:		Datum:		Gr. Water Depth: See Text		Job No.: 13418		Date Drilled: 3/28/95		Boring: 1		Refer To "Legends & Notes"						
Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	Ø	C	LL	PL	PI	
					8" Asphalt Pavement													
		8	X		Loose tan fine sand	SP	1	1-2										
			X		Loose gray clayey silt	ML	2	3-4	14	114	130							
5	0.40		X		Loose brown & gray sandy silt w/few roots	CL	3	5-6	19	102	122	OB	--		410			
			X		Soft tan & light gray sandy clay w/clayey sand pockets	CL	4	8-9	23	100	123	OB	--		1195			
10	2.70		X		Stiff tan & gray sandy clay w/clayey sand pockets		5	11-12	19	108	128	OB	--		1910			
			X		Dense light gray clayey sand	SC	6	14-15	21	103	125	OB	--		440			
15	3.00		X		Loose light gray clayey sand	SC	7	18-19										
			X		Loose light gray fine sand	SP	8	21-22										
20		16	X		Medium dense light gray fine sand	SP	9	24-25										
25		13	X				10	29-30										
30		10	X		Loose light gray fine sand	SP	11	34-35										
35		23	X		Medium dense gray fine sand	SP	12	39-40										
40		19	X															
45																		
50																		

Boring located at Station 0+45, 3 feet east of baseline and 6 feet west of failure.

LOG OF BORING AND TEST RESULTS
 SLIDELL MEMORIAL HOSPITAL, BANK STABILIZATION STUDY
 W-14 DRAINAGE CANAL, SLIDELL, LOUISIANA



Ground Elev.:		Datum:		Gr. Water Depth: See Text		Job No.: 13418		Date Drilled: 3/28/95		Boring: 2		Refer To "Legends & Notes"					
Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	Ø	C	LL	PL	PI	
				3.5" Loose white shells	SC	1	0-0.3										
0.10				Very loose light gray clayey sand w/trace of organic matter & clayey silt layers	CL	2	2-3	24	98	122	OB	--	75				
5	0.60			Stiff tan & gray sandy clay w/few concretions	CH	3	5-6	21	101	123	UC	--	1055				
10	2.50			Stiff tan & light gray clay w/sand pockets & lenses	CH	4	8-9	19	104	123	UC	--	1375				
15	2.60			Medium stiff light gray clay w/vertical clayey sand lenses	CH	5	11-12	27	95	120	UC	--	980				
	2.70			w/few clayey sand pockets	CH	6	14-15										
20	1.70			Medium stiff light gray & tan clay w/fissures & silt lenses & pockets	CH	7	18-19	36	84	115	OB	--	630				
25	1.50			Stiff brown & gray clay	CH	8	23-24										
30				Medium dense greenish-gray clayey sand	SC	9	28-29	25	98	123	OB	--	1635				
35	1.25			Stiff gray clay w/clayey silt & clayey sand lenses & trace of organic matter	CH	10	33-34										
40	0.40			Loose gray clayey sand w/clay lenses & pockets	SC	11	38-39	29	93	120	OB	--	480				
45																	
50																	

Boring located at Station 2+34, 12 feet west of baseline and 8 feet west of failure.

LOG OF BORING AND TEST RESULTS
 SLIDELL MEMORIAL HOSPITAL, BANK STABILIZATION STUDY
 W-14 DRAINAGE CANAL, SLIDELL, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: See Text Job No.: 13418 Date Drilled: 3/27/95 Boring: 3 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	Ø	C	LL	PL	PI	
		6		4" Asphalt pavement													
	0.20			8" Medium dense white shells	ML	1	1-2	16									
5				Loose gray clayey silt w/shell fragments	ML	2	3-4	22	103	125	OB	--	230				
	1.10			Very loose dark gray clayey silt	CH	3	5-6	25	99	123	UC	--	605				
	1.50			Medium stiff light gray & tan clay w/clayey sand pockets	CH	4	8-9	28	95	121	UC	--	1335				
10				Stiff light gray & tan clay w/sand pockets	CH	5	11-12										
	2.50			Very stiff light gray & tan clay	CH	6	14-15	25	98	123	UC	--	2190				
15	3.00			w/sand pockets		7	18-19										
	2.20			w/few silt lenses		8	23-24	33	86	114	UC	--	875				
25	1.60			Medium stiff gray & tan clay w/sand pockets	CH	9	28-29										
	0.75			Medium stiff gray & dark gray clay w/silty sand layers	CH	10	33-34	49	72	108	OB	--	430				
30				Soft gray & reddish-brown clay w/silty sand pockets & lenses & trace of organic matter	CH	11	38-39										
	1.30			Soft gray sandy clay w/clayey sand pockets	CL												
35																	
	0.40																
40																	
45																	
50																	

Boring located at Station 3+92, 3 feet west of failure.

LOG OF BORING AND TEST RESULTS
 SLIDELL MEMORIAL HOSPITAL, BANK STABILIZATION STUDY
 W-14 DRAINAGE CANAL, SLIDELL, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: See Text Job No.: 13418 Date Drilled: 3/27/95 Boring: A-1 - A-3 Refer To "Legends & Notes"

Scale In Feet	PP	SPT	SPT R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	Ø	C	LL	PL	PI	
<u>AUGER BORING A-1</u>																		
0					Very loose gray & tan fine sand	SP	1	0-1	26	98	123							
					Very loose gray & tan sandy silt	ML	2	1-2	25	101	126	OB	--	210				
5					Loose light gray silty sand	SM	3	3-4										
							4	5-6										
							5	7-8	25									
10					Very soft light gray sandy clay	CL	6	9-10										
Station 0+45																		
<u>AUGER BORING A-2</u>																		
0					Soft gray & tan silty clay w/trace of sand	CL	1	0-1										
							2	1-2	30	91	119	OB	--	480				
5							3	3-4										
					Medium stiff gray & tan clay w/silt pockets & fissures	CH	4	5-6	48									
							5	7-8										
10							6	9-10	49									
Station 2+34																		
<u>AUGER BORING A-3</u>																		
0					Loose gray & tan sandy silt		1	0-0.5	36									
					Medium stiff gray & tan clay w/sand & organic clay layers	SC	2	1.5-2	38									
5					Very loose gray & tan clayey sand w/clay layers	CL	3	3-4	38									
					Very soft gray & tan silty clay w/trace of sand	CL	4	5-6										
					Stiff tan & gray sandy clay		5	7-8										
10							6	9-10										
Station 3+92																		

Borings located near canal centerline. Depths referenced from existing mudline.

Borings from Eustis Job 13965

Used for

Bayou Lacombe Flood Gate Alternative 4

Bayou Liberty/Bayou Vincent/Bayou Bonfouca Structures Alternative 5

West Slidell Levees Alternative 5

LOG OF BORING AND TEST RESULTS

DELWOOD PUMPING STATION
FRONT STREET
SLIDELL, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: See Text Job No.: 13965 Date Drilled: 3/27/96 Boring: 1 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
0					Loose dark gray & tan clayey silt w/silty clay layers, shells & roots	ML	1	0-0.5										
2.80					Very stiff tan & gray silty clay w/clay layers, shells & roots	CL	2	2-3	17									DIST.
					Loose tan fine sand w/clayey sand pockets	SP	3	5-6										
2.10					Stiff gray & tan silty clay w/clayey silt layers	CL	4	8-9	21	105	126	UC	--	1600	43			
10					Medium stiff gray & tan silty clay w/clayey silt layers	CL	5	11-12	28	94	121	OB	--	580				
1.60					Stiff tan & gray clay w/clayey silt lenses	CH	6	14-15	45	76	111	OB	--	345				
20							7	18-19	35						74			
1.60					Medium stiff gray & tan clay w/shell fragments & fissures	CH	8	23-24	50	72	107	OB	--	630				
30					Loose gray clayey sand w/shell fragments	SC	9	28-29	26									
0.40					Soft gray clay w/silty sand layers, pockets & concretions	CH	10	33-34	40	82	114	OB	--	345				
40					Medium stiff gray clay w/clayey silt lenses & shell fragments	CH	11	38-39	48	73	108	UC	--	580				
0.60					w/shell fragments		12	43-44	48	74	109	UC	--	445				
50					Medium compact gray clayey silt w/shell	ML	13	48-49										

Comments:

LOG OF BORING AND TEST RESULTS
 DELWOOD PUMPING STATION
 FRONT STREET
 SLIDELL, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: See Text Job No.: 13965 Date Drilled: 3/27/96 Boring: 1 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
50					Medium compact gray clayey silt w/shell fragments	ML												
	1.80				Stiff greenish-gray clay w/clayey silt pockets & shell fragments	CH	14	53-54	33	88	117	OB	--	955				
	1.60				w/fissures & shell fragments		15	58-59	35	85	115	OB	--	1105				
60							16	62-63										
	0.60				Loose gray clayey sand	SC	17	64-65	64	60	99	OB	--	515				
	0.90				Medium stiff brown & gray clay w/organic matter & fissures	CH	18	68-69	71	57	97	OB	--	805				
70							19	73-74	30	92	119	OB	--	2225				
	1.80				Stiff greenish-gray clay w/silt pockets	CH	20	78-79	44	76	110	OB	--	835				
	2.70				Stiff greenish-gray & tan clay w/fissures	CH												
80																		
90																		
100																		

Comments:

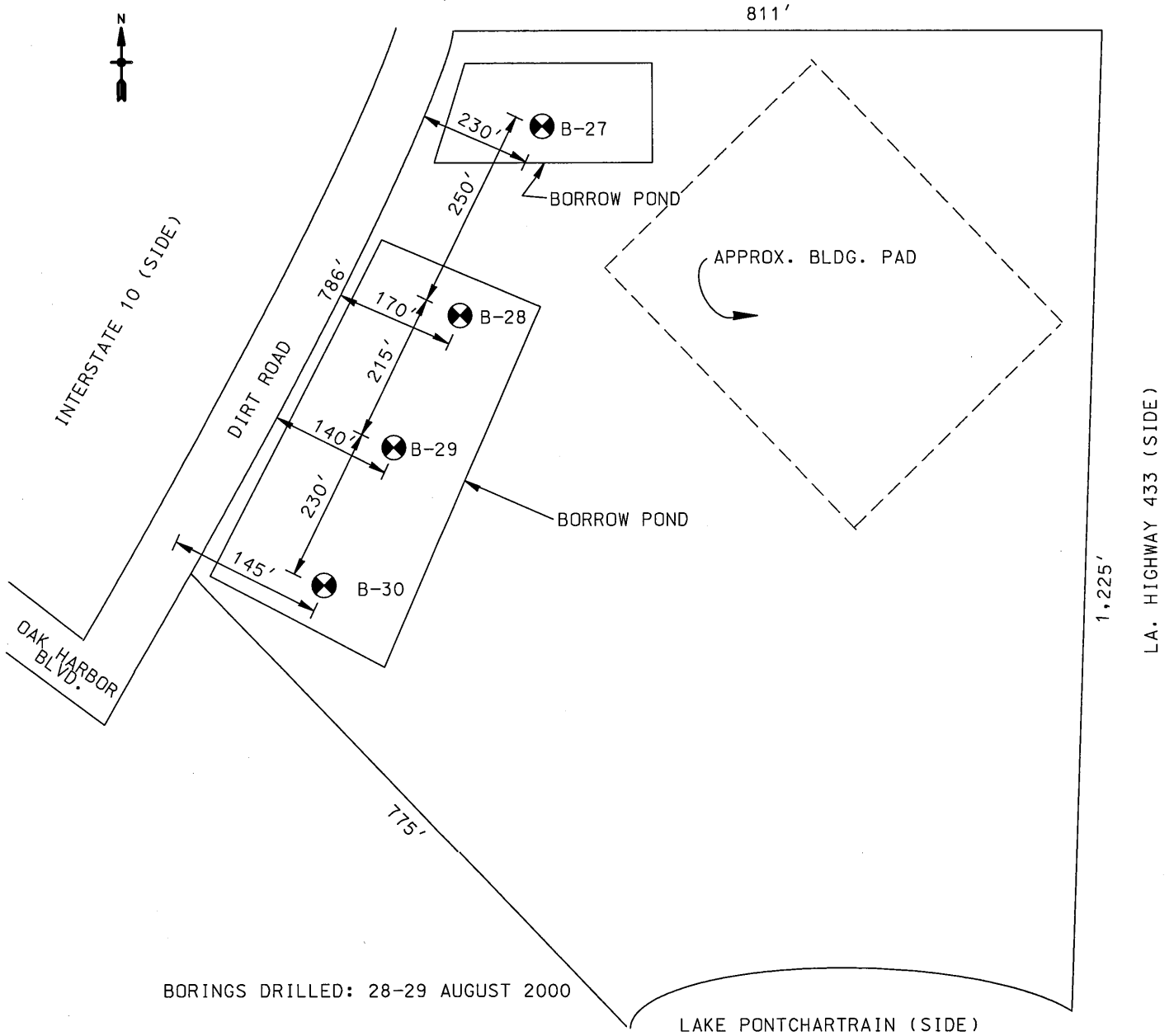
Borings from Eustis Job 16613

Used for

Eden Isles Levees Alternative 6

Eden Isles Structures/I-10 Gates Alternative 6

CANAL NO. 7



BORINGS DRILLED: 28-29 AUGUST 2000

⊗ UNDISTURBED BORING LOCATION

NOT TO SCALE

LOCATION OF BORINGS

**EAST ST. TAMMANY EVENTS CENTER
PROPOSED BORROW PONDS
VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
ST. TAMMANY PARISH, LOUISIANA**

LOG OF BORING AND TEST RESULTS
 EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/29/00 Boring: 27 Refer to "Legends & Notes"




Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	φ	C	LL	PL	PI	
0					Loose dark gray clayey silt w/organic matter	ML	1	0-0.5	36									
					Loose brown & gray clayey sand	SC	2	2-3	15									
					Loose gray & tan clayey sand w/organic matter	SC	3	5-6	19	109	129	OB	--	560				
					Soft gray & tan sandy clay w/organic matter	CL	4	8-9	22						25	14	11	
10					Very soft light gray sandy clay	CL	5	11-12	21	107	130	UC	--	150				
					Very soft gray & tan sandy clay	CL	6	14-15	32						26	17	9	
	0.50				Medium stiff greenish-gray clay w/silt lenses	CH	7	18-19	36	84	114	UC	--	665				
20					Medium stiff greenish-gray clay	CH	8	23-24	47	75	111	UC	--	805				
	1.80				Stiff greenish-gray & tan clay w/clayey sand lenses	CH	9	28-29	47									
30					Soft gray sandy clay w/shell fragments & roots	CL	10	33-34	27	96	122	UC	--	415				
	2.00				Medium stiff gray clay w/sand pockets & organic matter	CH	11	38-39	42	78	111	UC	--	605				
40					Loose gray shells w/clayey sand	GP	12	43-44	24									
	0.25				Medium stiff gray clay w/silt pockets, organic matter, & large roots	CH	13	48-49	36	84	115	UC	--	785				
50																		

Comments:

LOG OF BORING AND TEST RESULTS
 EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/29/00 Boring: 27 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
50					Medium stiff gray clay w/trace of sand & organic matter	CH	14	53-54										
0.25																		
0.30					w/trace of sand		15	58-59	26									
60					Loose gray fine sand	SP	16	59.5-60										
70																		
80																		
90																		
100																		

Comments:

LOG OF BORING AND TEST RESULTS
 EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/29/00 Boring: 28 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests		
										Dry	Wet	Type	ϕ	C	LL	PL	PI			
50	1.00	48	█		Stiff gray clay w/trace of organic matter	CH	14	53-54	30	93	121	UC	--	1295						
60								Dense gray fine sand w/clayey sand layers	SP	15	57-58									
							16	59-60												
70																				
80																				
90																				
100																				

Comments:

LOG OF BORING AND TEST RESULTS

EAST ST. TAMMANY EVENTS CENTER
PROPOSED BORROW PONDS
VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/29/00 Boring: 28 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	φ	C	LL	PL	PI	
0					Medium stiff dark gray silty clay w/organic matter & roots	CL	1	0-0.5										
							2	2-3	25									
1.75					Stiff gray & tan sandy clay w/organic matter	CL	3	5-6	19	110	131	UC	--	1680	35	12	23	
1.50					Medium stiff light gray clay w/sand pockets & layers	CH	4	8-9	28	95	121	UC	--	755				
10 1.50					Medium stiff gray clay w/sand lenses & pockets	CH	5	11-12	30	93	120	UC	--	745	69	17	52	
1.25					Medium stiff gray & tan clay w/clayey sand pockets	CH	6	14-15	32									
2.25					Stiff gray & tan clay w/sand lenses & pockets	CH	7	18-19										
20 1.75					Medium stiff light gray & tan clay w/organic matter	CH	8	23-24	46	76	111	UC	--	980				
1.50							9	28-29										
30					Soft gray clay w/trace of shell fragments	CH	10	33-34	62	63	102	UC	--	410				
0.25					Medium stiff gray clay w/clayey sand lenses & layers	CH	11	38-39	29	93	120	UC	--	595				
40 0.25					Soft gray clay w/shell fragments	CH	12	43-44	59	65	103	UC	--	430				
0.75					Medium stiff gray clay w/sand pockets & organic matter	CH	13	48-49										
50																		

Comments:

LOG OF BORING AND TEST RESULTS

EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/28/00 Boring: 29 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests	
										Dry	Wet	Type	φ	C	LL	PL	PI		
0					Loose dark gray clayey silt w/organic matter & roots	ML	1	0-0.5	35										
					Soft gray sandy clay w/organic matter	CL	2	2-3	17	109	127	UC	--	430	24	12	12		
2.50					Medium stiff to stiff greenish-gray sandy clay w/trace of organic matter	CL	3	5-6	20	105	126	UC	--	710	50	15	35		
2.25					Medium stiff to stiff greenish-gray sandy clay		4	8-9	22	103	126	UC	--	1350	55	15	40		
10	1.00				Medium stiff light gray clay w/sand lenses & pockets	CH	5	11-12	29	94	121	UC	--	820					
0.75					Medium stiff gray & tan clay w/sand lenses & concretions	CH	6	14-15	34	93	125	UC	--	435					
2.25					Stiff gray & tan clay w/sand pockets	CH	7	18-19											
20					Medium stiff gray & tan clay w/concretions & trace of organic matter	CH	8	23-24	45	75	109	UC	--	755					
1.25					Stiff greenish-gray & tan clay	CH	9	28-29											
30					Soft gray clay w/sand lenses & shell fragments	CH	10	33-34	59	65	103	UC	--	450					
					w/silt lenses & pockets, shell fragments, & trace of organic matter		11	38-39	48	73	108	UC	--	465					
40	0.25				Medium stiff gray clay w/silt pockets & shell fragments	CH	12	43-44	57	67	105	UC	--	555					
50					Medium stiff brown sandy clay w/roots, wood, & organic matter	CL	13	48-49	36	84	114	UC	--	855					

Comments:

LOG OF BORING AND TEST RESULTS
 EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/28/00 Boring: 29 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
50					Medium stiff gray sandy clay w/organic matter	CL	14	53-54	28	96	122	UC	--	575				
60					Loose gray clayey sand	SC	15	58-59										
70																		
80																		
90																		
100																		

Comments:

LOG OF BORING AND TEST RESULTS
 EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/28/00 Boring: 30 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
0					Medium stiff dark gray silty clay w/organic matter & roots	CL	1	0-0.5	62									
					Medium stiff light brown sandy clay	CL	2	2-3	19	109	129	UC	--	555	24	14	10	
1.75					Medium stiff gray sandy clay w/organic matter	CL	3	5-6	22	102	125	UC	--	625	39	14	25	
2.20					Medium stiff light gray clay w/large sand pockets	CH	4	8-9	20	103	124	UC	--	160	63	16	47	
10					Stiff gray & tan clay w/sand pockets	CH	5	11-12	30	92	120	UC	--	1155	67	16	51	
2.25							6	14-15										
20					Medium stiff gray & tan clay w/clayey silt pockets	CH	7	18-19	36	85	115	UC	--	705				
2.30					Stiff gray & tan clay w/sand pockets	CH	8	23-24										
30					w/silt lenses		9	28-29										
					Soft gray clay w/sand pockets & shell fragments	CH	10	33-34	63	62	101	UC	--	455				
40					w/clayey silt pockets & trace of organic matter		11	38-39	36	85	115	UC	--	360				
0.25					Soft dark gray clay w/silt lenses & pockets, & trace of shell fragments	CH	12	43-44	56	67	105	UC	--	480				
50					Loose gray clayey sand w/shell fragments	SC	13	48-49										

Comments:

LOG OF BORING AND TEST RESULTS
 EAST ST. TAMMANY EVENTS CENTER
 PROPOSED BORROW PONDS
 VICINITY OF OAK HARBOR BOULEVARD AND INTERSTATE 10
 ST. TAMMANY PARISH, LOUISIANA



Ground Elev.: Datum: Gr. Water Depth: Job No.: 16613 Date Drilled: 8/28/00 Boring: 30 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	ϕ	C	LL	PL	PI	
50	0.40	32	X		Dense gray & brown fine sand w/organic matter	SP	14	50-51	26									
		22	X		Medium dense gray fine sand	SP	15	53-54										
		11	X		Medium stiff gray silty clay	CL	16	56-57	27									
60						Soft gray clay w/organic matter	CH	17	58-59									
70																		
80																		
90																		
100																		

Comments:

SECTION 3

Parameters for Estimates

Stability Parameter Tables

Eustis Job No. 09318 Used For Bayou Lacombe Levee Analysis

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
CL	0	-7	7 ′	103	700	700
CH	-7	-15	8 ′	112	1200	1200
CH	-15	-28	13 ′	120	1400	1400
SM	-28	-40	12 ′	122	0	0

Eustis Job No. 13965 Used For West Slidell Levee, Bayou Lacombe Floodgate, Bayou Lacombe Floodgate, Bayou Bonfouca Floodgate, Bayou Liberty Floodgate, Bayou Vincent Floodgate, Bayou Pacquet Floodgate, South Slidell Surge Reduction Wall

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
CL	0	-13	13 ′	105	580	580
CH	-13	-26	13 ′	107	400	400
SC	-26	-32	6 ′	122	0	0
CH	-32	-48	16 ′	108	400	400
ML	-48	-52	4 ′	117	200	200
CH	-52	-80	28 ′	105	800	800

Eustis Job No. 16613 + 10463 from -54 to -100 Used For Eden Isles Levee, Eden Isles Marina Gate, Eden Isles South Floodwall, Eden Isles Southwest Floodwall, Eden Isles West Floodwall

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
SC	0	-7	7 ′	122	0	0
CL	-7	-15	8 ′	120	700	700
CH	-15	-30	15 ′	111	700	700
CH	-30	-46	16 ′	110	600	600
SP	-46	-54	8 ′	122	0	0
SP	-54	-100	46 ′	122	0	0

Eustis Job No. 10120 Used For South Slidell Levee Analysis

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
CH	0	-10	10 ′	125	640	640
CH	-10	-20	10 ′	123	800	800
CH	-20	-35	15 ′	111	725	725
CH	-35	-50	15 ′	110	760	760

Eustis Job No. 11044 Used For Oak Harbor Levee Analysis

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
CH	0	-10	10 ′	125	650	650
CH	-10	-29	19 ′	118	1030	1030
SM	-29	-34	5 ′	122	0	0
CH	-34	-50	16 ′	110	640	640

Eustis Job No. 10463 Used For W-14 Floodgate, Old Spanish Trail Floodgate

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
ML	0	-3	3 ′	117	200	200
CH	-3	-16	13 ′	125	1000	1000
SP	-16	-26	10 ′	122	0	0
CH	-26	-44	18 ′	108	600	600
SP	-44	-100	4 ′	122	0	0

Eustis Job No.13418 Used For Pearl River Levee and Pearl River Floodgate

Material	Top EL	Bottom EL	thickness	density	C-top	C-bottom
CL	0	-15	15 ′	124	500	50
SM	-15	-22	7 ′	122	0	0
CH	-22	-29	7 ′	114	900	900
SM	-29	-33	4 ′	122	0	0
CH	-33	-40	7 ′	120	450	450

Settlement Parameter Tables

Eustis Job No. 09318 Used For Bayou Lacombe Levee Analysis (Correlations Based on Water Content)

Material	Top EL	Bottom EL	thickness	density	Cc	e0	Cr
CL	0	-7	7 ′	103	0.16	0.71	0.32
CH	-7	-15	8 ′	112	0.43	1.14	0.86
CH	-15	-28	13 ′	120	0.2	0.8	0.040
SM	-28	-40	12 ′	122	NA	NA	NA

Eustis Job No. 13965 Used For West Slidell Levee Analysis (Correlations Based on Water Content)

Material	Top EL	Bottom EL	thickness	density	Cc	e0	Cr
CL	0	-13	13 ′	105	0.16	0.62	0.032
CH	-13	-26	13 ′	107	0.43	1.03	0.086
SC	-26	-32	6 ′	122	NA	NA	NA
CH	-32	-48	16 ′	108	0.39	1.1	0.078
ML	-48	-52	4 ′	117	0.26	0.9	0.052
CH	-52	-80	28 ′	105	0.52	1.2	0.100

Eustis Job No. 10120 Used For South Slidell Levee Analysis (Correlations Based on Water Content)

Material	Top EL	Bottom EL	thickness	density	Cc	e0	Cr
CH	0	-10	10 ′	125	0.11	0.65	0.022
CH	-10	-20	10 ′	123	0.15	0.79	0.030
CH	-20	-35	15 ′	111	0.45	1.19	0.090
CH	-35	-50	15 ′	110	0.36	0.945	0.072

Eustis Job No. 16613 Used For Eden Isles Levee Analysis (Correlations Based on Water Content)

Material	Top EL	Bottom EL	thickness	density	Cc	e0	Cr
SC	0	-7	7 ′	122	NA	NA	NA
CL	-7	-15	8 ′	120	0.17	0.75	0.034
CH	-15	-30	15 ′	111	0.49	1.25	0.098
CH	-30	-46	16 ′	110	0.41	1.1	0.082
SP	-46	-54	8 ′	122	NA	NA	NA

Eustis Job No. 11044 Used For Oak Harbor Levee Analysis (Correlations Based on Water Content)

Material	Top EL	Bottom EL	thickness	density	Cc	e0	Cr
CH	0	-10	10 ′	125	0.11	0.59	0.022
CH	-10	-29	19 ′	118	0.21	0.79	0.042
SM	-29	-34	5 ′	122	NA	NA	NA
CH	-34	-50	16 ′	110	0.3	1.08	0.060

Eustis Job No.13418 Used For Pearl River Levee Analysis (Correlations Based on Water Content)

Material	Top EL	Bottom EL	thickness	density	Cc	e0	Cr
CL	0	-15	15 ‘	124	0.11	0.65	0.022
SM	-15	-22	7 ‘	122	NA	NA	NA
CH	-22	-29	7 ‘	114	0.27	0.89	0.054
SM	-29	-33	4 ‘	122	NA	NA	NA
CH	-33	-40	7 ‘	120	0.49	0.78	0.098

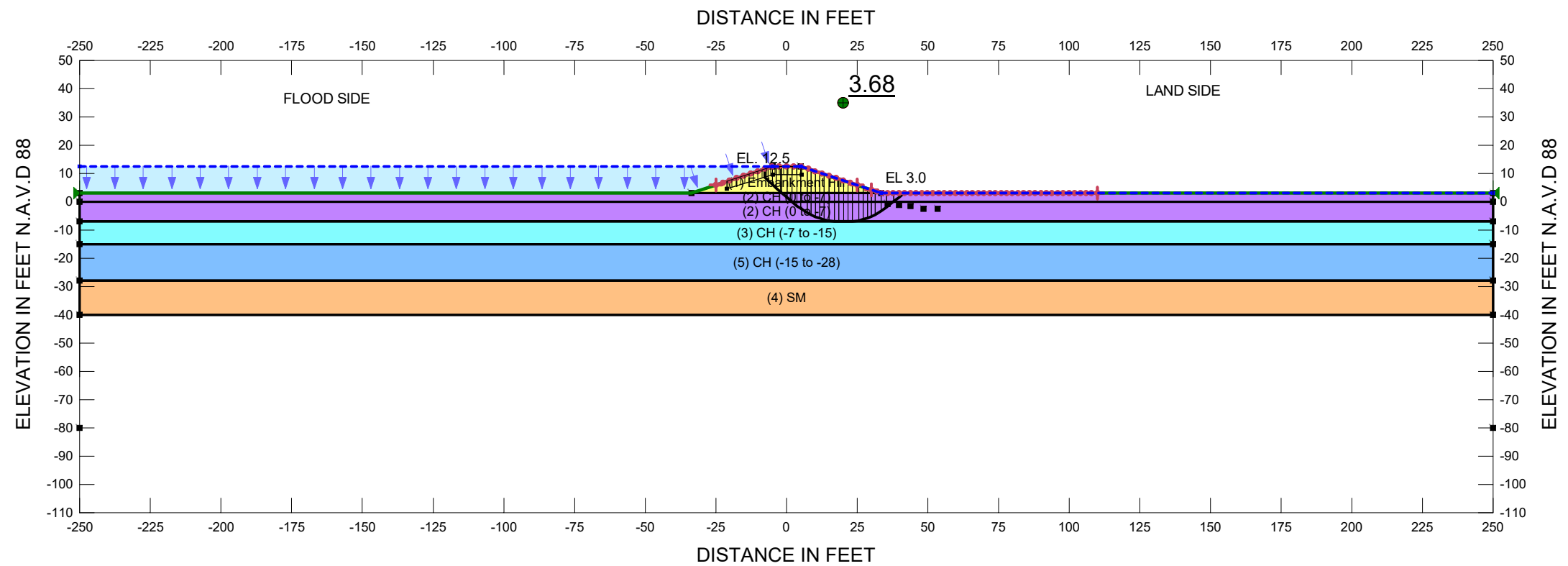
SECTION 4

Stability Plates

Spencer's Analysis Entry/Exit

Bayou Lacombe Levees

Alternative 4



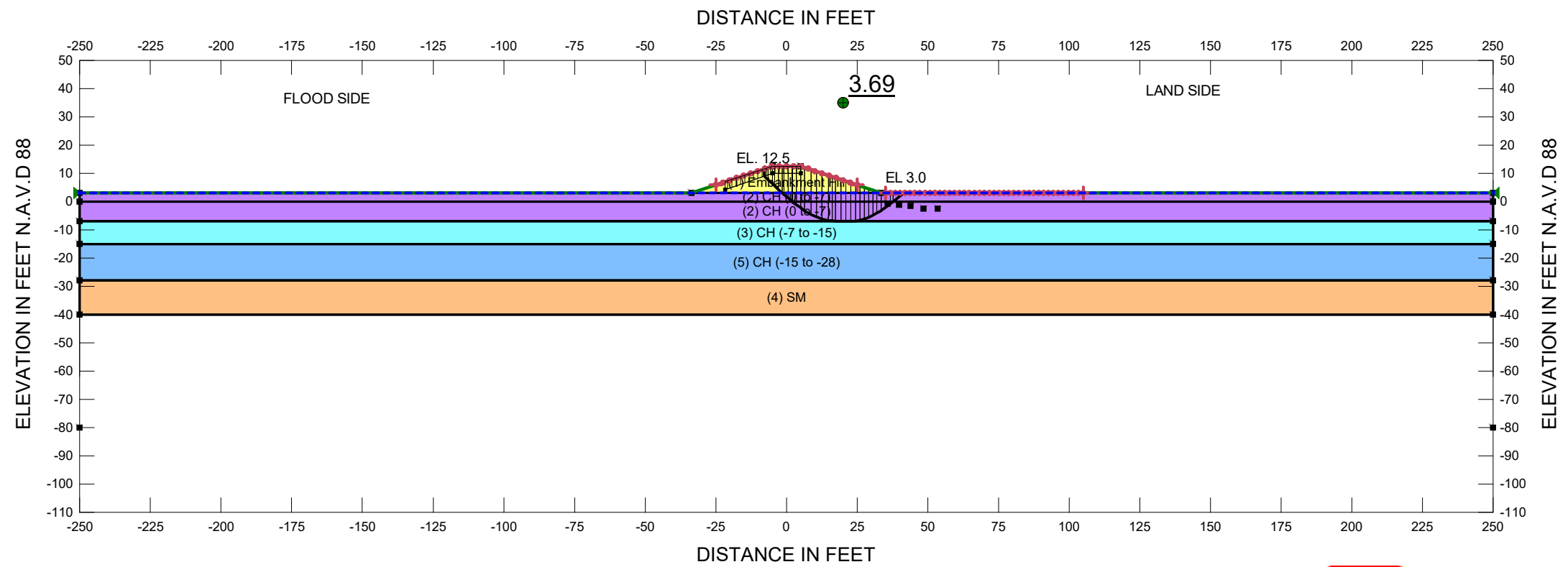
Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -7)	Mohr-Coulomb	103	700	0
Cyan	(3) CH (-7 to -15)	Mohr-Coulomb	112	1,200	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Blue	(5) CH (-15 to -28)	Mohr-Coulomb	120	1,400	0

BAYOU LACOMBE LEVEES

CASE: ALTERNATIVE 4



**US Army Corps
of Engineers**
New Orleans District



Color	Name	Model	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -7)	Mohr-Coulomb	103	700	0
Cyan	(3) CH (-7 to -15)	Mohr-Coulomb	112	1,200	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Blue	(5) CH (-15 to -28)	Mohr-Coulomb	120	1,400	0

BAYOU LACOMBE LEVEES

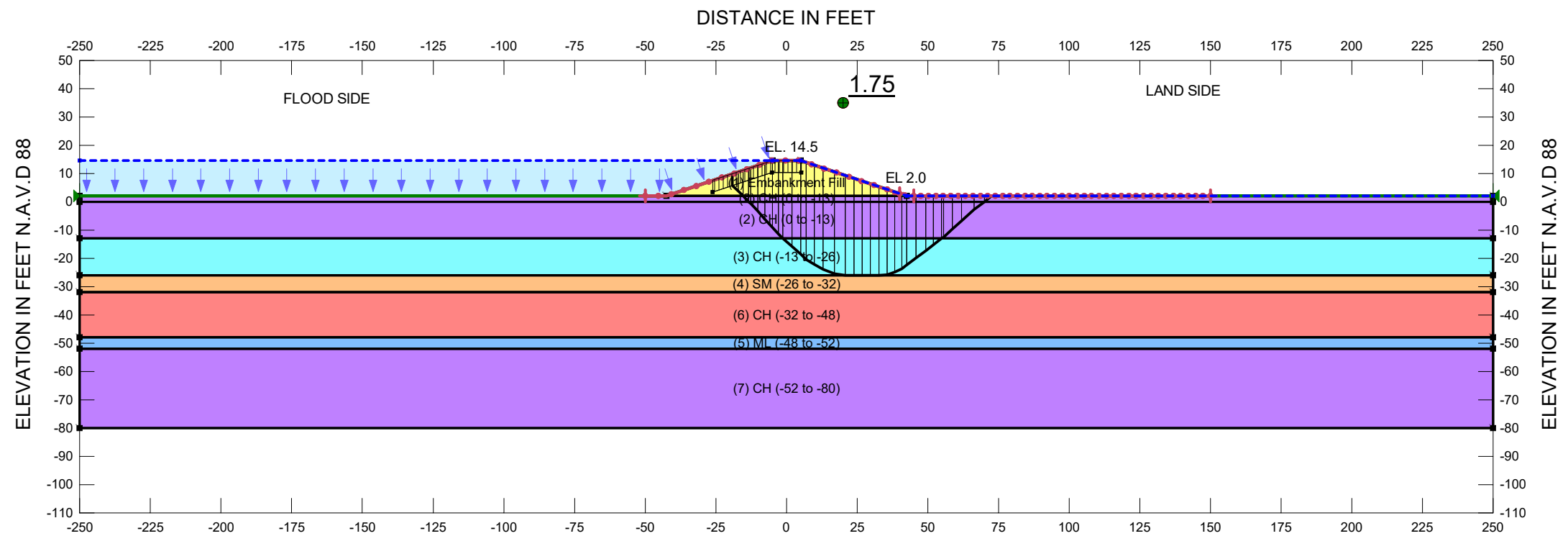
CASE: ALTERNATIVE 4



**US Army Corps
of Engineers**
New Orleans District

West Slidell Levees

Alternative 5



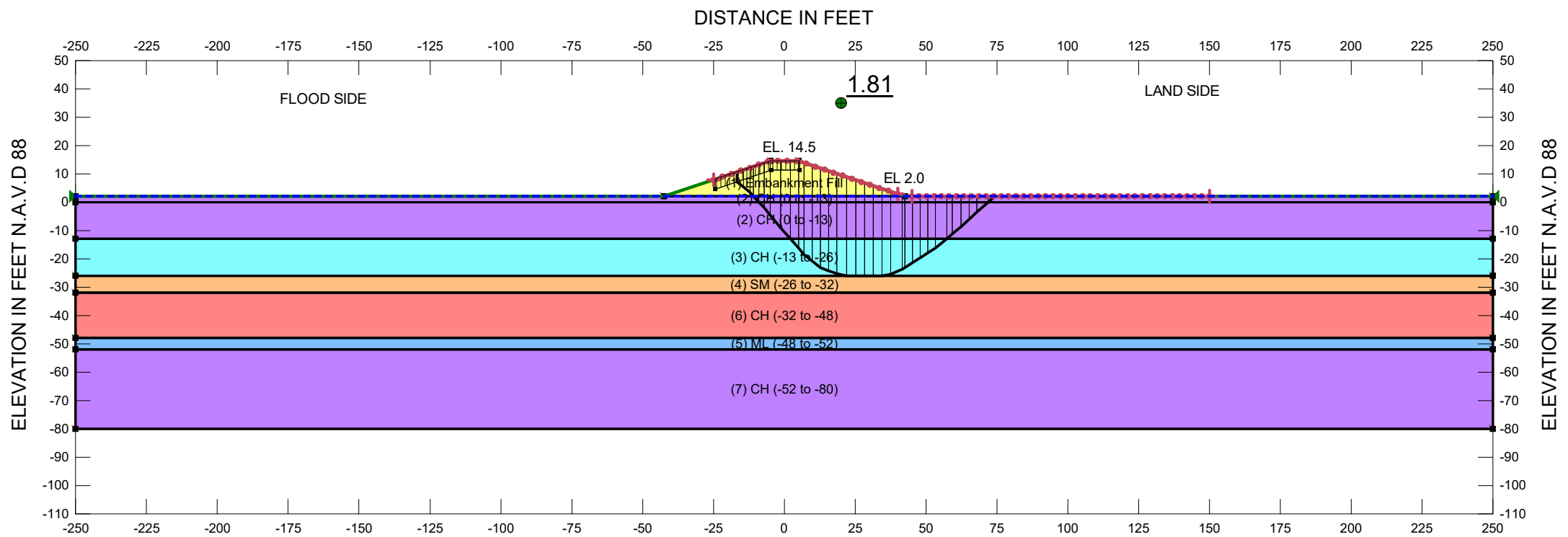
Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -13)	Mohr-Coulomb	105	580	0
Cyan	(3) CH (-13 to -26)	Mohr-Coulomb	107	400	0
Orange	(4) SM (-26 to -32)	Mohr-Coulomb	122	0	30
Blue	(5) ML (-48 to -52)	Mohr-Coulomb	117	200	15
Red	(6) CH (-32 to -48)	Mohr-Coulomb	108	400	0
Purple	(7) CH (-52 to -80)	Mohr-Coulomb	105	800	0

WEST SLIDELL LEVEES

CASE: ALTERNATIVE 5



**US Army Corps
of Engineers**
New Orleans District



Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -13)	Mohr-Coulomb	105	580	0
Cyan	(3) CH (-13 to -26)	Mohr-Coulomb	107	400	0
Orange	(4) SM (-26 to -32)	Mohr-Coulomb	122	0	30
Blue	(5) ML (-48 to -52)	Mohr-Coulomb	117	200	15
Red	(6) CH (-32 to -48)	Mohr-Coulomb	108	400	0
Purple	(7) CH (-52 to -80)	Mohr-Coulomb	105	800	0

WEST SLIDELL LEVEES

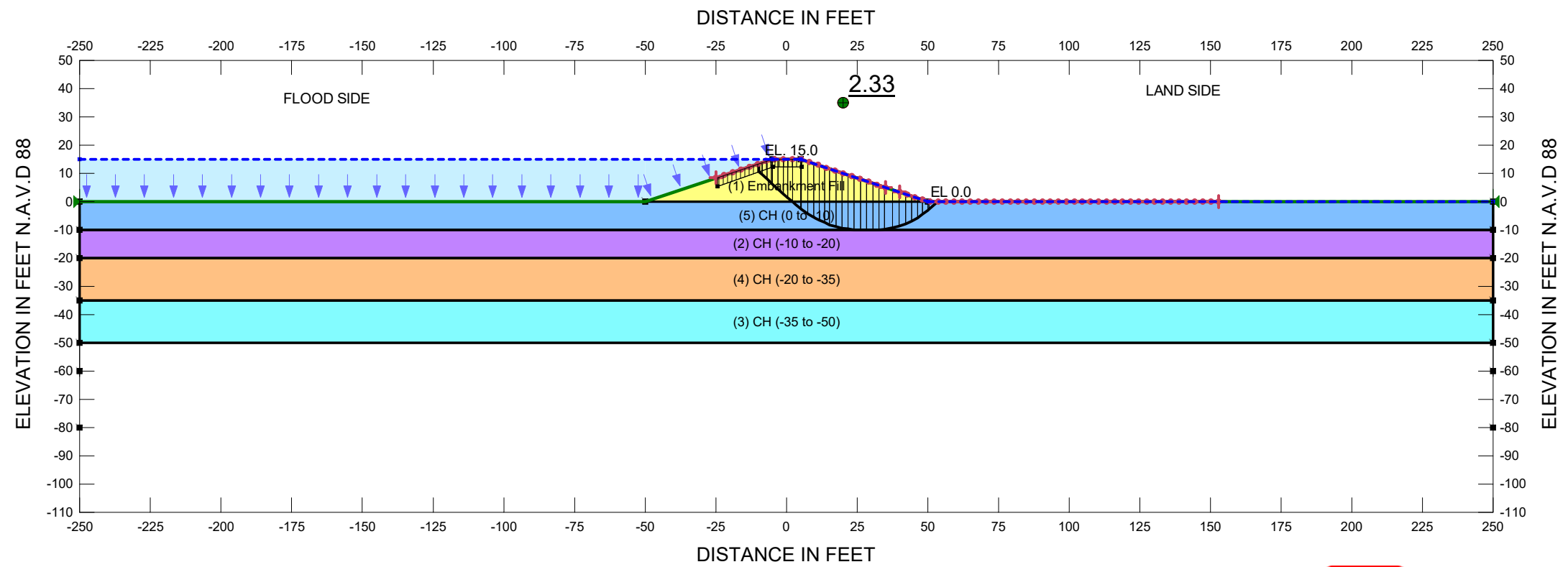
CASE: ALTERNATIVE 5



**US Army Corps
of Engineers**
New Orleans District

South Slidell Levees

Alternative 6

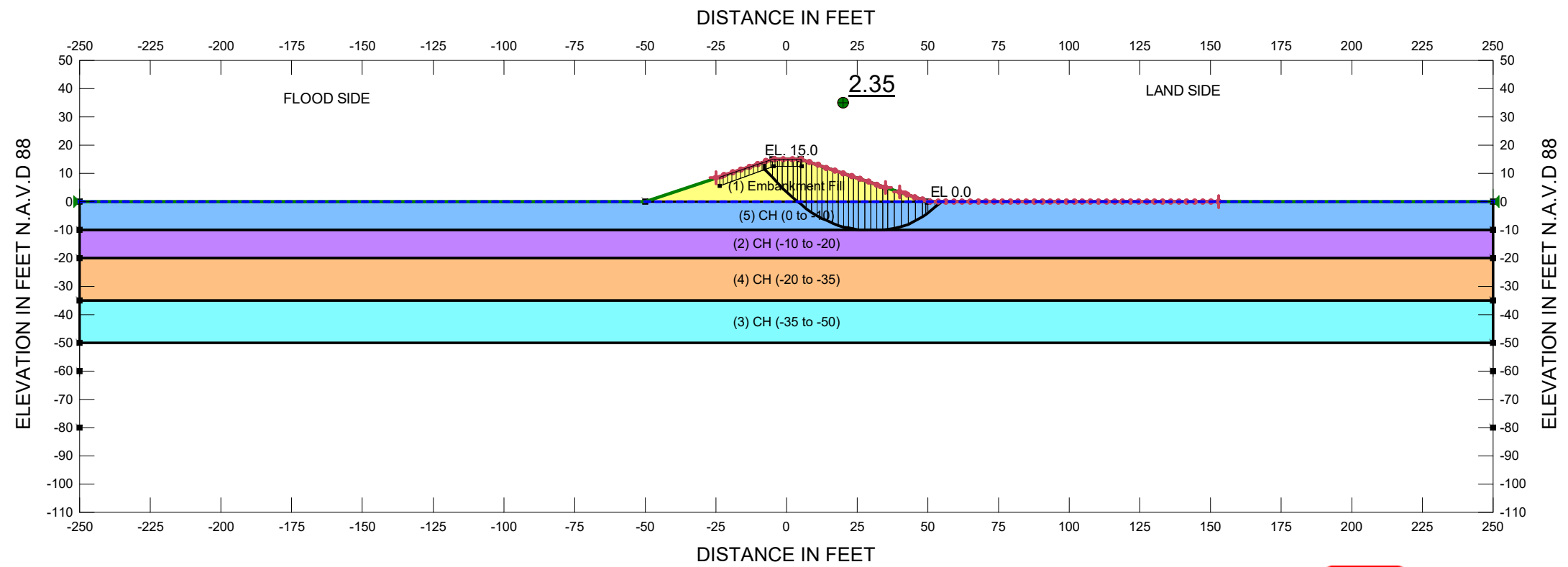


Color	Name	Model	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (-10 to -20)	Mohr-Coulomb	123	800	0
Cyan	(3) CH (-35 to -50)	Mohr-Coulomb	110	760	0
Orange	(4) CH (-20 to -35)	Mohr-Coulomb	111	725	0
Blue	(5) CH (0 to -10)	Mohr-Coulomb	125	640	0

SOUTH SLIDELL
CASE: ALTERNATIVE 6



**US Army Corps
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New Orleans District



Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (-10 to -20)	Mohr-Coulomb	123	800	0
Cyan	(3) CH (-35 to -50)	Mohr-Coulomb	110	760	0
Orange	(4) CH (-20 to -35)	Mohr-Coulomb	111	725	0
Blue	(5) CH (0 to -10)	Mohr-Coulomb	125	640	0

SOUTH SLIDELL

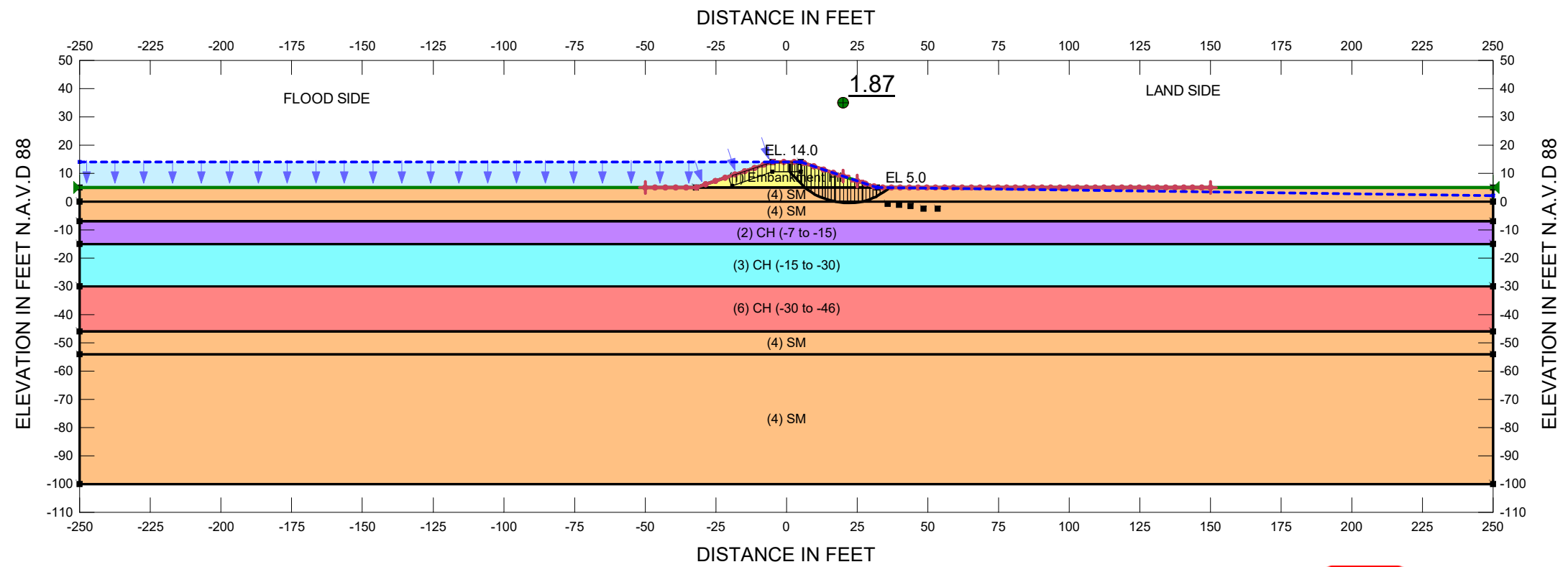
CASE: ALTERNATIVE 6



**US Army Corps
of Engineers**
New Orleans District

Eden Isles Levees

Alternative 6



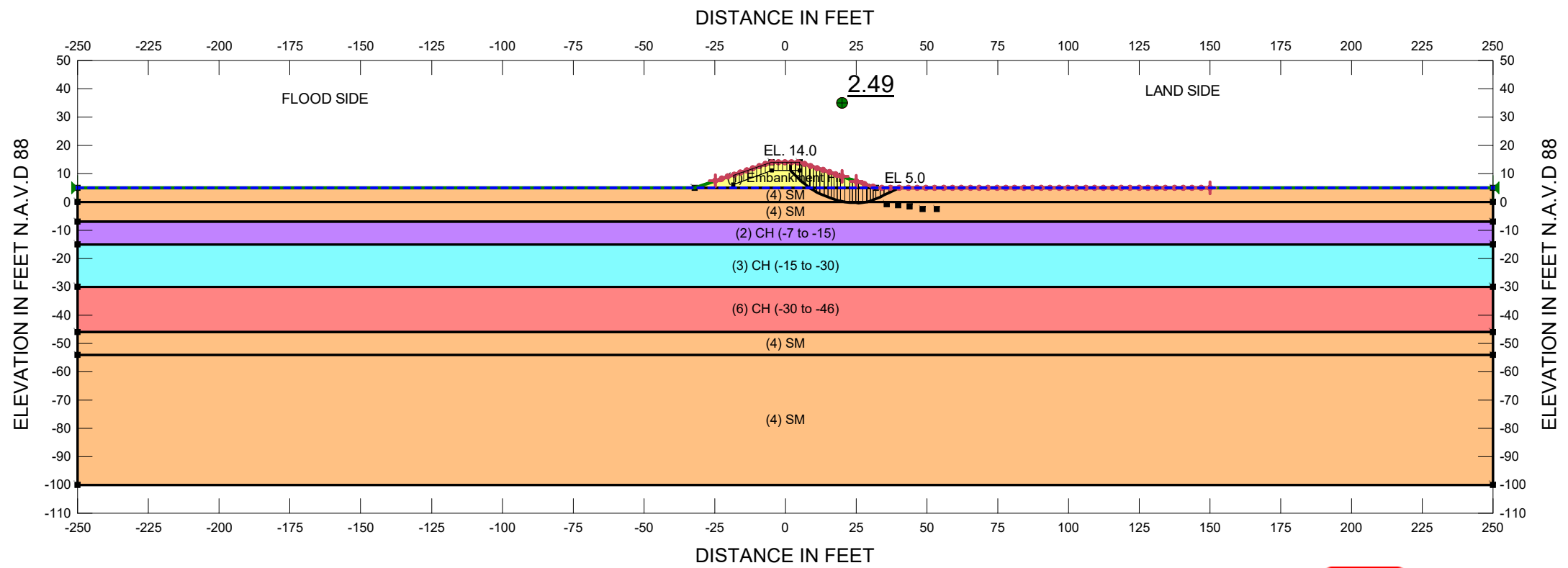
Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (-7 to -15)	Mohr-Coulomb	120	700	0
Cyan	(3) CH (-15 to -30)	Mohr-Coulomb	111	700	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Red	(6) CH (-30 to -46)	Mohr-Coulomb	110	600	0

EDEN ISLES LEVEES

CASE: ALTERNATIVE 6



**US Army Corps
of Engineers**
New Orleans District



Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (-7 to -15)	Mohr-Coulomb	120	700	0
Cyan	(3) CH (-15 to -30)	Mohr-Coulomb	111	700	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Red	(6) CH (-30 to -46)	Mohr-Coulomb	110	600	0

EDEN ISLES LEVEES

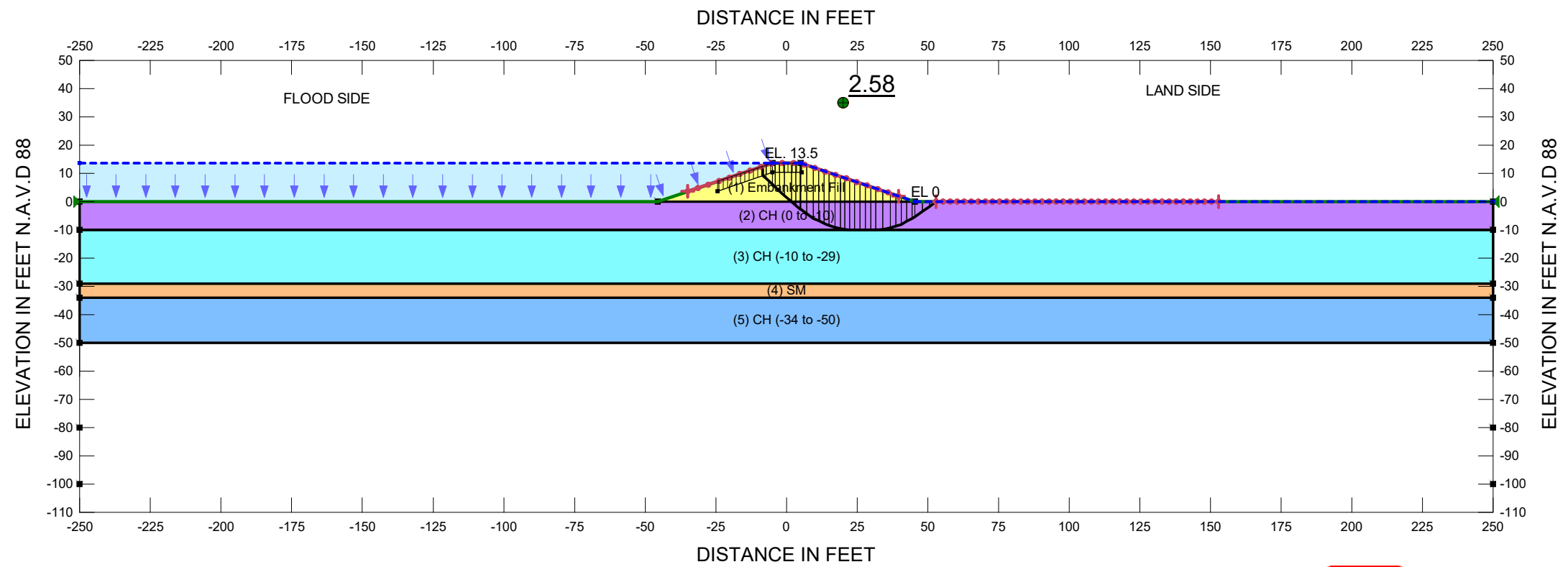
CASE: ALTERNATIVE 6



**US Army Corps
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New Orleans District

Oak Harbor Levees

Alternative 6



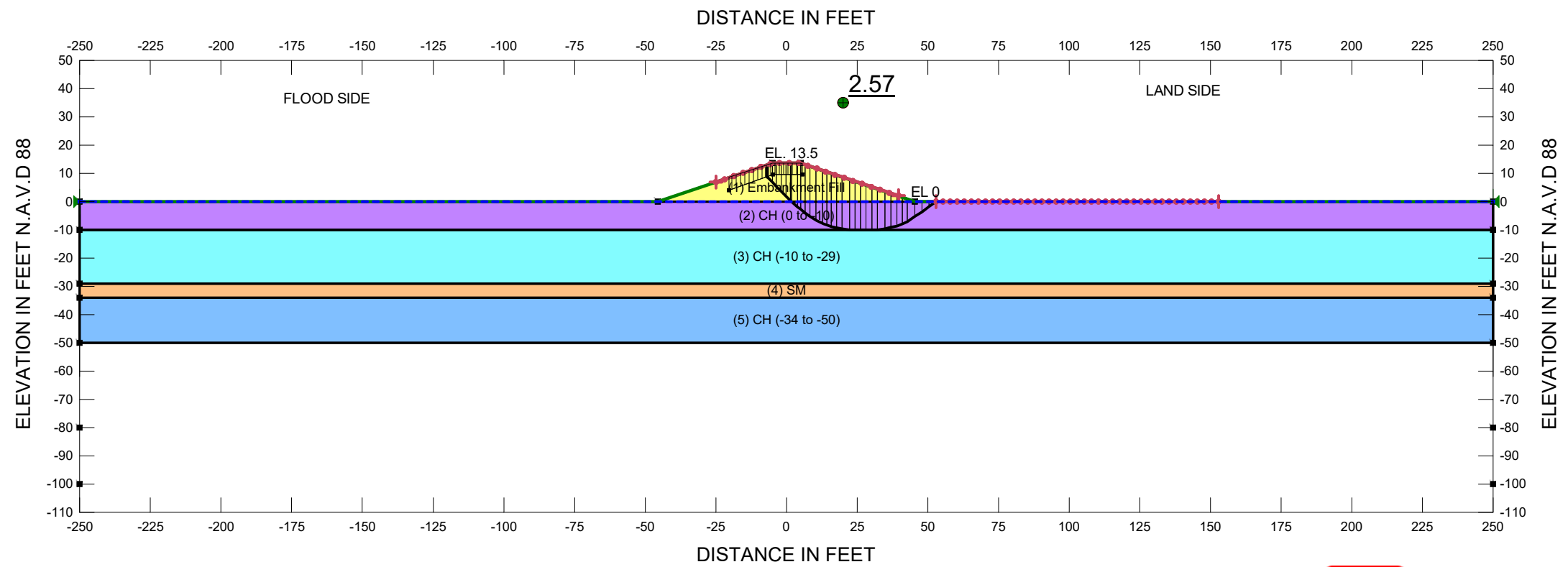
Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -10)	Mohr-Coulomb	125	650	0
Cyan	(3) CH (-10 to -29)	Mohr-Coulomb	118	1,030	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Blue	(5) CH (-34 to -50)	Mohr-Coulomb	110	640	0

OAK HARBOR LEVEES

CASE: ALTERNATIVE 6



**US Army Corps
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New Orleans District



Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -10)	Mohr-Coulomb	125	650	0
Cyan	(3) CH (-10 to -29)	Mohr-Coulomb	118	1,030	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Blue	(5) CH (-34 to -50)	Mohr-Coulomb	110	640	0

OAK HARBOR LEVEES

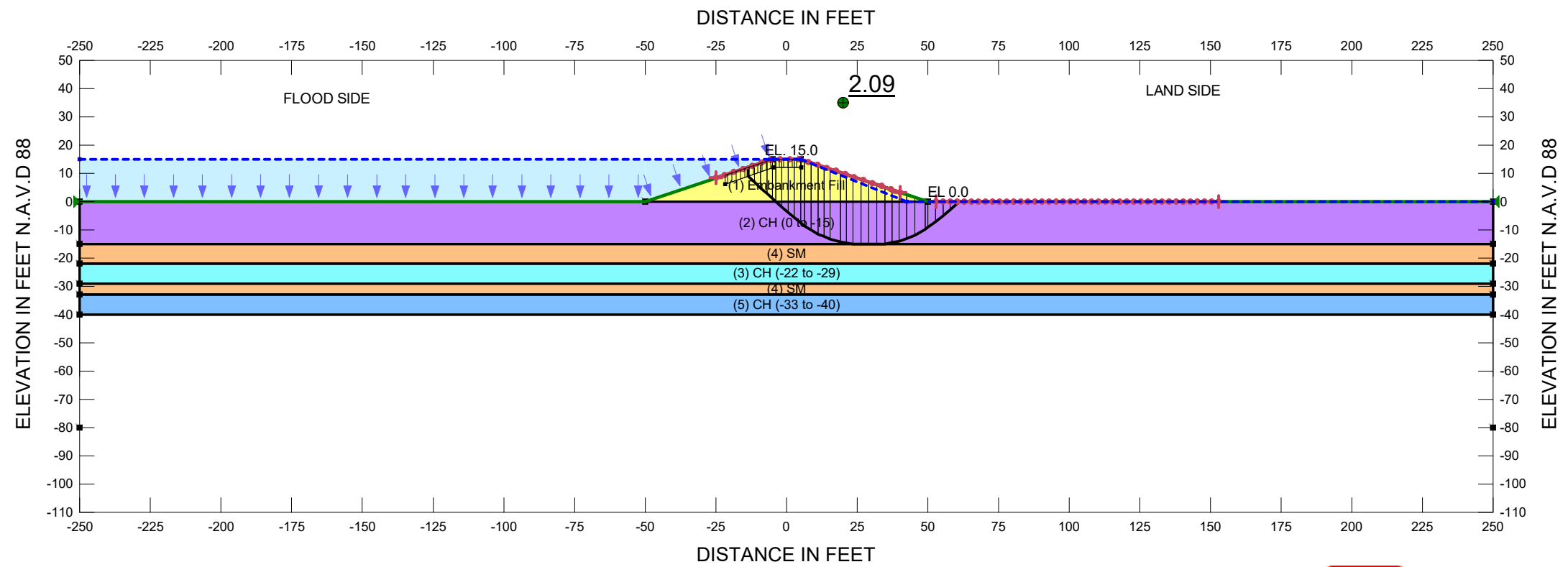
CASE: ALTERNATIVE 6



**US Army Corps
of Engineers**
New Orleans District

Pearl River Levees

Alternative 7



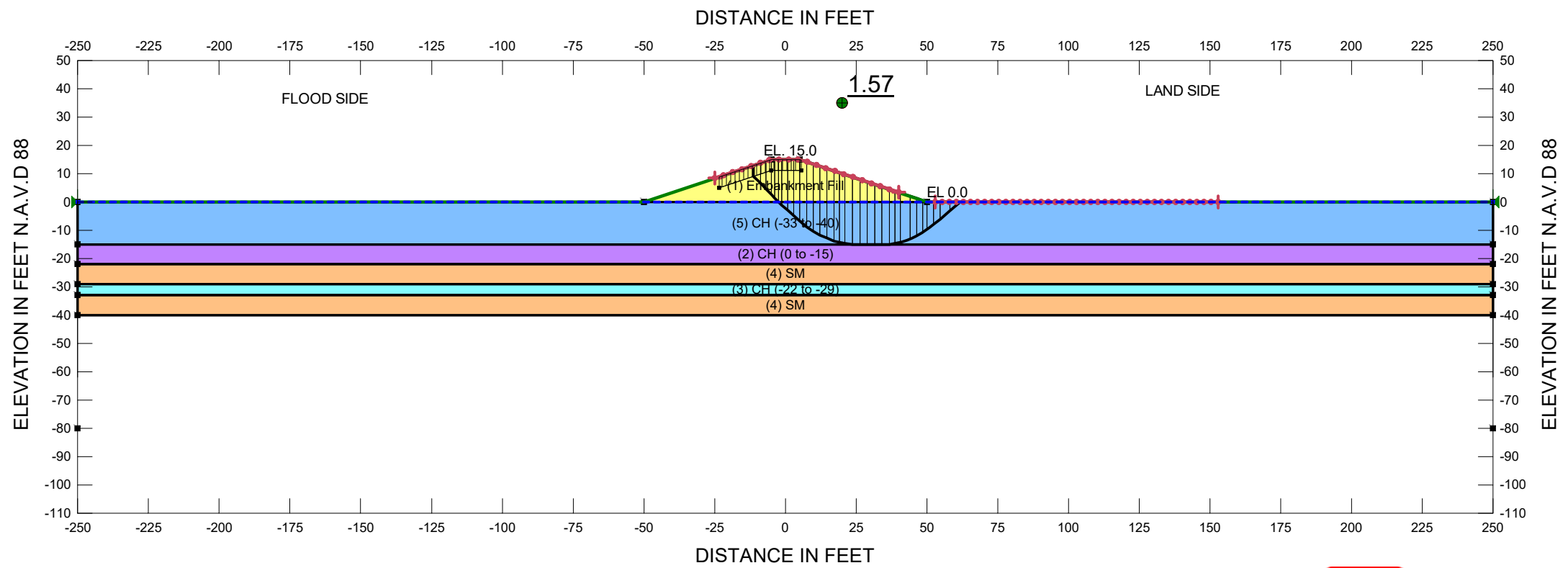
Color	Name	Model	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -15)	Mohr-Coulomb	124	605	0
Cyan	(3) CH (-22 to -29)	Mohr-Coulomb	114	1,000	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Blue	(5) CH (-33 to -40)	Mohr-Coulomb	120	430	0

PEARL RIVER LEVEE

CASE: ALTERNATIVE 7



**US Army Corps
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New Orleans District



Color	Name	Model	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
Yellow	(1) Embankment Fill	Mohr-Coulomb	115	600	0
Purple	(2) CH (0 to -15)	Mohr-Coulomb	124	605	0
Cyan	(3) CH (-22 to -29)	Mohr-Coulomb	114	1,000	0
Orange	(4) SM	Mohr-Coulomb	122	0	30
Blue	(5) CH (-33 to -40)	Mohr-Coulomb	120	430	0

PEARL RIVER LEVEE

CASE: ALTERNATIVE 7

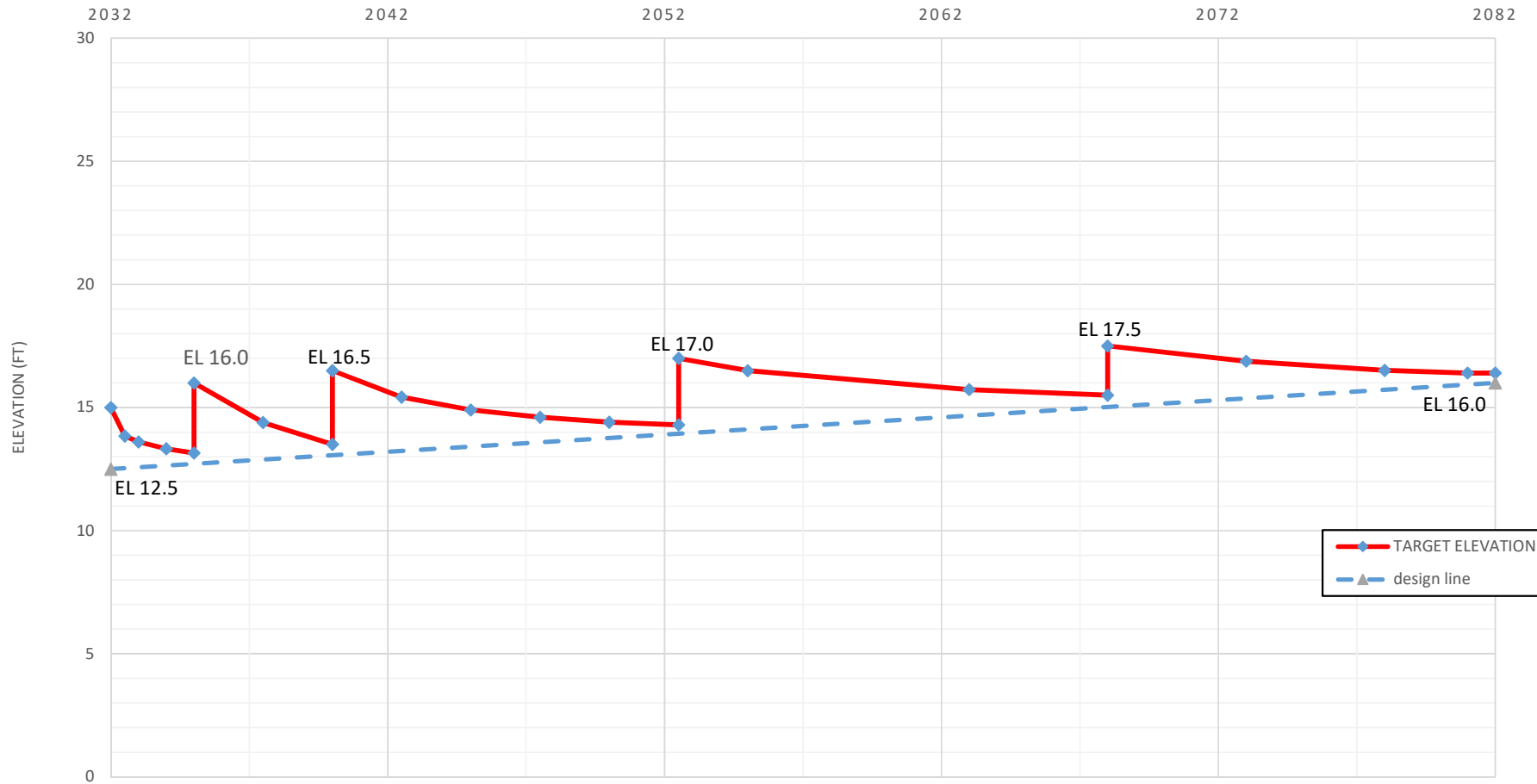


**US Army Corps
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New Orleans District

SECTION 5
Lift Estimates
Settlement

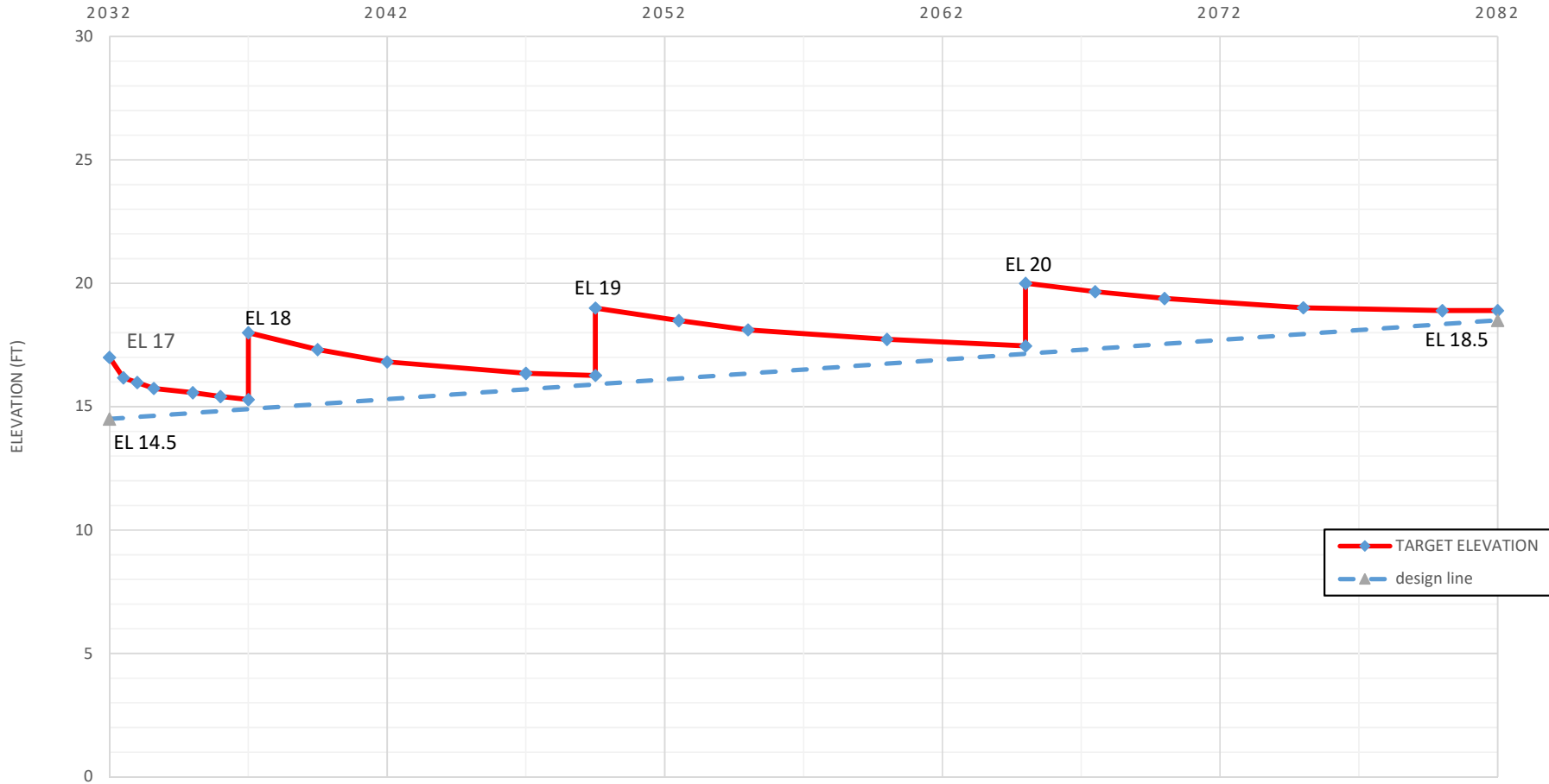
BAYOU LACOMBE - ALTERNATIVE 4

TIME (YEARS)



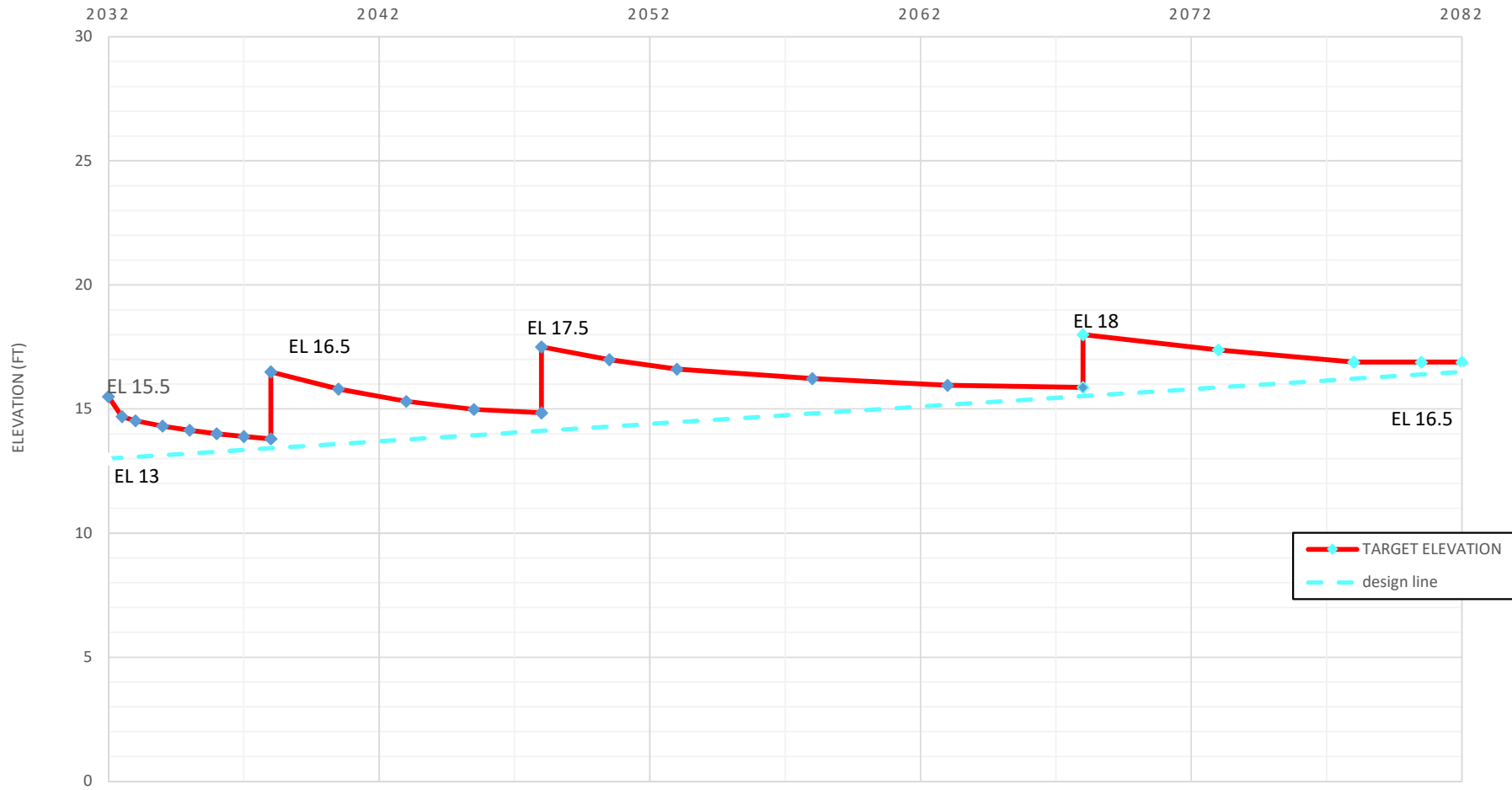
WEST SLIDELL RING LEVEE (CENTRAL) - ALTERNATIVE 5

TIME (YEARS)



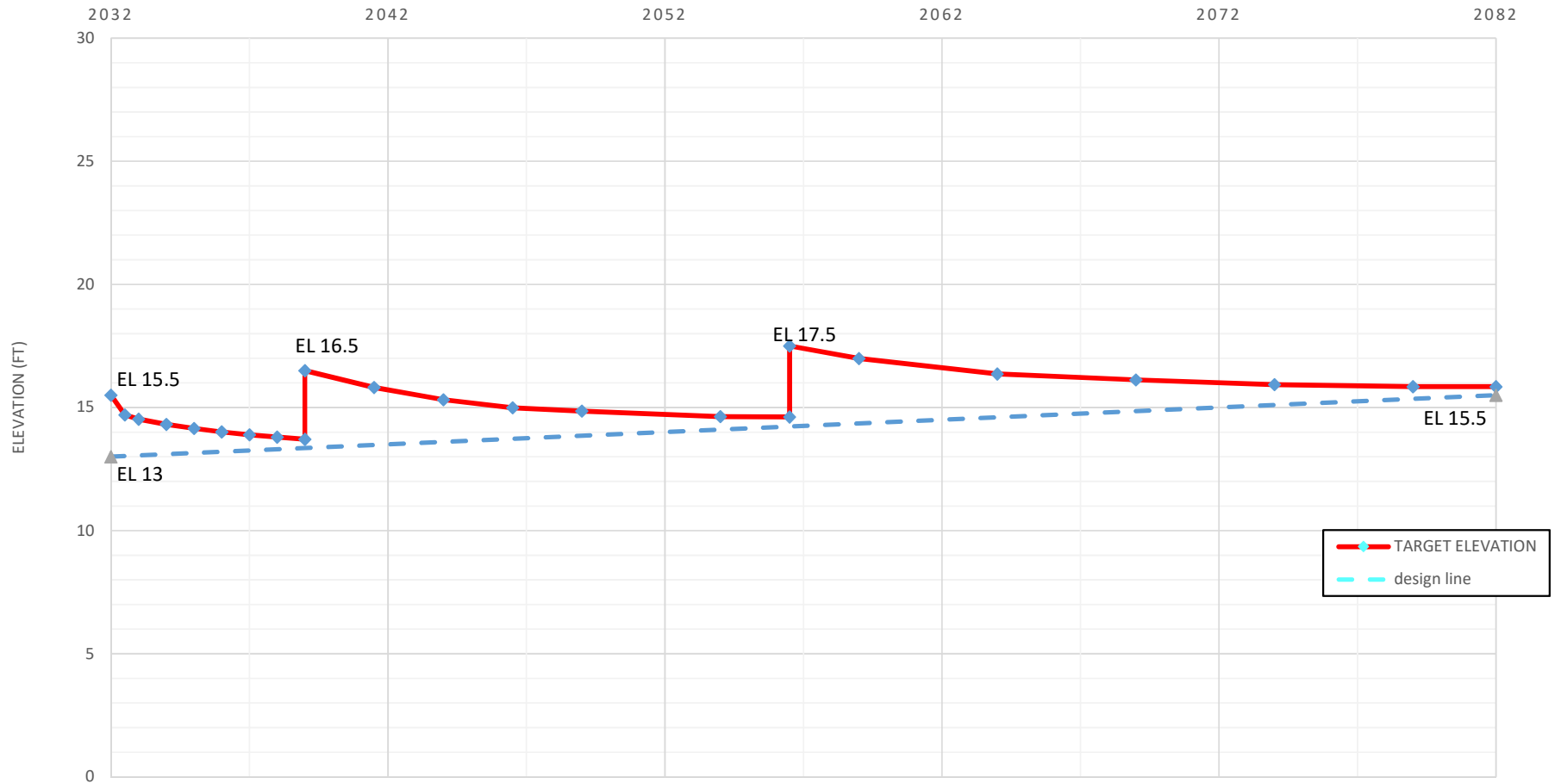
WEST SLIDELL RING LEVEE (EAST) - ALTERNATIVE 5

TIME (YEARS)



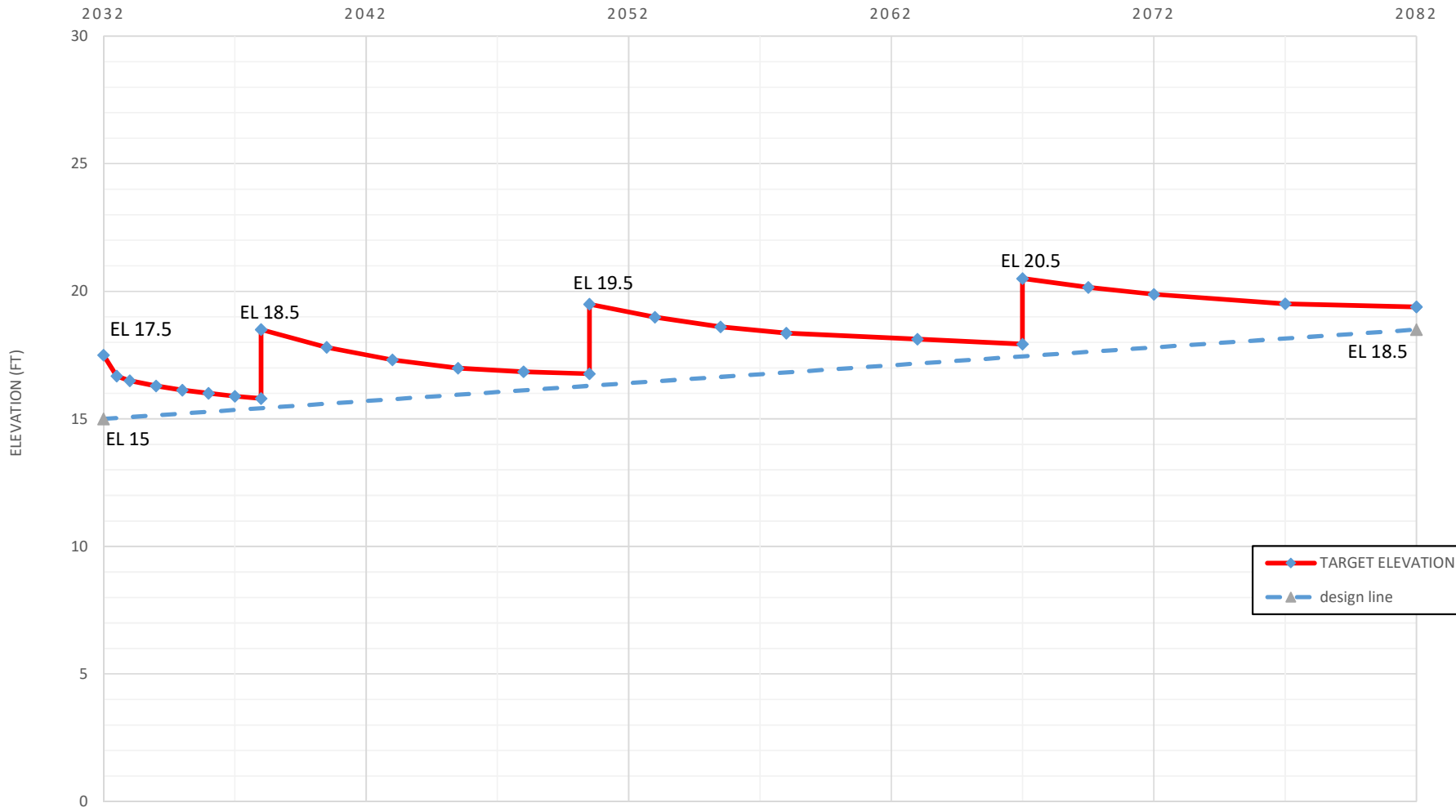
WEST SLIDELL RING LEVEE (WEST) - ALTERNATIVE 5

TIME (YEARS)



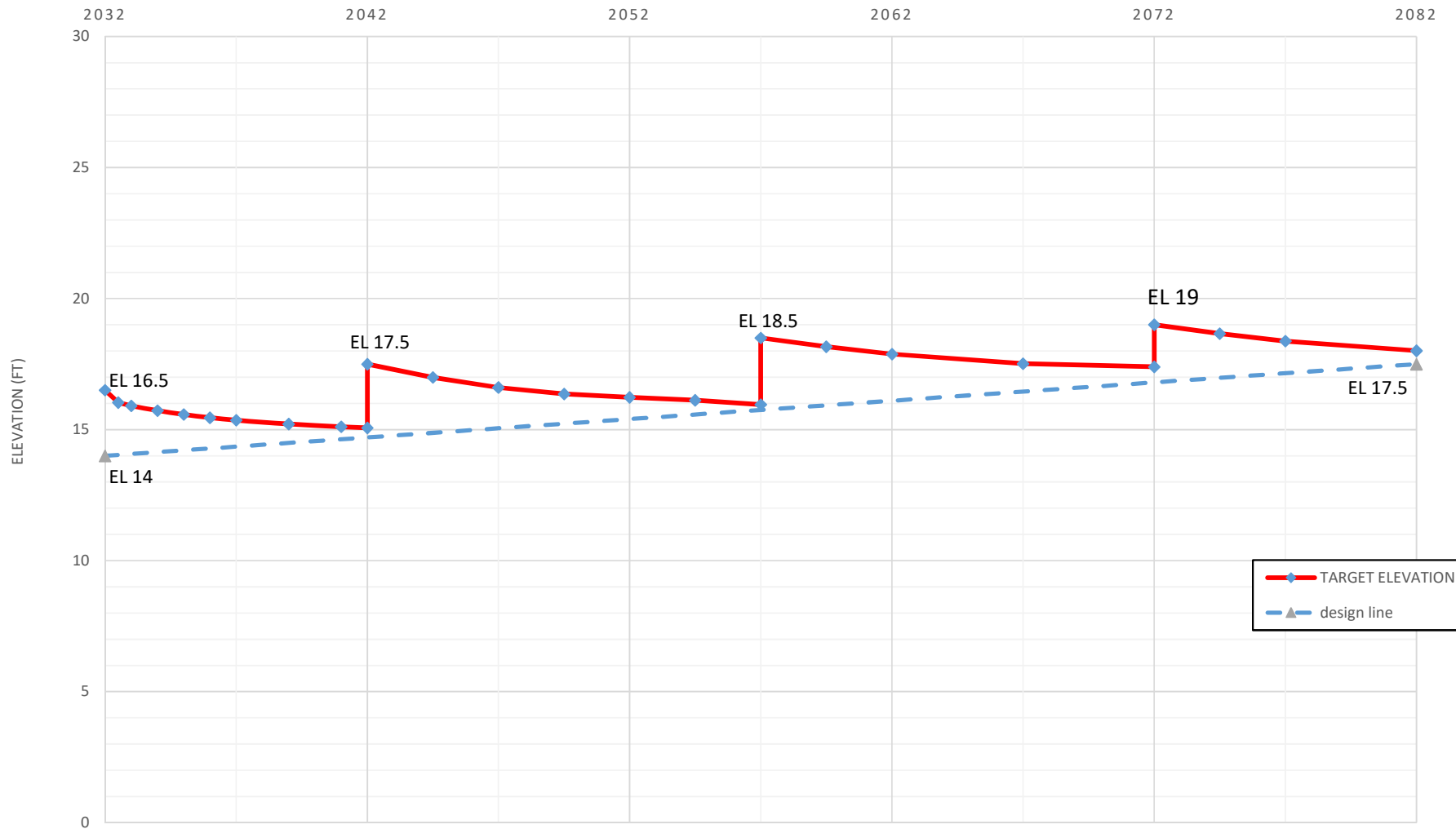
CPRA RING LEVEE/SLIDELL (I-10 AND EAST) - ALTERNATIVE 6

TIME (YEARS)



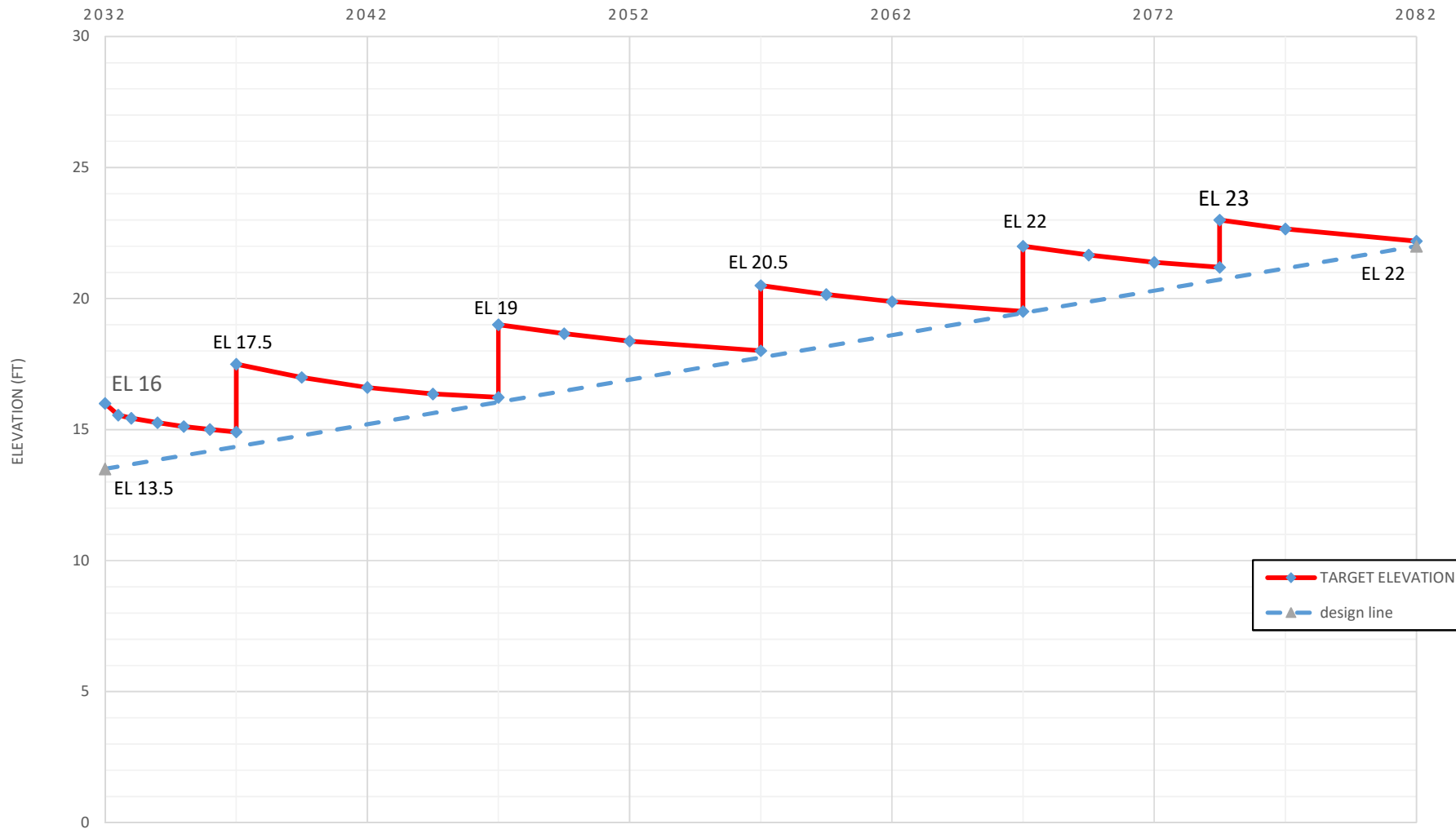
EDEN ISLE RING LEVEE (EAST) - ALTERNATIVE 6

TIME (YEARS)



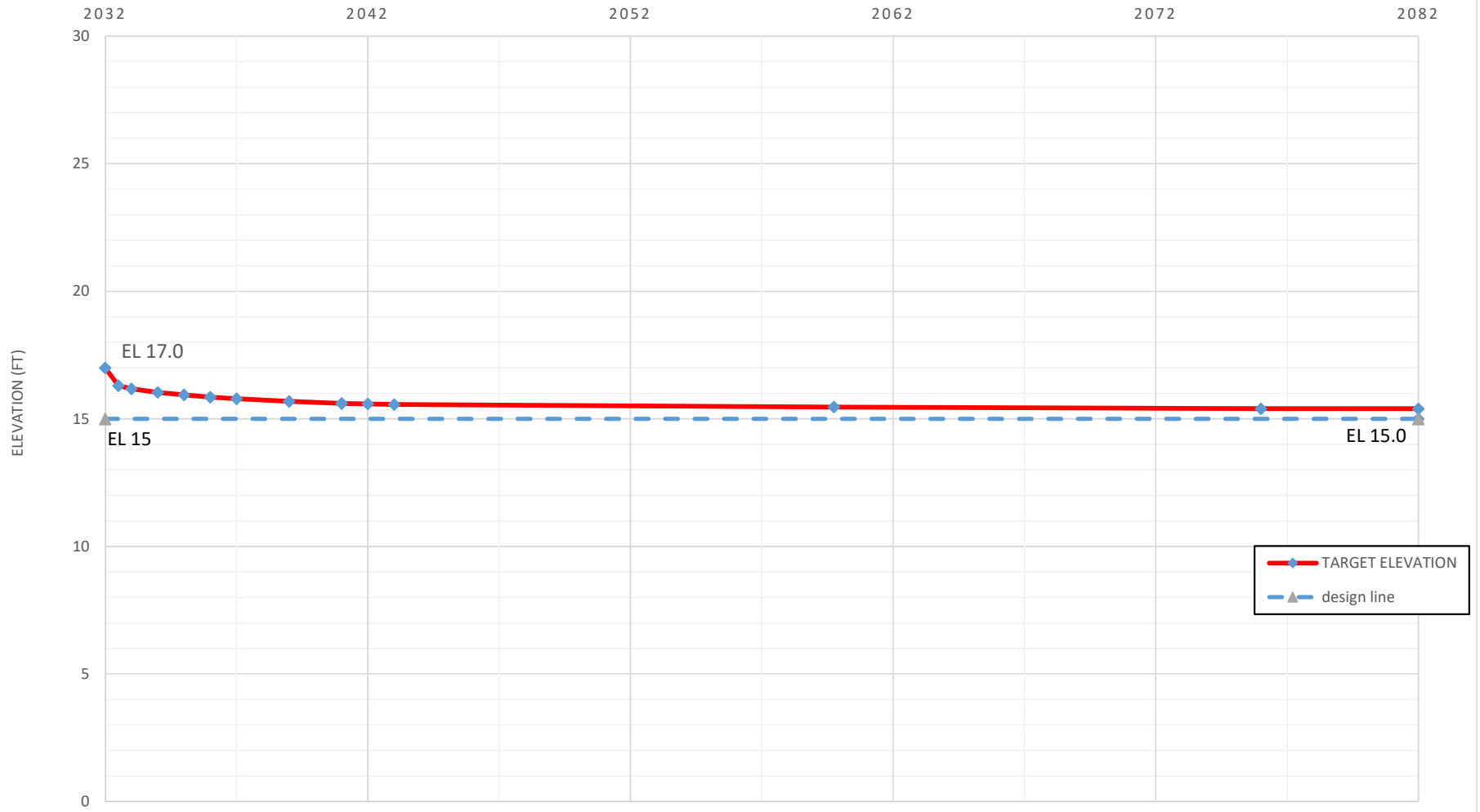
EDEN ISLES RING LEVEE (SOUTHEAST) - ALTERNATIVE 6

TIME (YEARS)



PEARL HARBOR LEVEE - ALTERNATIVE 7

TIME (YEARS)



SECTION 6
Pile Capacities

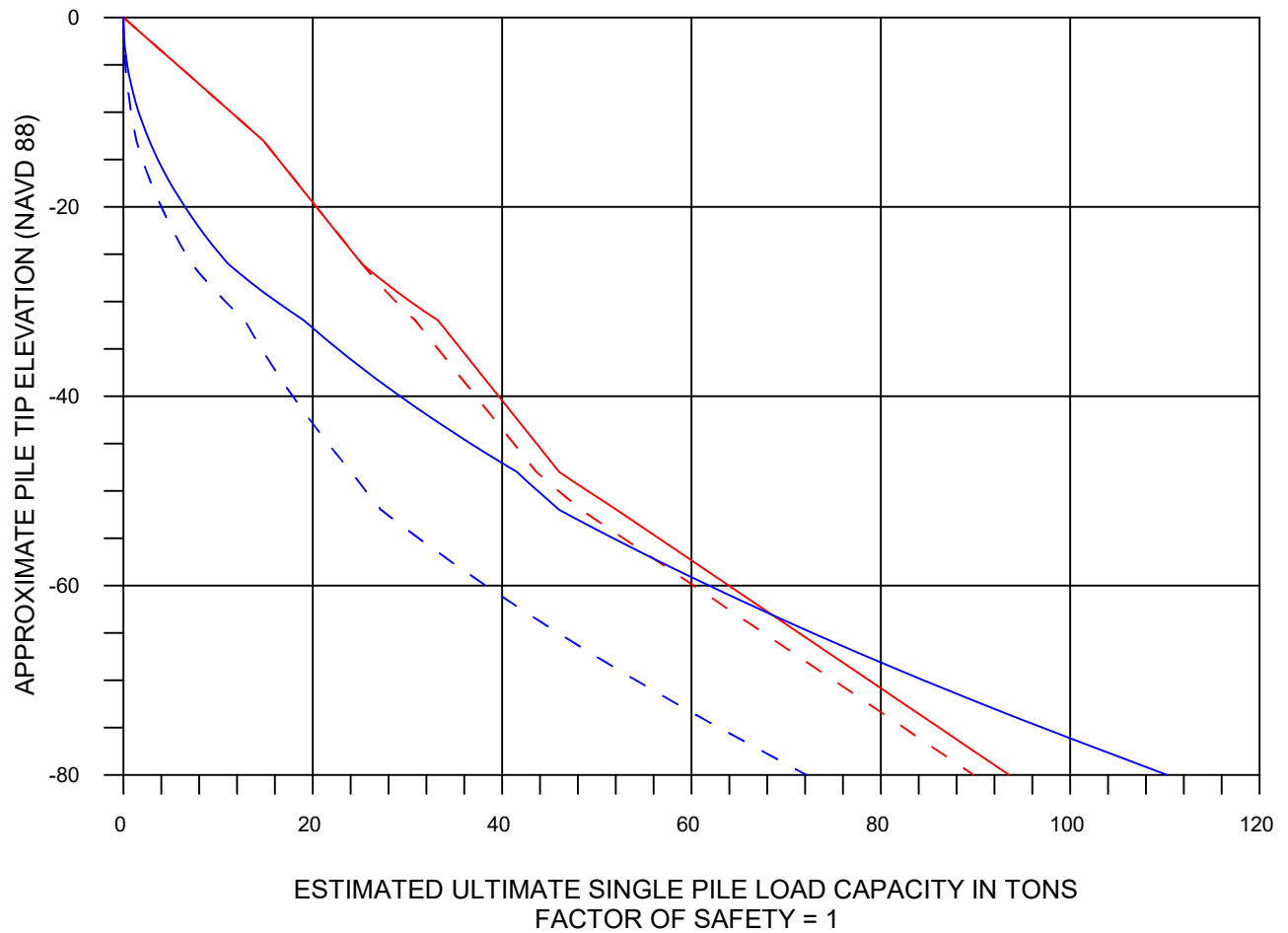
BAYOU LACOMBE/BONFOUCA/LIBERTY/PACQUET/VINCENT

FLOODGATE

Alternative 4 &5

Pile Capacities

ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
ST. TAMMANY BBA-18 (BAYOU LACOMBE/BONFOUCA/LIBERTY/PACQUET/VINCENT FLOODGATE)
12 x 74 INCH STEEL H-PILES
ALTERNATIVE 4 AND 5



LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

ALLOWABLE PILE LOAD CAPACITIES
 12 x 74 INCH STEEL H-PILES

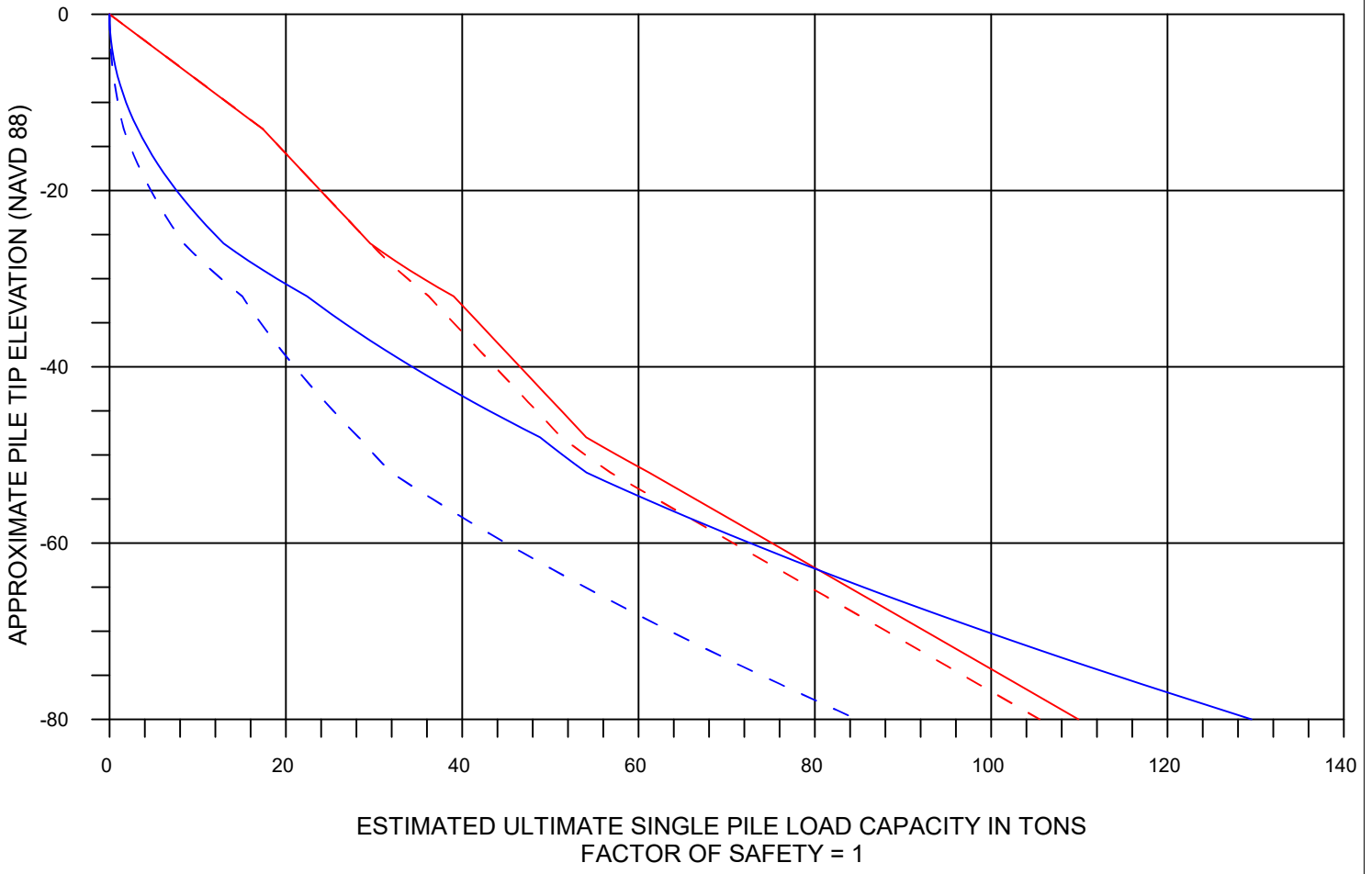
ST. TAMMANY BBA-18
 (BAYOU LACOMBE/BONFOUCA/LIBERTY/
 PACQUET/VINCENT FLOODGATE)
 ALTERNATIVE 4 AND 5

DRAWN BY: M.C.M

16 DECEMBER 2020

CHECKED BY:

ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
ST. TAMMANY BBA-18 (BAYOU LACOMBE/BONFOUCA/LIBERTY/PACQUET/VINCENT FLOODGATE)
14 x 73 INCH STEEL H-PILES
ALTERNATIVE 4 AND 5



LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

ALLOWABLE PILE LOAD CAPACITIES
 14 x 73 INCH STEEL H-PILES

ST. TAMMANY BBA-18
 (BAYOU LACOMBE/BONFOUCA/LIBERTY/
 PACQUET/VINCENT FLOODGATE)
 ALTERNATIVE 4 AND 5

DRAWN BY: M.C.M

16 DECEMBER 2020

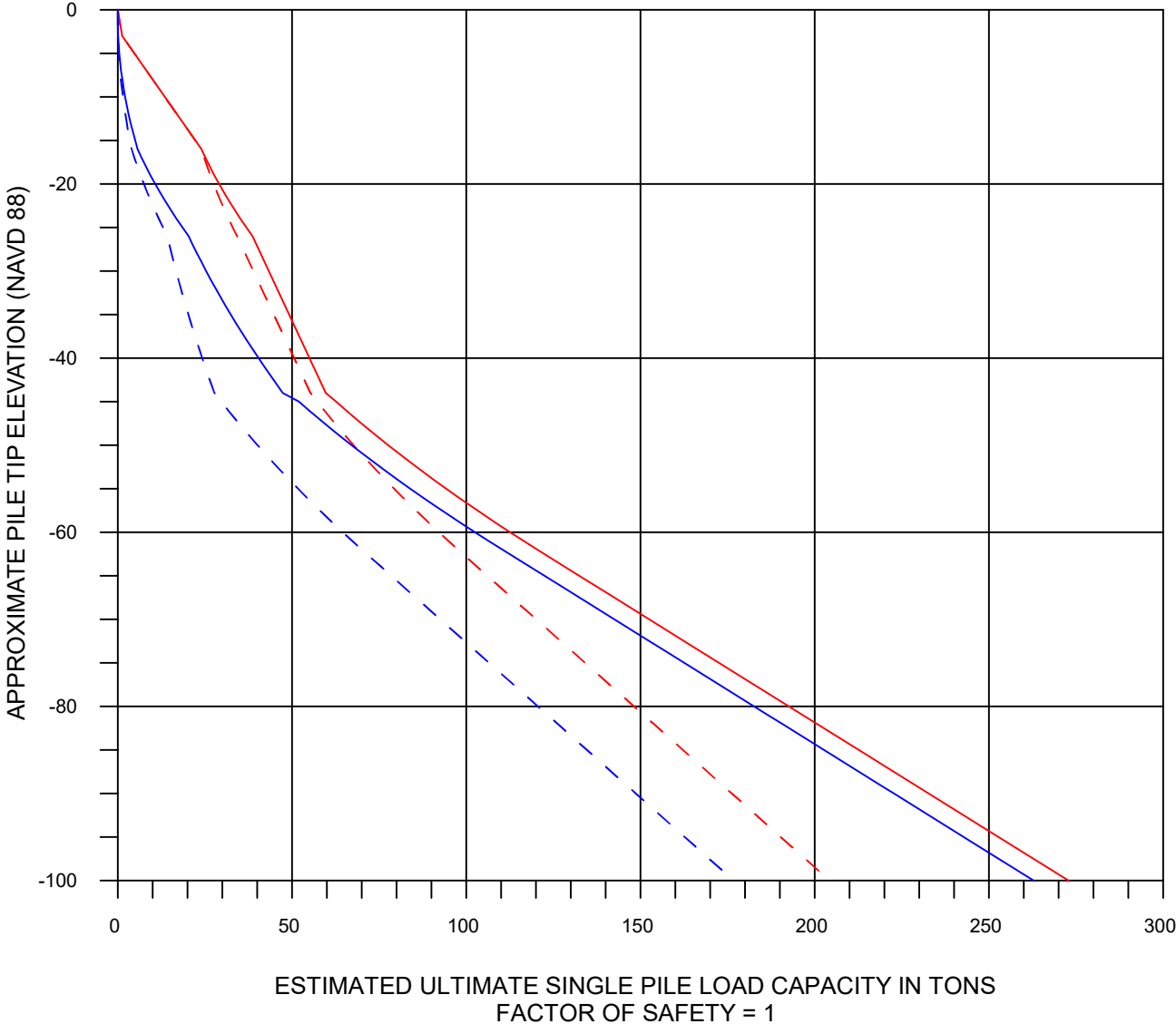
CHECKED BY:

W-14 FLOODGATE AND OLD SPANISH TRAIL FLOODGATE

Alternative 6

Pile Capacities

**ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
ST. TAMMANY BBA-18 (W-14 FLOODGATE AND OLD SPANISH TRAIL FLOODGATE)
12 x 74 INCH STEEL H-PILES
ALTERNATIVE 6**

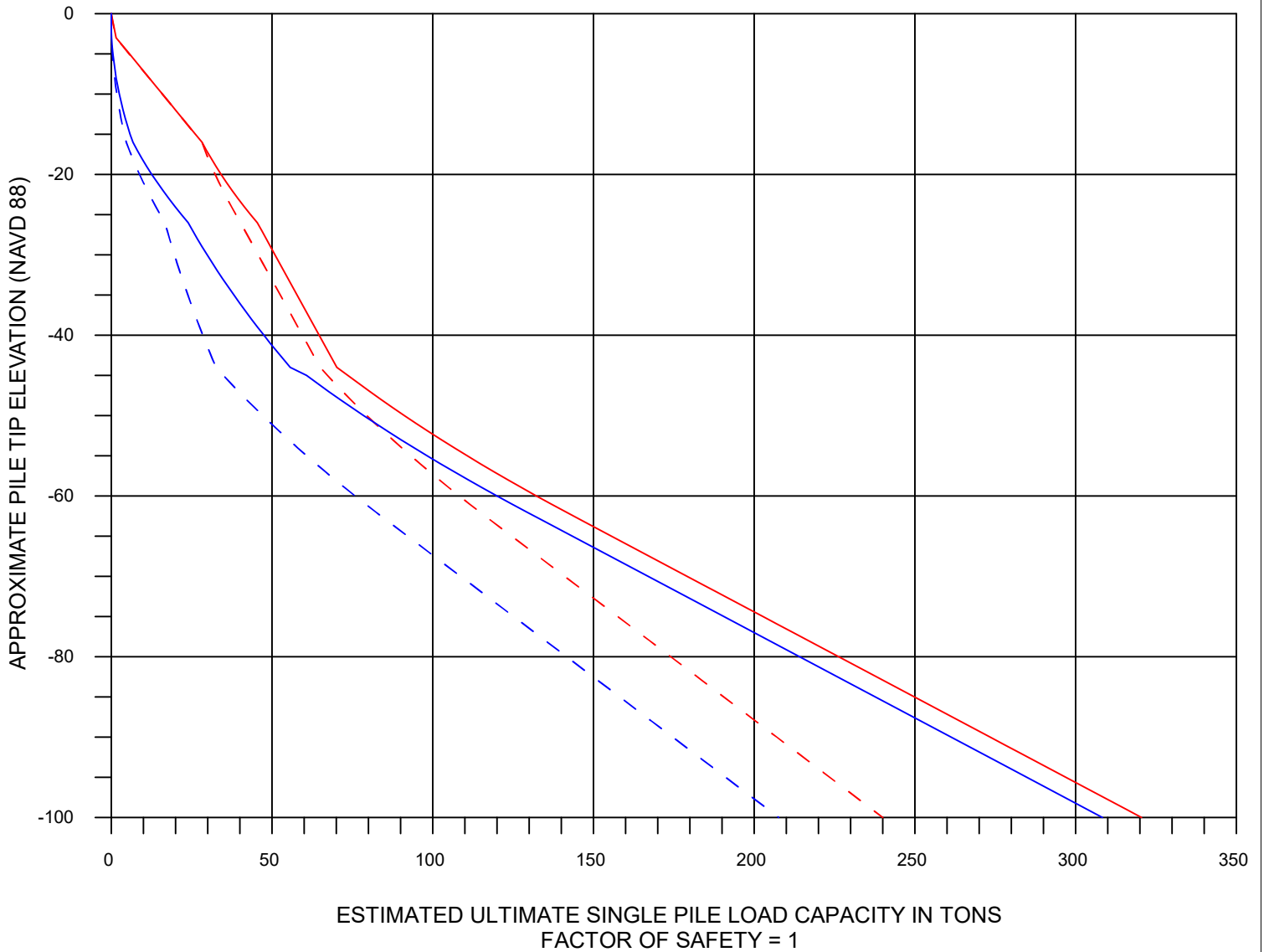


LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

ALLOWABLE PILE LOAD CAPACITIES 12 x 74 INCH STEEL H-PILES		
ST TAMMANY BBA-18 (W-14 FLOODGATE AND OLD SPANISH TRAIL FLOODGATE) ALTERNATIVE 6		
DRAWN BY: M.C.M	16 DECEMBER 2020	CHECKED BY:

**ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
ST. TAMMANY BBA-18 (W-14 FLOODGATE AND OLD SPANISH TRAIL FLOODGATE)
14 x 73 INCH STEEL H-PILES
ALTERNATIVE 6**



LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

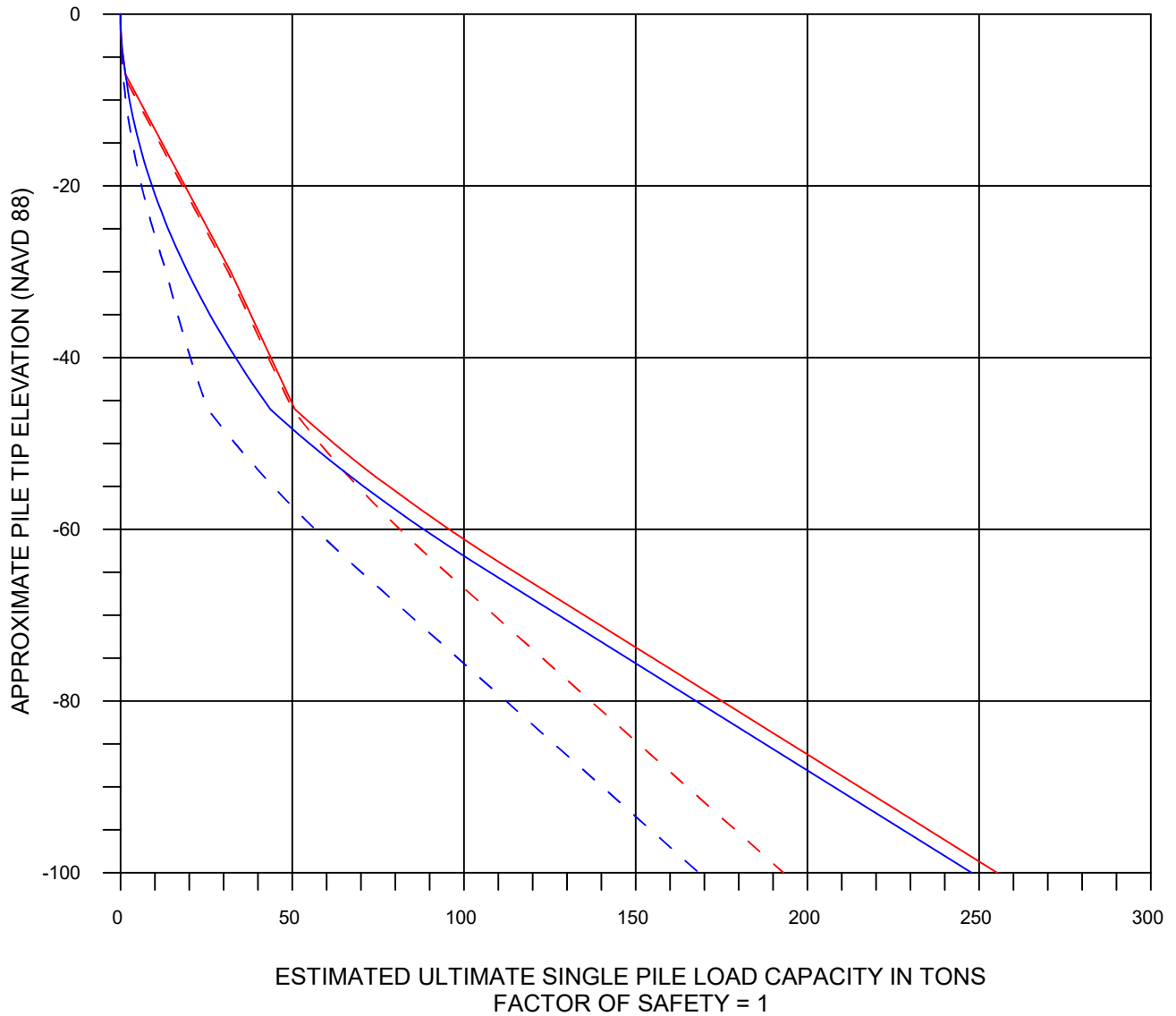
ALLOWABLE PILE LOAD CAPACITIES= 14 x 73 INCH STEEL H-PILES		
ST TAMMANY BBA-18 (W-14 FLOODGATE AND OLD SPANISH TRAIL FLOODGATE) ALTERNATIVE 6		
DRAWN BY: M.C.M	16 DECEMBER 2020	CHECKED BY:

I-10 ACCESS GATES, EDEN ISLES MARINA GATE, SOUTH, SOUTHWEST,
WEST FLOODWALLS

Alternative 6

Pile Capacities

ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
ST. TAMMANY BBA-18
(I-10 ACCESS GATES, EDEN ISLES MARINA GATE, SOUTH, SOUTHWEST, WEST FLOODWALLS)
12 x 74 INCH STEEL H-PILES
ALTERNATIVE 6

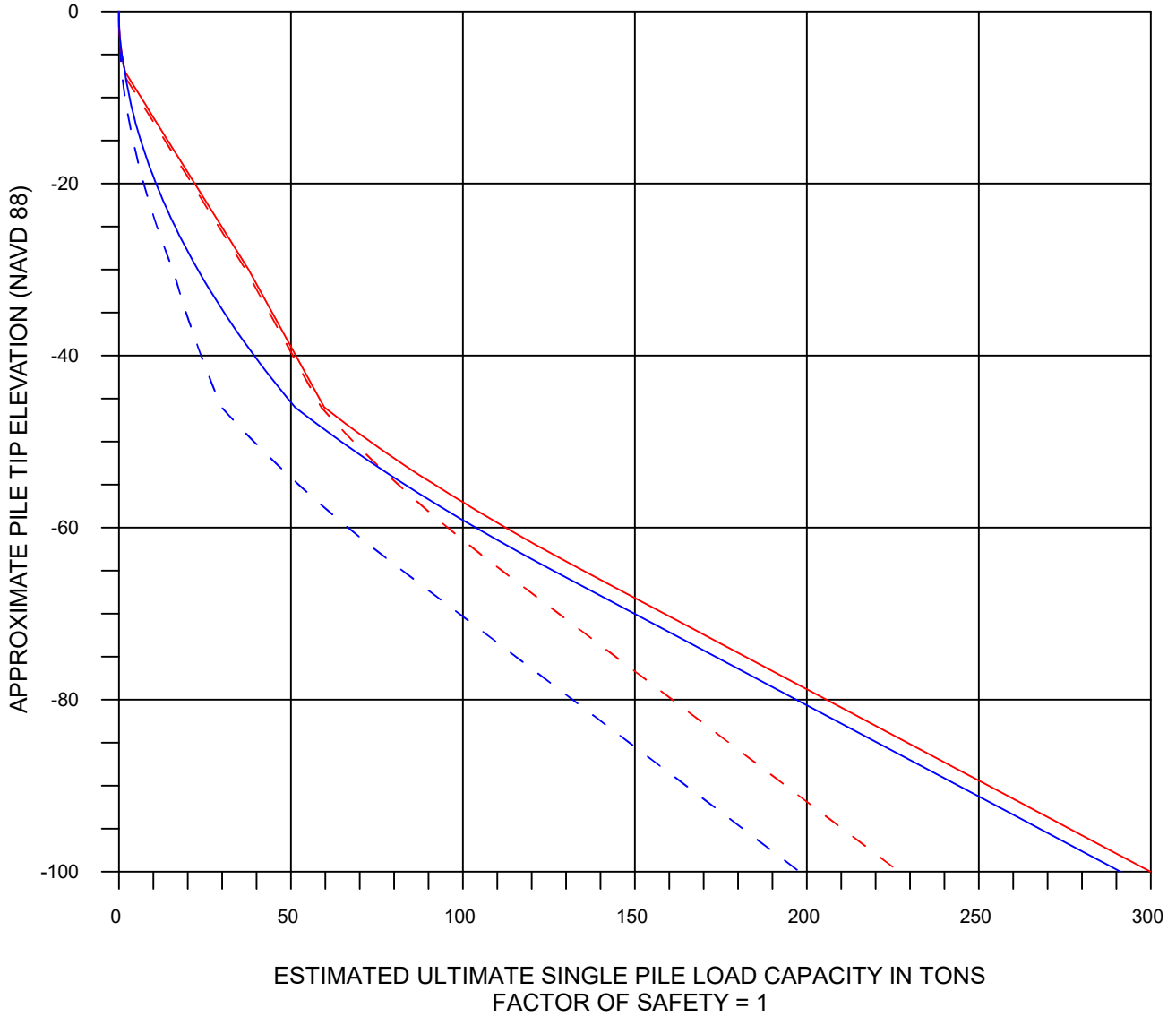


LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

ALLOWABLE PILE LOAD CAPACITIES 12 x 74 INCH STEEL H-PILES		
ST. TAMMANY BBA-18 (I-10 ACCESS GATES, EDEN ISLES MARINA GATE, SOUTH, SOUTHWEST, WEST FLOODWALLS) ALTERNATIVE 6		
DRAWN BY: M.C.M	16 DECEMBER 2020	CHECKED BY:

ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
ST. TAMMANY BBA-18
(I-10 ACCESS GATES, EDEN ISLES MARINA GATE, SOUTH, SOUTHWEST, WEST FLOODWALLS)
14 x 73 INCH STEEL H-PILES
ALTERNATIVE 6



LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

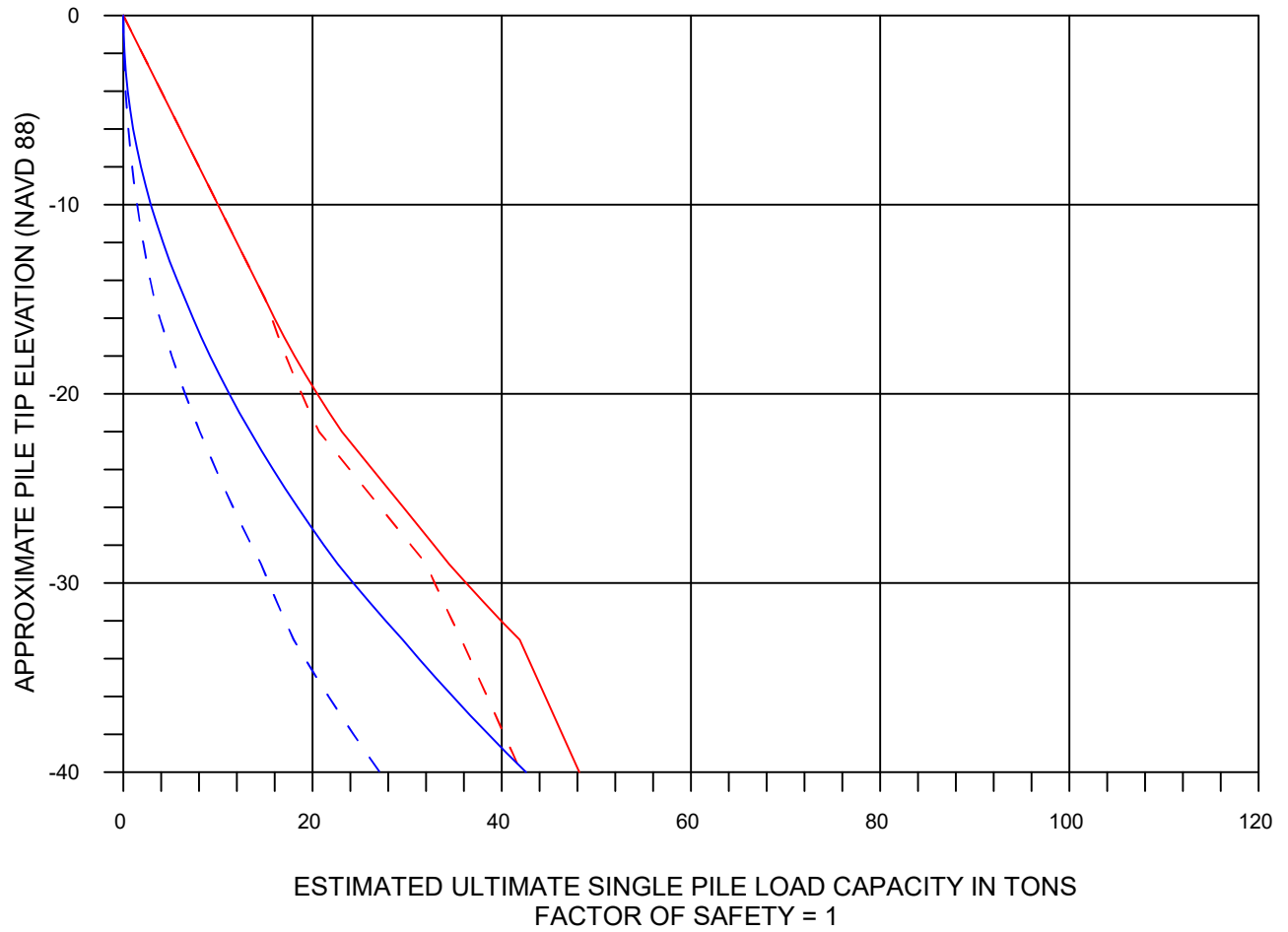
ALLOWABLE PILE LOAD CAPACITIES 14 x 73 INCH STEEL H-PILES		
ST. TAMMANY BBA-18 (I-10 ACCESS GATES, EDEN ISLES MARINA GATE, SOUTH, SOUTHWEST, WEST FLOODWALLS) ALTERNATIVE 6		
DRAWN BY: M.C.M	16 DECEMBER 2020	CHECKED BY:

PEARL RIVER FLOODWALLS

Alternative 7

Pile Capacities

ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
 ST. TAMMANY BBA-18 (PEARL RIVER FLOODWALLS)
 12 x 74 INCH STEEL H-PILES
 ALTERNATIVE 7



LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

ALLOWABLE PILE LOAD CAPACITIES
 12 x 74 INCH STEEL H-PILES

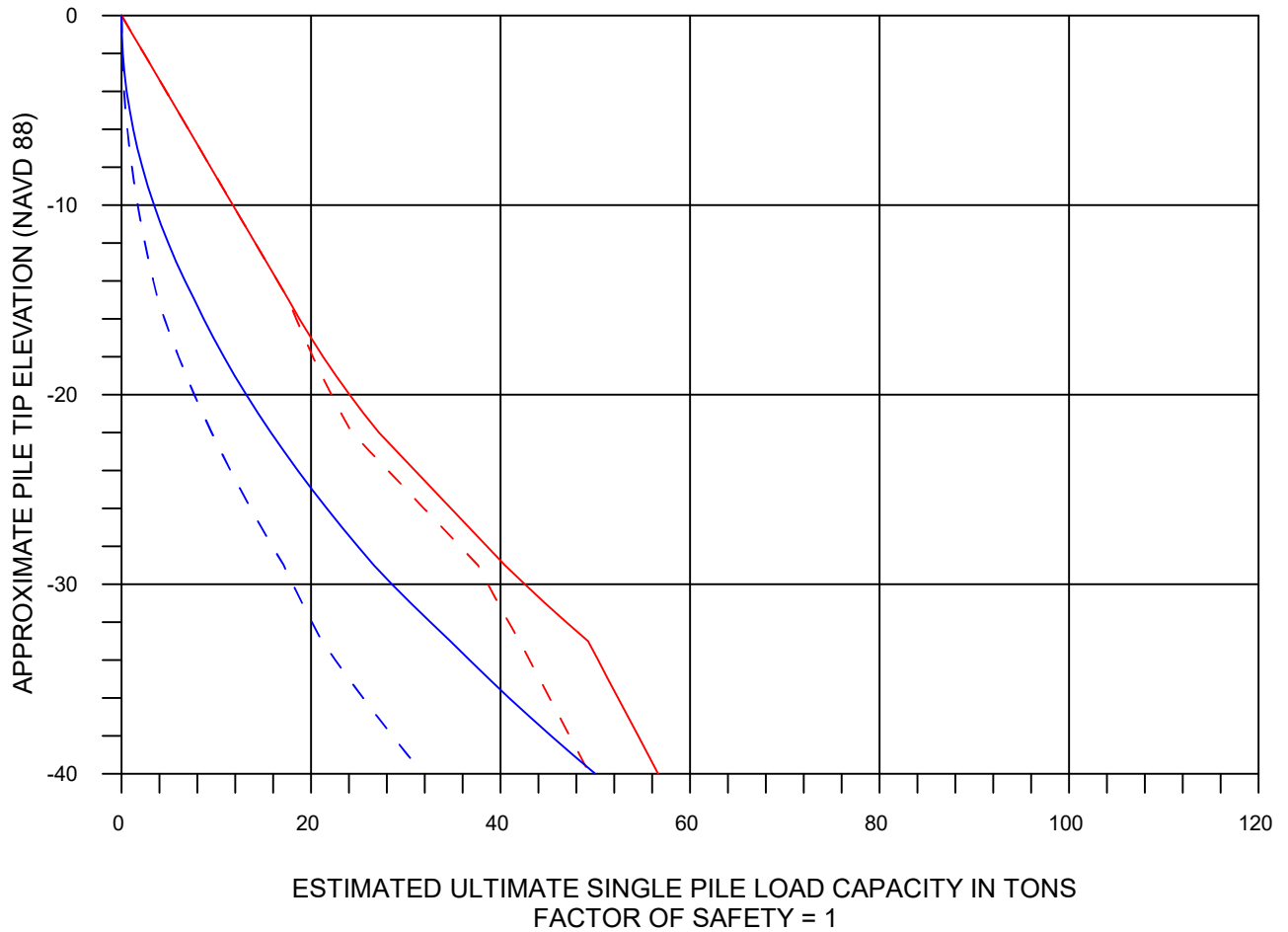
ST. TAMMANY BBA-18
 (PEARL RIVER FLOODWALLS)
 ALTERNATIVE 7

DRAWN BY: M.C.M

16 DECEMBER 2020

CHECKED BY:

ESTIMATED ULTIMATE SINGLE PILE LOAD CAPACITIES
 ST. TAMMANY BBA-18 (PEARL RIVER FLOODWALLS)
 14 x 73 INCH STEEL H-PILES
 ALTERNATIVE 7



LEGEND

- Q-CASE: COMPRESSION PILE CAPACITY
- - - Q-CASE: TENSION PILE CAPACITY
- S-CASE: COMPRESSION PILE CAPACITY
- - - S-CASE: TENSION PILE CAPACITY

ALLOWABLE PILE LOAD CAPACITIES
 14 x 73 INCH STEEL H-PILES

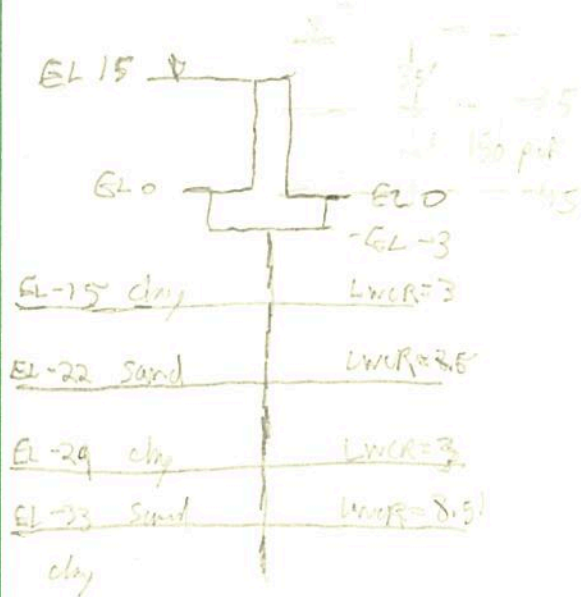
ST. TAMMANY BBA-18
 (PEARL RIVER FLOODWALLS)
 ALTERNATIVE 7

DRAWN BY: M.C.M

16 DECEMBER 2020

CHECKED BY:

SECTION 7
Lane's Weighted Creep
Sheetpile Lengths



$$LWCR = \frac{H}{\frac{3}{2} + d_{wv}} \Rightarrow \text{assume } H=0 \text{ for estimate on quantity.}$$

$$V = \frac{(LWCR)(h)}{2} = \frac{3(15')}{2} = 22.5'$$

Equivalent thickness:

$$\text{clay} = \frac{3}{3}(12') = 12' \text{ and } \frac{3}{3}(7') = 7'$$

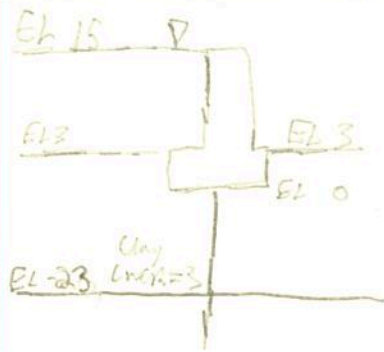
$$\text{sand} = \frac{3}{8.5}(1') = 2.5' \text{ and } \frac{3}{8.5}(4') = 1.4'$$

Need to cover 23'

$$12' + 2.5' + 7' + 1.4' = 22.9' \text{ extend } 5' \text{ into clay}$$

So, use 35' sheetpiles for alternate "1" floodwall.

Soil properties based on Slidell memorial hospital boring for Eustis's job 13418 which was closest available geotech data



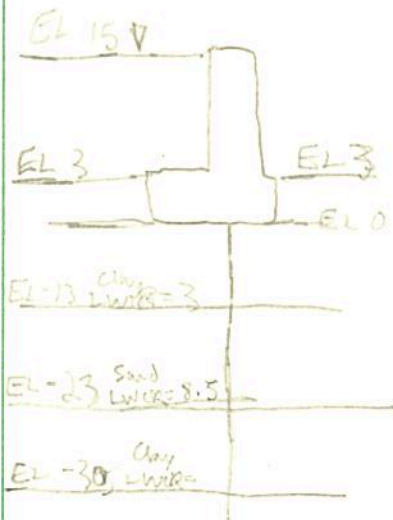
$$LWCR = \frac{H}{2} + 2v \Rightarrow$$

assume $H=0$ for estimate on quantity

$$V = \frac{(LWCR)(h)}{2}$$

$$V = \frac{3(12)}{2} = 18' \leftarrow 18' \text{ sheet should be fine}$$

Check some water loading at another location.



$$V = 18'$$

equivalent thickness:

$$\begin{aligned} \text{clay} &= \frac{3}{3} (10') = 10' \\ \text{sand} &= \frac{3}{8.5} (10') = 3.5' \\ \text{clay} &= \frac{3}{3} (11') = 11' \\ &= 20.5' \end{aligned}$$

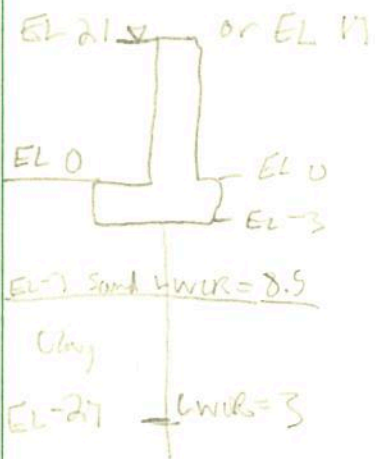
Will use different sheet lengths at different locations.

Use 20' length for the South Slidell surge reduction which has deeper sand

Use 25' length for W-14 gate which has deeper sand

Surge reduction uses 13965 Estia project

W-14 uses 10463 Estia project



$$LWCR = \frac{H}{3} \Rightarrow \text{assume } H=0 \text{ for estimate on quantity}$$

$$V = \frac{(LWCR)(h)}{2} = \frac{3(21)}{2} = 31.5$$

$$\text{or } V = \frac{3(17)}{2} = 25.5$$

Equivalent thickness:

$$\text{Sand} = \frac{3}{8.5} (4') = 1.5$$

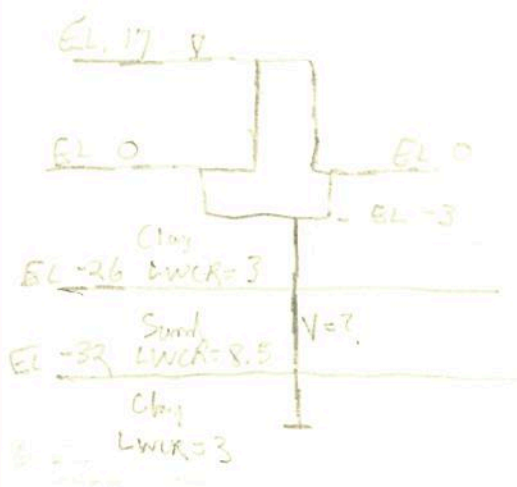
and clay for 21' or 30'

Soil properties based on St. Tammany Events Center boring for Eustis job 16613 which has closest available geotech data.

Use 30' for jobs with less water loading in alternative 6.

Eden Isle I-10 walls will utilize 30' sheets

Eden Isles Marina Gate, South, SW, West utilize 35' sheets



$$LWCR = \frac{H/3 + 2V}{h} \Rightarrow$$

assume $H=0$ for estimate on quantity

$$V = \frac{(LWCR)(h)}{2}$$

Equivalent thickness:

$$\text{clay} = \frac{3}{3}(23') = 23'$$

$$\text{sand} = \frac{3}{8.5}(6') = 2.1'$$

$$V = \frac{3 \left(\overset{\leftarrow \text{clay equivalent}}{17} \right)}{2} = 25.5$$

$25.1 < 25.5$, extend into clay

So, use 35' sheetpiles for all alternate 4 floodwalls

Soil properties based on Delwood Pumping Station boring for Everts job 13965 which was closest available geotechnical data at

Other assumptions:

- assumed base width of 0
- assumed clay for first 26 ft rather than 6 ft sand
- * geology could change with site specific boring
- assumed 3 ft. slab and ground elev. at 0
- assumed top of slab at ground elevations

Can also apply to alternative 5