MOTT MACDONALD

PORT OF MOBILE
ALABAMA PORT AUTHORITY

APPENDIX A

GEOTECHNICAL REPORT

Geotechnical Engineering-Testing, Inc.

PROFESSIONAL ENGINEERS

Geotechnical Evaluations - Geosciences - Construction Materials - Pavement Management

May 6, 2024

Mott MacDonald
107 St. Francis Street
Suite 2900
Mobile, AL 36602

Attn.: Lowry J. Denty, P.E., Vice President, Principal Project Manager

Re: Extended Soil Test Borings - Proposed Renovation of Pier B South at the Alabama State Port Authority in Mobile, Alabama (GET Project #18-152)

Gentlemen:

In accord with the recommendation in our November 14, 2023 Supplemental Report #2, and as authorized by Mott MacDonald Work Order dated January 9, 2024, Geotechnical Engineering-Testing, Inc. (GET) has completed the extension of six soil test borings at the subject project site. As a reminder, this was necessitated, in our opinion, by the fact that the design pile tip elevations for new piles near the face of the renovated pier is about -80 ft. The original soil test borings were terminated near El. -70 ft. The extended soil test borings were terminated near El. -100 ft. The amended Logs of Boring and Boring Location Plan are attached.

The extended soil test borings encountered essentially the same soil conditions from about El. -70 ft to El. -100 ft as were encountered below El. -40 ft in the original borings. Therefore, we do not recommend any changes to the pile capacity recommendations presented in Supplemental Report #2.

GET appreciates this opportunity to be of service to Mott MacDonald. Please contact Hank Oakes, P.E. if questions arise of if additional information is needed.

Sincerely,

GEOTECHNICAL ENGINEERING-TESTING, INC.

Hank M. Oakes

Hank M. Oakes, P.E.
Sr. Project Engineer
Alabama License No. 19576

Attachments

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/29/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 90' TO 110' ON 3/7/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-2

BORING LOCATION: 30°42.510'N, 88°02.600'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete Wharf										
5												
10												
15		Wharf to Mudline										
20												
25												
30		Loose to firm dark gray fine sand w/ some shell fragments	1	7		31				12.1		
35			2	10								
40		Soft dark brown & dark gray clay w/ wood	3	2		97	99	52	44		c=0.13	
45			4	2		85						
50		Firm gray silty sand	5	15		32				21.9		
55		Firm gray fine sand w/ clay lenses	6	18		32						
60		Firm light brown fine to medium sand	7	14								
65			8	16		27				4.4		
70		Dense light brown fine to coarse sand w/ small gravel & very small clay pockets	9	36								
75			10	42		17				5.5		
80		Dense light brown fine to medium sand w/ small gravel	11	42								
85			12	32		22				4.7		SP

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/29/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 90' TO 110' ON 3/7/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-2

BORING LOCATION: 30°42.510'N, 88°02.600'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90		Dense light brown fine to coarse sand w/ small to medium gravel	13	33								
95		Firm to dense light brown fine to medium sand w/ trace coarse sand	14	29								
100			15	42								
105		Firm white fine to coarse sand w/ fine gravel	16	28								
110		Firm white fine sand	17	27								
		B.T. @ 110 FT										
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 5/6/24

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/24/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 3/11-12/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-3

BORING LOCATION: 30°42.483'N, 88°02.552'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15		Wharf to mudline										
20												
25												
30												
35												
40		Firm light brown fine sand	1	20		25				5.1		
45		Very sof dark brown organic clay & peat	2	WOH		48	47	10				
			T-1	-								
50			3	18		23				5.3		
55		Firm light brown, light gray, brown fine sand w/ trace small gravel below 55'	4	20								
60			5	17		23				7.4		
65		Firm gray fine to medium sand w/ trace small gravel & w/ wood	6	21								
70		Dense light brown & brown fine to coarse sand w/ small amount of small gravel	7	45		18				5.8		
75			8	38								
80		Dense light brown fine sand w/ small gravel	9	34		18				4.1		SP
85			10	32								

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 5/6/24

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/24/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 3/11-12/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-3

BORING LOCATION: 30°42.483'N, 88°02.552'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90		Dense light gray fine to medium sand w/ small amount coarse sand & small gravel	11	34								
95		Dense light greenish gray to light gray fine sand	12	37								
100			13	31								
105		Dense light gray to yellow fine to medium sand w/ trace coarse sand	14	50								
110		Dense gray & light gray fine to coarse sand w/ fine gravel	15	44								
		B.T. @ 110 FT										
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/10/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 3/13/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-5

BORING LOCATION: 30°42.460'N, 88°02.487'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5		Wharf to mudline										
10												
15		Soft dark gray silty clay w/ wood	1	2								
			2	2		101	75	52				
20		Soft dark gray clay w/ silty sand lenses	3	2								
			4	2		32				16.3		
25		Very loose dark gray silty sand										
30			5	2								
35		Medium consistency greenish gray sandy clay w/ greenish gray silty sand pocket	6	4		22	18	5		31.9		SC-SM
40		Medium consistency greenish gray clay w/ sand	7	6		28					c*=0.20	
45			8	5		86					c*=0.25	
		Medium consistency dark brown organic silt w/ wood	9	5		122					c*=0.35	
50												
55			10	35		21				4.6		SP
		Dense brown & light gray fine to medium sand										
60			11	40								
65			12	30		23						
70			13	33								
75		Dense dark brown & light brown fine to medium sand w/ trace gravel	14	33		18				5.7		
80			15	33								
85			16	32								

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 5/6/24

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/10/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 3/13/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-5

BORING LOCATION: 30°42.460'N, 88°02.487'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90		Dense dark brown & light brown fine to medium sand w/ trace gravel	17	38								
95			18	46								
100		Very dense light gray fine to medium sand w/ small amount coarse sand	19	56								
105			20	57								
110		Dense light gray to light brown fine to medium sand w/ trace coarse sand	21	43								
		B.T. @ 110 FT										
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/30/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 3/14/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-6

BORING LOCATION: 30°42.428'N, 88°02.443'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15												
20		Wharf to mudline										
25												
30												
35												
40			1	24		24	NP	NP		3.9		SP
45			2	24								
50		Firm light brown fine to medium sand w/ clayey lenses below 50'	3	20		27						
55			4	20		30	NP	NP		24.0		SM
60		Firm light gray fine to coarse sand w/ trace small gravel	5	25								
65		Firm light gray fine to medium sand w/ trace small to medium gravel	6	27		22	NP	NP		5.8		SP-SM
70			7	36								
75		Dense to firm light gray & light brown fine sand w/ trace small to medium gravel	8	36		24	NP	NP		4.9		SP
80			9	28								
85		Dense and firm light gray fine to medium sand w/ trace coarse sand	10	40								

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 5/6/24

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/30/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 3/14/24 (CHALLENGE TESTING)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-6

BORING LOCATION: 30°42.428'N, 88°02.443'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90			11	45								
95		Dense and firm light gray fine to medium sand w/ trace coarse sand	12	27								
100			13	42								
105			14	27								
110		B.T. @ 110 FT	15	62								
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/7/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 4/26/24 (G&E SERVICES)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-7

BORING LOCATION: 30°42.412'N, 88°02.389'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15		Wharf to mudline										
20												
25												
30												
35		Peat & wood	1	8		152						
40		Stiff to very stiff light greenish gray clay w/ sand & silty sand pockets	2	9		40	27	17				
45			3	21		28						
50			4	24		25				2.5		SP
55		Firm brown & light brown fine to medium sand w/ trace gravel below 60'	5	24								
60			6	27		26						
65			7	22								
70			8	27		20				1.9		SP
75		Firm light brown fine to coarse sand w/ trace gravel	9	26								
80			10	26		21						
85			11	17								

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 5/6/24

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/7/18

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GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-7

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DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90			12	19								
95		Firm to dense light gray & light greenish gray fine to medium sand with traces of fine gravel	13	28								
100			14	19								
105			15	30								
110		B.T. @ 110 FT	16	32								
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/6/18

BORING DEPTH: 110 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS: BORING EXTENDED FROM 80' TO 110' ON 5/1/24 (G&E SERVICES)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-8

BORING LOCATION: 30°42.461'N, 88°02.394'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15												
20		Wharf to mudline										
25												
30												
35												
40												
45			1	16								
50		Firm black & brown silty sand w/ some gravel	2	17		29				17.3		
55		Firm brown fine to medium sand w/ small amount gravel	3	20		25						
60		Firm brown fine to coarse sand w/ gravel & shell	4	20		21				4.5		SP
65			5	40								
70			6	40		18				2.5		SP
75		Dense to firm fine to medium sand w/ small amount gravel	7	28								
80			8	26		23						
85			9	28								

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/6/18

BORING DEPTH: 110 FT.

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REMARKS: BORING EXTENDED FROM 80' TO 110' ON 5/1/24 (G&E SERVICES)

GEOTECHNICAL ENGINEERING TESTING, INC.

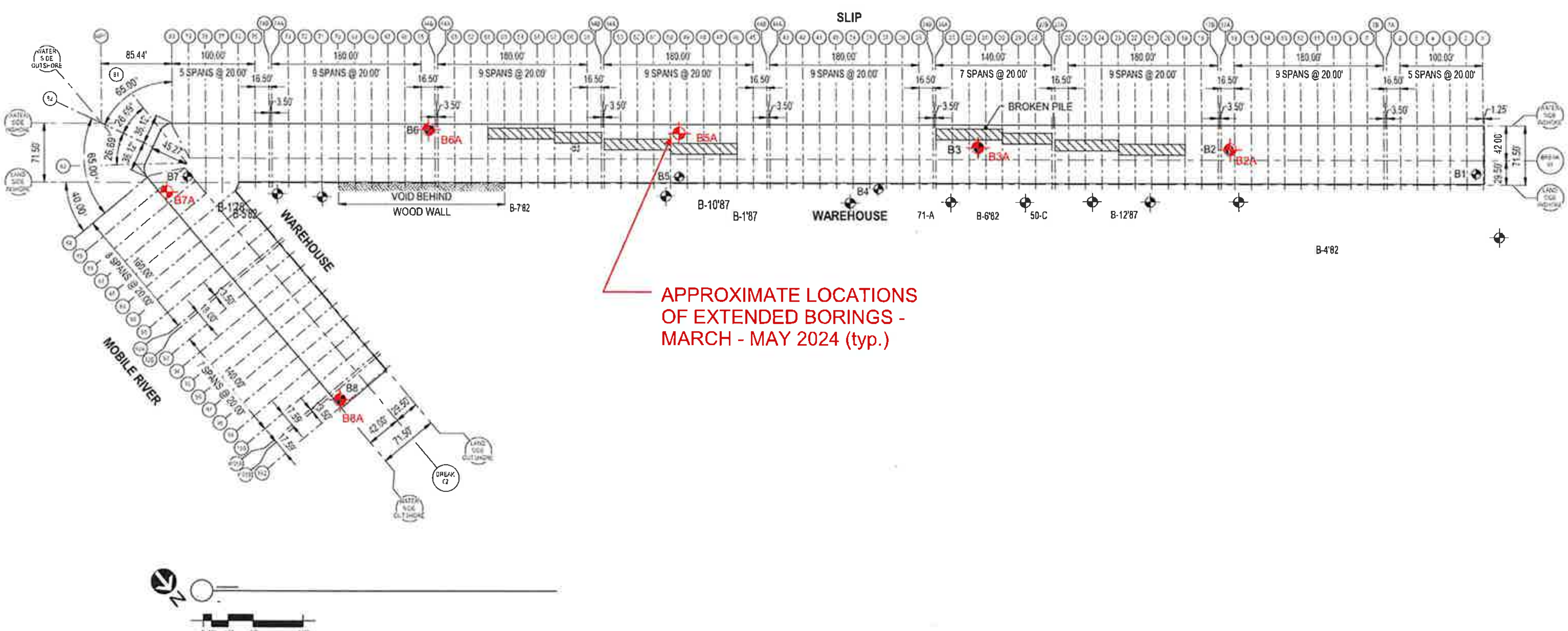
BORING NUMBER: B-8

BORING LOCATION: 30°42.461'N, 88°02.394'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90			10	24								
95		Firm light greenish gray and light gray fine to medium sand w/ trace coarse sand and fine gravel	11	21								
100			12	19								
105			13	25								
110			14	21								
		B.T. @ 110 FT										
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:



LEGEND

INDICATES 23" SLAB THICKNESS

B# INDICATES APPROXIMATE LOCATION OF SOIL BORING AND BORING NUMBER

Figure 2 - Boring Location Plan

MOTT MACDONALD

Mott MacDonald, Florida, LLC
220 West Garden Street
Suite 700
Pensacola, Florida 32502
United States of America
Telephone (850) 484 6011

Architects AA - C000035
Engineers EB - 0000155
Surveyors LB - 0008783

Client
ALABAMA STATE DOCKS COMMISSION
MOBILE, ALABAMA

THIS DRAWING IS NOT FOR CONSTRUCTION

Project Number 397324

Designed	C. LYNER, M. TUGWELL	Eng Check	L. DENTY
Drawn	KWD	Coordination	
Dwg Check	BFH	Approved	

Drawing Number S-001

Title
MOBILE RIVER PIER B INSPECTION
PLAN OF APPROXIMATE BORING LOCATIONS

Geotechnical Engineering-Testing, Inc.

PROFESSIONAL ENGINEERS

Geotechnical Evaluations - Geosciences - Construction Materials - Pavement Management

November 14, 2023

Mott MacDonald
107 St. Francis Street
Suite 2900
Mobile, AL 36602

Attn.: John W. Peterson, P.E., Principal Engineer/Associate

Re: Supplemental Report #2 - Proposed Renovations to Pier B South at the Alabama State Port Authority in Mobile, Alabama (GET Project #18-152)

Gentlemen:

Geotechnical Engineering-Testing, Inc. (GET) presents this Supplemental Report #2 to provide additional foundation design recommendations for the renovated Pier B South and Relieving Platform. The information herein was discussed at various times since the submittal of our formal report and first supplemental report with the most recent and detailed discussions being a September 26, 2023 telephone conference in which the writer participated along with Mott MacDonald representatives Lowry Denty, Michael Tugwell, and Chad Lyner.

We understand that the recommended design pile capacities presented in our first supplemental report were too low to support the new design loads for the renovated pier. Thus, we have performed additional pile capacity analyses for this second supplemental report. The additional analyses considered longer/deeper 24-inch precast piles and 30-inch precast piles. For the current analyses, subsurface strata depths were modified slightly at some locations from those used to develop the recommendations presented in our first supplemental report. Our recommended allowable design pile capacities are presented in the attached Table A (24-inch precast) and Table B (30-inch precast).

In order to achieve greater foundation capacity, in addition to deeper piles, consideration may also be given to using slightly-less-than-typical pile spacing. Typically, the minimum specified pile spacing is three times the pile diameter/width. This specification is partly to avoid a “group effect”. That is, under some subsurface conditions, usually when piles are bearing in cohesive soils, overlapping soil stresses may result in a “group effect” in which the capacity of the pile group is less than the sum of the individual pile capacities. In these cases, a capacity reduction factor is applied to each pile to avoid failure of the group. A “group effect” is usually, but not always, avoided if a pile spacing of three times the pile diameter/width is used. For the subsurface conditions at this site, where the bearing soils are granular, it is our opinion that a center-to-center pile spacing of 2.5 times the pile width may be used without inducing a “group effect”.

The typical pile spacing specification of three times the pile diameter/width is also partly to reduce potential construction impediments. For the case at hand, though not anticipated, a pile spacing of 2.5 times the pile width might result in heaving of adjacent piles during pile driving (this could also occur at a wider pile spacing). We recommend that, early in the pile installation process, the elevation of the top of each pile be measured immediately after driving is completed. The elevations of pile tops should be measured again after installation of the entire bent. If the measurements indicate that piles have heaved, they should be redriven to the original elevation. If the measurements indicate that piles are not heaving, the process of measuring and re-measuring the top elevations may be suspended. To facilitate pile driving and to reduce the potential for heaving, we recommend that pile installation at each bent progress from the inboard side to the outboard side of the pier.

It is noted that Table A presents pile capacity recommendations for pile tip elevations down to elevation -80 ft (outboard piles). It is further noted that most of the soil test borings for this study extended only to about elevation -70 ft. It is reasonable to assume that subsurface conditions indicated from about elevation -40 ft to -70 ft extend well below elevation -80 ft. However, we recommend this assumption be verified by performance of several soil test borings along the face of the existing pier that extend to at least elevation -100 ft.

We understand that the existing pile supported relieving platform and the existing warehouse floor slab (which is not pile supported) settled during installation of the new sheet pile bulkhead on the outboard side of the relieving platform. For the most part, the sheet piles were installed using a vibratory hammer. We surmise that the warehouse floor slab settled due to consolidation of underlying granular soils resulting from vibrations associated with the sheet pile installation. The cause for settlement of the relieving platform piles is not known. In our opinion, it was likely due to loss of soil strength due to the buildup of pore-water pressure within the soils during vibratory sheet pile installation. This is typically the phenomenon that results in building settlement during earthquakes. When vibrations stop, excess pore-water pressure dissipates and the soils regain their original strength (or very close to it). Another possible cause of the relieving platform pile settlement was drag-down loads imposed on the piles when surrounding granular soils consolidated due to vibration. In either case, the existing piles should have regained their original capacity (or very close to it), when vibrations ceased. Thus, in our opinion, it should be assumed that the capacity of the existing piles has not been compromised by the settlement that occurred during installation of the sheet pile bulkhead.

We understand that, even if the existing relieving platform piles are relied upon, additional piles are needed due to increased design loads on the renovated relieving platform. Design loads for additional piles will be on the order of 50+ kips if existing piles are relied upon and 100+ kips if the existing piles are not relied upon.

In our opinion, driven displacement piles, such as timber or precast concrete, may be considered for the additional piles. The soil response during impact pile driving is very different from that during vibratory pile driving and it is unlikely that vibrations associated with impact pile driving will cause additional settlement of the existing relieving platform piles or the warehouse floor slab. Review of the August 11, 1988 foundation pile installation report for the existing relieving platform piles makes no reference to settlement issues within the warehouse.

One issue we do note in reviewing the 1988 foundation pile installation report is the highly variable tip elevations of the driven timber piles. Notes on plan drawings included in the report indicate that anticipated final tip elevations varied from -35 ft to -50 ft. This resulted in piles being ordered at several different lengths. Review of pile installation records indicate that actual final tip elevations varied from about -25 ft to about -50 ft. If timber piles are selected for use for the required additional piles, we recommend that pile order lengths be selected based on the driven lengths of existing piles in close proximity to the additional piles. We further recommend that the allowable design load on additional timber piles be the same as that of the existing piles, i.e., 25 tons or 50 kips.

If precast concrete piles are used, it would also be prudent to base order lengths on the driven lengths of the existing timber piles in close proximity. It is likely that they would reach their design capacities near the same tip elevations as the existing timber piles. However, at the same tip elevation, the capacities of square precast concrete piles will be greater than that of tapered timber piles. If 12-inch square precast concrete piles are selected for use as the additional relieving platform piles, we recommend allowable design loads no greater than 85 kips for short-term loading and 52 kips for long-term loading. For 14-inch square precast piles, we recommend allowable design loads no greater than 114 kips and 71 kips for short-term and long-term loading conditions, respectively. These recommended values are based on a pile tip elevation of -45 ft.

Initially, we were hesitant to recommend augercast piles for additional piles within the relieving platform area. This hesitance was based on the assumption that design pile capacities would be much larger than they are, i.e., similar to the design capacities of the new pier piles. To carry these larger loads, we anticipated that augercast piles would have relatively large diameters and would have to be installed to depths on the order of 100 ft. Based on experience, we anticipated that installation of such piles would be problematic at this job site.

However, based on the actual design loads of 50+ kips to 100+ kips, our opinion has changed and we now recommend that augercast piles be considered for the required additional relieving platform piles. These piles may be more suitable than driven piles due to the variable depth to the bearing stratum. Rather than varying the design tip elevation of augercast piles, we recommend that all augercast piles be designed and installed based on a single soil profile with the top of bearing stratum at elevation -40 ft.

Using the computer program SHAFT Version 2017.8.5, we performed static pile capacity analyses for augercast piles of various diameters installed to various depths. Our recommended allowable design capacities are presented in the attached Table C. A factor of safety of about 2.5 was applied to the estimated ultimate pile capacities to derive the allowable capacities shown.

The pile weight is not considered in the allowable design capacity recommendations for the new pier piles or new relieving platform piles. Effective pile weights should be added to structures loads to determine actual pile loading.

The limitations stated in our original report apply to this supplemental report.

GET appreciates this opportunity to be of service to Mott MacDonald. Please contact Hank Oakes, P.E. if questions arise of if additional information is needed.

Sincerely,

GEOTECHNICAL ENGINEERING-TESTING, INC.

Hank M. Oakes, P.E.
Sr. Project Engineer
Alabama License No. 19576

Attachments

TABLE A - RECOMMENDED ALLOWABLE AXIAL CAPACITIES IN **KIPS**
NEW **24-INCH** PRECAST CONCRETE PIER PILES FOR ASPA PIER B SOUTH RENOVATION
MOBILE, ALABAMA
DREDGE LINE AT FACE OF PIER AT ELEVATION -42 FT

BENT 15

	Outboard Pile			Middle Pile			Inboard Pile		
Tip Elevation	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
-50 Ft	48	48	4	98	92	15	194	170	41
-55 Ft	84	84	10	140	134	26	246	222	59
-60 Ft	125	125	20	187	181	40	302	278	80
-65 Ft	170	170	33	243	237	57	358	334	104
-70 Ft	219	219	50	295	289	78	412	388	132
-75 Ft	274	274	69	-	-	-	-	-	-
-80 Ft	331	331	92	-	-	-	-	-	-

BENT 30

	Outboard Pile			Middle Pile			Inboard Pile		
Tip Elevation	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
-50 Ft	48	48	4	85	82	12	147	133	28
-55 Ft	84	84	10	125	122	22	194	180	43
-60 Ft	125	125	20	170	167	35	245	231	60
-65 Ft	170	170	33	219	216	51	301	287	81
-70 Ft	219	219	50	273	270	70	357	343	150
-75 Ft	274	274	69	-	-	-	-	-	-
-80 Ft	331	331	92	-	-	-	-	-	-

BENT 75

	Outboard Pile			Middle Pile			Inboard Pile		
Tip Elevation	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
-50 Ft	48	48	4	109	102	18	223	193	50
-55 Ft	84	84	10	152	145	30	277	247	69
-60 Ft	125	125	20	200	193	44	334	304	92
-65 Ft	170	170	33	252	145	62	388	358	119
-70 Ft	219	219	50	308	301	84	445	415	148
-75 Ft	274	274	69	-	-	-	-	-	-
-80 Ft	331	331	92	-	-	-	-	-	-

Note:

1. Pile capacity recommendations considered only the pile-soil interaction. Structural properties of piles were not considered.
2. Recommended allowable capacities derived by application of a factor of safety of approximately 2.0 to estimated ultimate capacities.
3. Uplift loads are assumed to be short-term.

GEOTECHNICAL ENGINEERING-TESTING, INC.
MOBILE, ALABAMA
NOVEMBER 13, 2023

TABLE B - RECOMMENDED ALLOWABLE AXIAL CAPACITIES IN **KIPS**
NEW **30-INCH** PRECAST CONCRETE PIER PILES FOR ASPA PIER B SOUTH RENOVATION
MOBILE, ALABAMA
DREDGE LINE AT FACE OF PIER AT ELEVATION -42 FT

BENT 15

	Outboard Pile			Middle Pile			Inboard Pile		
Tip Elevation	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
-50 Ft	74	74	5	148	141	20	287	258	54
-55 Ft	128	128	14	210	203	34	362	333	77
-60 Ft	188	188	27	263	257	53	442	413	105
-65 Ft	254	254	44	351	345	76	521	492	137
-70 Ft	326	326	66	431	424	102	597	568	173

BENT 30

	Outboard Pile			Middle Pile			Inboard Pile		
Tip Elevation	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
-50 Ft	74	74	5	128	124	16	218	200	53
-55 Ft	128	128	14	188	184	28	287	269	80
-60 Ft	188	188	27	254	250	46	362	344	113
-65 Ft	254	254	44	325	321	67	442	424	152
-70 Ft	326	326	66	403	399	92	521	503	197

BENT 75

	Outboard Pile			Middle Pile			Inboard Pile		
Tip Elevation	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
-50 Ft	74	74	5	164	155	24	328	291	64
-55 Ft	128	128	14	227	218	39	407	370	90
-60 Ft	188	188	27	296	287	59	487	450	121
-65 Ft	254	254	44	372	363	82	564	530	159
-70 Ft	326	326	66	452	443	110	642	605	194

Note:
1. Pile capacity recommendations considered only the pile-soil interaction. Structural properties of piles were not considered.
2. Recommended allowable capacities derived by application of a factor of safety of approximately 2.0 to estimated ultimate capacities.
3. Uplift loads are assumed to be short-term.

GEOTECHNICAL ENGINEERING-TESTING, INC.
MOBILE, ALABAMA
NOVEMBER 13, 2023

TABLE C - RECOMMENDED ALLOWABLE AXIAL CAPACITIES IN **KIPS**
NEW AUGERCAST PILES FOR THE RELIEVING PLATFORM FOR ASPA PIER B SOUTH RENOVATION
MOBILE, ALABAMA
ASSUMED PILE CUT-OFF ELEVATION = +7 FT

	14-Inch Diameter		16-Inch Diameter		18-Inch Diameter		20-Inch Diameter	
Tip Elevation	Short-Term	Long-Term	Short-Term	Long-Term	Short-Term	Long-Term	Short-Term	Long-Term
-50 Ft	54	27	63	33	74	39	84	46
-55 Ft	65	38	75	45	87	52	99	60
-60 Ft	76	49	88	58	101	67	115	77

Note:

1. Pile capacity recommendations considered only the pile-soil interaction. Structural properties of piles were not considered.
2. Recommended allowable capacities derived by application of a factor of safety of approximately 2.5 to estimated ultimate capacities.

GEOTECHNICAL ENGINEERING-TESTING, INC.
MOBILE, ALABAMA
NOVEMBER 13, 2023

PIER B SOUTH REHABILITATION										
OUTBOARD PILES - 24-INCH SQUARE PRECAST CONCRETE										
March 21, 2024										
Top of Pile Elevation, Ft	Length of Pile, Ft	Pile Batter	Pile Tip Elevation, Ft	Calculated Ultimate Capacity, Kips		Current Design Load w/ Pile Self-Weight, kips*	Current Design Load Factor of Safety		Allowable Load w/ F.S. = 2.0 Including Pile Self-Weight, kips	Allowable Load w/ F.S. = 2.0 w/o Pile Self-Weight, kips*
6.33	80	0:12	-73.67	518		259	2.0		259	235
6.33	80	1:12	-73.39	512		274	1.9		256	232
6.33	80	1:6	-72.58	494		274	1.8		247	223
6.33	80	1:4	-71.28	466		274	1.7		233	209
*Effective weight of 80' pile = 24 kips										

Allison Schaeffer

From: Hank Oakes <hoakes@geoengr.com>
Sent: Wednesday, October 11, 2023 10:04 AM
To: Lowry Denty
Cc: Michael Tugwell
Subject: RE: APA Pier B South Precast Piles

I don't see a reason that you could not be as close as 3 ft to existing piles.

Hank M. Oakes, P.E.
Geotechnical Engineering-Testing, Inc.
904 Butler Drive
Mobile, Alabama 36693
Phone 251-666-7197 ext. 2562

From: Lowry Denty <Lowry.Denty@mottmac.com>
Sent: Wednesday, October 11, 2023 10:00 AM
To: Hank Oakes <hoakes@geoengr.com>
Cc: Michael Tugwell <Michael.Tugwell@mottmac.com>
Subject: RE: APA Pier B South Precast Piles

Hank,

We are trying to stay at least 5ft from existing piles with the new, but if needed can we get a little closer knowing that the existing piles will have no load on them other than self-weight?

Lowry J. Denty, PE
Principal Project Manager

D +1 (850) 602 9760 C +1 (850) 698 3509
lowry.denty@mottmac.com

From: Hank Oakes <hoakes@geoengr.com>
Sent: Wednesday, October 11, 2023 9:37 AM
To: Lowry Denty <Lowry.Denty@mottmac.com>
Cc: Michael Tugwell <Michael.Tugwell@mottmac.com>; Allison Schaeffer <Allison.Schaeffer@mottmac.com>
Subject: RE: APA Pier B South Precast Piles

Sounds good. Thanks.

Hank M. Oakes, P.E.
Geotechnical Engineering-Testing, Inc.
904 Butler Drive
Mobile, Alabama 36693
Phone 251-666-7197 ext. 2562

From: Lowry Denty <Lowry.Denty@mottmac.com>
Sent: Wednesday, October 11, 2023 9:35 AM

Geotechnical Engineering-Testing, Inc.

PROFESSIONAL ENGINEERS

Geotechnical Evaluations - Geosciences - Construction Materials - Pavement Management

March 27, 2020

Mott MacDonald
107 St. Francis Street
Suite 2900
Mobile, AL 36602

Attn.: John W. Peterson, P.E., Principal Engineer/Associate

Via Email: john.peterson@mottmac.com

Re: Soils Explorations and Geotechnical Engineering Studies for Proposed Renovations to Pier B South at the Alabama State Port Authority in Mobile, Alabama (GET Project #18-152)

Gentlemen:

Geotechnical Engineering-Testing, Inc. (GET) is pleased to submit this report of our soils explorations and geotechnical engineering evaluations for the proposed renovations at Pier B South at the Alabama State Port Authority (ASPA) in Mobile, Alabama. This report includes the results of the soil borings and related physical laboratory tests performed for the project along with other bases for the opinions and recommendations presented. These services were performed in general accordance with our proposal of April 20, 2018 and as discussed in meetings and email correspondence subsequent to the award of the project to Mott MacDonald by the ASPA.

A draft copy of this report was submitted in October 2018. Subsequently, various questions arose. We have endeavored to include our replies to those questions in this final report. Also following submittal of the draft report, we were asked to provide analyses/recommendations for potential new foundation piles considering a dredge elevation of -42 ft. Our initial analyses/recommendations were for existing conditions in which the elevation of the mudline at the face of the existing pier was assumed to be -35 ft. The results of our analyses and recommendations for a dredge elevation of -42 ft are presented in the Supplemental Report that is included as the last section of this report.

GET appreciates the opportunity to be of service to Mott MacDonald. If questions arise of if additional information is needed, please call Hank Oakes, P.E.

Sincerely,

GEOTECHNICAL ENGINEERING-TESTING, INC.

Hank M. Oakes, P.E.
Sr. Project Engineer
Alabama License No. 19576

Copy Via Email: Lowry Denty, P.E. – lowry.denty@mottmac.com

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APPENDIX

SUPPLEMENTAL REPORT

INTRODUCTION

Geotechnical Engineering-Testing, Inc. (GET) has completed the authorized soils explorations and geotechnical engineering studies for proposed renovations to Pier B South at the Alabama State Port Authority facilities in Mobile, Alabama. The soils explorations have included eight exploratory soil borings, visual descriptions of the soils encountered, and laboratory tests on selected soil samples. The engineering study has included the planning, coordination, and supervision of the soils explorations program, evaluations of the results of the soils explorations, review of subsurface data from previous geotechnical studies, development of geotechnical engineering design and construction recommendations for various aspects of the project, and the preparation of this report.

We understand that the project at hand includes development of renovation/repair/replacement alternatives for Pier B South along with a portion of the Pier B River End. Available information indicates the piers are approximately 71 ft wide and have a total length of approximately 1940 ft (1580 ft and 360 ft for Pier B South and Pier B River End, respectively). The piers are pile supported and were designed/constructed in approximately 1925. Development of renovation/repair/replacement alternatives are to include increasing the load capacities of the piers.

Details of our findings, recommendations, and opinions for certain geotechnical design and construction aspects of the project are presented in the following sections of this report.

SITE DESCRIPTION

The project site is an active dock facility used for loading/unloading ships and transferring of cargo. The concrete piers are pile supported and were designed to slope downward slightly from the inboard to the outboard sides but the surfaces are approximately at elevation +11 ft.

The project site lies within the main docks complex. It is on the west side of Mobile River a short distance north of downtown Mobile, Alabama. The general project location is shown by the Highway Location Map included as **Figure 1** of this report.

SOILS EXPLORATIONS PROGRAM

The procedures for the field explorations and laboratory testing utilized in this project are summarized in the following sections of this report.

Boring Locations

Eight soil borings were performed for this project; seven along Pier B South and one within Pier B River End. Boring locations were selected by Mott MacDonald representatives and shown on a drawing provided to us. The selected boring locations were established in the field by Mott MacDonald and GET representatives by estimating distances from existing site features (column lines and joints within the dock structure). Some boring locations were adjusted slightly, either before or after removing cores from the concrete deck, because of unforeseen conditions. Following the completion of the borings, a GET representative measured state plane coordinates of the locations using a Sokkia GHX2 network rover system with a SA300 high precision dual-frequency, dual-constellation antenna. The measured state plane coordinates and converted geographic coordinates of the boring locations are shown in **Table I** of this report. Geographic coordinates are also shown on the respective Logs of Boring. Approximate locations of borings performed for this study and locations of previous borings, which were considered in our analyses, are shown in **Figure 2**.

Soils Explorations

The soil borings for this project were performed with a truck mounted SIMCO 2400 drill rig. Where required for the circulation of drilling fluid, steel casing was set from the pier deck to several feet into the mudline (no casing was required at locations B-1 and B-4). The rotary wash method was used to advance the boreholes to depths of 80 to 90 ft below the surface of the decks. Although soils were not encountered to a considerable depth at some locations, generally our procedures included performance of standard penetration tests (SPT) and collection of split spoon soil samples continuously to a depth of 7.5 ft, at 2.5 ft intervals from 7.5 ft to 20 ft, and at the standard 5 ft interval below 20 ft. A few undisturbed tube samples were collected, or attempted, between or in lieu of some split spoon samples within strata of cohesive soils. Boring and sampling operations were conducted in general accordance with standard procedures. Depths where samples

were collected and the results of the standard penetration tests are shown on the Logs of Boring included in the **Appendix** of this report.

Split spoon soil samples collected during the boring operations were visually described, logged, placed in moisture tight plastic bags and, along with the sealed tube samples, transported to the laboratory. At the laboratory, the samples were visually examined by the project engineer to confirm or adjust field classifications.

Laboratory Testing

Selected samples were subjected to laboratory tests to aid the engineering evaluations. These tests included moisture content, Atterberg limits, percent finer than a number 200 sieve, and confined compressive shear strength. The tests were performed in general accordance with standard laboratory soil testing procedures. Test results are shown on the Logs of Boring opposite the samples tested and on report forms that follow the logs in the **Appendix**.

SUBSURFACE CONDITIONS

Subsurface conditions encountered during the soils exploration program as well as findings of literature research of the site geology are summarized in the following sections.

Site Geology

A review of the geologic map of Alabama indicates that the subsurface at the project site is made up of alluvial, coastal, and low terrace deposits of the Quaternary System and Holocene Series. These deposits consist of very pale orange to grayish orange varicolored fine to coarse quartz sand containing clay lenses and gravel in places. Gravel is composed of quartz and chert pebbles. Coastal deposits include fine to medium quartz sand with shell fragments and accessory heavy minerals along Gulf beaches.

Subsurface Soils

The soil borings performed at the project site generally encountered layers of loose sands and soft clays to depths of 40 to 50 ft below the surface of the decks. However, the thicknesses, which

varied from about 5 ft to 20 ft, and depths of the various layers changed from location to location. Again, no soils existed to a considerable depth at some boring locations but, generally, the borings encountered loose sands from below the decks (at elevation +11 ft) to approximately elevation -2 ft. Very soft clays were encountered from approximately -2 ft to -11 ft then another layer of loose sands from -11 ft to -20 ft. Between elevations of -20 ft and -40 ft, soft clays, some with organics (decaying vegetation), were the predominate soil type. Below approximately elevation -40 ft, the borings encountered firm to dense sands. Details of the soils encountered at each boring location are shown by the respective Log of Boring. A Subsurface Profile, which shows approximate relative positions of the various soil layers encountered by the borings performed for this project and for previous projects, is included as **Figure 3** of this report.

Soil borings are representative of subsurface conditions at their respective locations and vertical reaches. However, local variations characteristic of the subsurface materials of the region are likely to exist. The boring logs and related information are based on the driller's logs and visual examination of recovered samples in the laboratory. The delineation between soil types shown on the logs is approximate and the descriptions represent the interpretation of subsurface conditions at the designated boring location on the date drilled.

GEOTECHNICAL RECOMMENDATIONS

The recommendations provided below are based upon our understanding of the project as described above, the subsurface data collected, our engineering evaluations regarding the geotechnical matters, and our past experience on projects in proximity to this site. If our understanding of the project is incorrect, we should be provided accurate information and should be provided the opportunity to review our recommendations taking into consideration the new project information.

Design Subsurface Soil Conditions

Table II presents the recommended design soil stratigraphy and soil properties that were the bases of our geotechnical analyses. As stated above, the soil layering was variable but the table presents a reasonable and appropriately conservative interpretation of the subsurface conditions, in our opinion. The recommended design soil stratigraphy, or Idealized Subsurface Profile, is shown by

the bold horizontal lines and accompanying labels in **Figure 3**. Even though the Idealized Subsurface Profile indicates the ground surface to be at elevation +10.5 ft (assumed bottom elevation of the pier decks), the various analyses performed were based on surface elevations indicated by cross-section drawings provided by Mott MacDonald. The elevations shown in the table were used to construct soil profiles and assign soil properties for the various geotechnical analyses.

Note that undrained and drained soil shear strengths are presented in **Table II**. Also note that undrained and drained shear strength values shown in the table are the same for granular soils. This is because, when stresses are applied, drainage of granular soils occurs almost instantaneously and so, for all intents and purposes, only drained strengths of granular soils are considered when evaluating load-carrying capacities. For cohesive soils, the soils may approach a drained condition under long-term loading. For our analyses, undrained conditions were used.

Axial Pile Capacities - Existing Piles

Static pile capacity analyses were performed to estimate capacities of the in-place piles supporting Pier B South and Pier B River End. These analyses used information shown on 1925 construction drawing B-4-33 that showed the foundation piles to be 18-inch square and 16-inch square precast prestressed concrete piles installed to approximate tip elevations of -57 ft to -34 ft. **Figure 4** shows a portion of drawing B-4-33. This drawing, and others, show that the bottom 4 ft of the piles were tapered. Both the 18-inch and 16-inch piles tapered to a tip of 8 inches square. No information was available regarding actual installation of the existing piles. Thus, it was assumed that the final configuration of the piles matched that shown on the design drawings.

Our analyses used the subsurface soil properties shown in **Table II** and cross-sectional surface profiles provided by Mott MacDonald at existing pile bents 15, 30, and 75. These three bents were selected because they were judged to be representative of the variable surface conditions at the project site. Cross-section profiles were not available beyond bent 75. However, because subsurface conditions indicated by the soil borings near the east end of Pier B South and at Pier B River End are very similar, it is anticipated that surface profiles are also similar. For this reason, it is our opinion that pile capacity estimates at bent 75 may be used east and north of bent 75.

Our static pile capacity analyses were performed with the computer program Driven 1.2 which uses analysis methods recommended by the Federal Highway Administration (FHWA). The results of our analyses, i.e. estimated ultimate short-term and long-term compression capacities and (short-term) uplift capacities for the in-place piles are shown in **Table III**. Note that no factor of safety was applied to the estimated capacities shown in **Table III**. It can be seen that five analyses were performed at each of the three bents. This was because there were five different sizes/lengths of piles indicated by the drawing in **Figure 4**. Within the vicinity of each of the five sizes/lengths of piles, our analyses assumed that the ground surface was level at the estimated average surface elevation in the vicinity of the piles. That is, the assumed surface elevations were progressively higher from the outboard to the inboard side of the existing pier which resulted in greater pile embedment (even though piles were progressively shorter from the outboard to the inboard side of the pier). The varying pile embedment and pile sizes accounts for the varying estimated capacities.

Based on the available information, the average tip elevation of the 16-inch square by 40 ft long piles near along the inboard side of the existing pier is approximately -33.75 ft. This puts the pile tips within a stratum of soft to medium consistency clay based on the subsurface stratigraphy shown in **Table II**. Theoretically, the skin friction load on both the clay layers will cause those layers to consolidate. When consolidating, the skin friction load will be transferred down the piles to a non-compressible layer. However, for the case at hand, the piles do not extend to a non-compressible layer. Further, the skin friction loads will exceed the end bearing capacities of the piles (tipped in the soft to medium consistency clay). Consequently, the piles will settle. So, theoretically, the long-term capacities of the 16-inch by 40 ft long piles near the inboard side of the existing pier will be 0 kips. However, in **Table III** is can be seen that we assigned a long-term capacity to the piles of 45 kips. This is because the estimated long-term loads on the piles, according to information provided by Mott MacDonald, was 45 kips and there was no physical evidence that the piles had settled significantly. In our opinion, when designing modifications to the pier, it would be prudent to assume that the 16-inch square by 40 ft long piles have no additional long-term capacity available.

Axial Pile Capacities – Potential New Piles

Using the same methodology as described above, we also performed analyses to estimate capacities of potential new 18-inch square and 24-inch square precast prestressed concrete piles. These analyses assumed that all new piles would have a length of 60 ft. Thus, the analyses considered varying pile embedment lengths resulting from the variable and sloping surface conditions. Our recommended allowable short-term and long-term compression capacities and (short-term) uplift capacities of 60 ft long 18-inch and 24-inch concrete piles are shown in **Table IV**. The recommended allowable capacities are the result of application of a factor of safety of about 2.0 to the estimated ultimate pile capacities.

Recommended allowable pile capacities typically assume a center-to-center pile spacing of at least three pile diameters/widths so as to avoid potential capacity reductions resulting from group effects. That is, in some cases, particularly when piles are supported by cohesive soils, the capacity of a group of closely spaced piles is less than the sum of the capacities of individual piles (not in a closely spaced group). However, for the case at hand, the piles gain the majority of their long-term capacity from cohesionless soils. Under these circumstances, a potential capacity reduction factor due to group effects does not need to be evaluated unless center-to-center pile spacings are two pile diameter/widths or less.

We recommend that capacities of new piles, if used, be verified by static load tests. We recommend that no less than three load tests be performed. The precise number and locations of the load tests should be determined following final structural design. The number and locations of static load tests should be sufficient to provide information from all the anticipated differing surface profile conditions.

Further, at least one of the recommended static load tests should be performed in an area where soft, compressible soils were indicated by the soils explorations program. At this location, in order to differentiate short-term and long-term capacities, the test should consist of a dual-pile arrangement in which one pile is driven to the estimated design pile tip depth and the second pile, installed approximately 4 ft away, is driven until its tip is near the bottom of the compressible clays (as indicated by the driving resistance of the first pile). Both piles may be load tested using the

same reaction frame. The first (longer) pile should be positioned at the center of the reaction beam and the second (shorter) pile, because its capacity will be relatively low, may be positioned toward one end of the reaction frame. The second (shorter) pile should be load tested to failure to provide an estimate of the short-term skin friction capacity provided by the soils above the bottom of the soft, compressible soils (end bearing capacity within the soft, compressible soils will be negligible). The first (longer) pile should then be load tested to at least twice the design long-term capacity plus the short-term skin friction capacity calculated from the test on the shorter pile.

Installation of all the test piles and the static load tests should be monitored and evaluated by the geotechnical engineer of record.

Lateral Pile Analyses – Existing Piles

Using the soil properties shown in **Table II**, the cross-sectional surface profiles at pile bents 15, 30, and 75, and the computer program LPILE PLUS 5.0 (developed and distributed by EnSoft Corporation) we performed lateral pile analyses to estimate pile responses under the variable soil conditions and under varying loading conditions. In accord with information provided by Mott MacDonald, it was assumed that lateral loads, due to ship impact, were applied at 9 ft below the top of the deck. Because of the relatively close spacing of the existing piles, soil response values were reduced by application of a "group effects" factor of 0.45. This value was selected based on available information from research performed by others. The results of our lateral piles analyses of the existing piles are shown in **Table V**. It is noted that no factor of safety has been applied to the loads shown in the table. We recommend that allowable design lateral loads be no more than one-half the load that analyses indicate will result in the allowable pile head deflection. The allowable pile head deflection should be selected by the project structural engineer(s). This engineer should also use his judgement to determine if free head or fixed head pile conditions should be used to evaluate lateral load-pile deflection relationships.

Lateral Pile Analyses – Potential New Piles

Using the same methodology as described above, lateral pile analyses were performed for potential new 60 ft long 18-inch and 24-inch square concrete piles. In these analyses, because it was assumed that new piles would be relatively widely spaced, no "group effects" reduction factor was

applied to the soil response values. The results of our lateral piles analyses of potential new piles are shown in **Table VI**. It is noted that no factor of safety has been applied to the loads shown in the table. We recommend that allowable design lateral loads be no more than one-half the load that analyses indicate will result in the allowable pile head deflection. The allowable pile head deflection should be selected by the project structural engineer(s). This engineer should also use his judgement to determine if free head or fixed head pile conditions should be used to evaluate lateral load-pile deflection relationships.

Potential Permanent Cofferdam

We understand that one alternative being considered at Pier B South and Pier B River End is the removal of the pile supported wharfs and replacement with a permanent cofferdam. The cofferdam would be constructed of anchored sheet piles, filled with soil, and capped with a concrete slab to support loads. We recommend that Mott MacDonald engineers use the soil properties shown in Table II to design the sheet piles and anchors for the cofferdam system.

We recommend that in-situ soils within the cofferdam be excavated/dredged down to elevation -40 ft to remove the soft, compressible soils indicated by the soils explorations. The soft, compressible soils, if not removed, will consolidate under the fill soil loads, resulting in settlement of the fill soils and the soil-supported concrete deck slab.

We recommend that backfill/fill soils within the cofferdam, from the bottom of the excavation up to elevation +3 ft, consist of underwater backfill type sand (ALDOT 210.02 (c)3). This material may be placed underwater, i.e. it is not necessary to pump the water from within the cofferdam. However, the material should be placed in a controlled manner that will assure that no voids develop within the soil mass.

The means and methods for removal of the soils to elevation -40 ft and backfilling/filling the cofferdam to elevation +3 ft should be proposed by an experienced marine contractor and reviewed/approved by the design team.

Above elevation +3 ft the cofferdam should be backfilled/filled with select silty or clayey sands that classify as AASHTO A-2-4(0) or A-4(0). These soils should be placed in loose lifts of approximately 8 inches and each lift should be compacted prior to placement of the succeeding lift. From elevation +3 ft to elevation +7 ft each lift should be compacted to at least 95 percent standard proctor density (AASHTO T99). Above elevation +7 ft each lift should be compacted to at least 100 percent standard proctor density.

If these recommendations are followed, we recommend a design modulus of subgrade reaction of 225 pounds per cubic inch be used for design of the concrete deck slab.

Some consideration should be given to the effects of compaction forces on the sheet piles and anchors.

Environmental Classification

We were asked to provide an Environmental Classification of the project site in accord with Florida Department of Transportation (FDOT) guidelines. Mott MacDonald provided the FDOT guidelines to us.

Review of available information indicates that the chloride concentration in the water at the project site exceeds 2000 parts per million (ppm). The available information consisted of a 1956 report by the U.S. Army Corps of Engineers that showed the chloride concentration in Mobile River approximately 25 miles upstream from the project was greater than 2000 ppm when tested in 1954. The report also showed an increasing chloride concentration with distance downstream (the report data did not extend below approximately 12 miles upstream from the project site). A high chloride concentration of the waters at the project site was indicated by the chloride concentration levels within the concrete cores recently removed from existing concrete piles at the site (September 17, 2018 petrographic report submitted to Mott MacDonald by CTL Group).

Documents show that the existing piers are at approximate elevation +11 ft.

Based on the above information and the flow chart in Figure 1-1 from FDOT Structures Design Guidelines 1.3.2, the project at hand is a marine structure and the conditions for both the substructure and superstructure classify as Extremely Aggressive.

Voids Under Relieving Platform

The renovation/repair/replacement project at Pier B South and Pier B River End will include remediation of some large voids that have developed behind the relieving platform bulkhead on the inboard side of the piers. We understand preliminary plans call for filling voids with "flowable fill" (ASTM D 4832). This is our recommendation also.

There are no strict guidelines for the properties of flowable fill that should be used. However, following are some general guidelines and recommendations that should be considered.

- The flowable fill should not readily segregate, i.e. coarser particles should remain in suspension until the material "sets". We recommend that no particles within the mix exceed sand size.
- The flowable fill should be highly flowable. To help achieve this, soils used in the mix may consist of silty sands, i.e. sands with up to 25 percent by weight passing a number 200 sieve. The fines (material passing a number 200 sieve) should be non-plastic.
- The flowable fill should be placed through a tremie pipe from the bottom of the void to the top so as to displace water from the void.
- The mix should contain 5 to 10 percent Portland cement. Admixtures may or may not be required to achieve the needed properties related to flowability and non-segregation.
- We recommend the flowable fill have a minimum 28-day compressive strength of 50 psi.

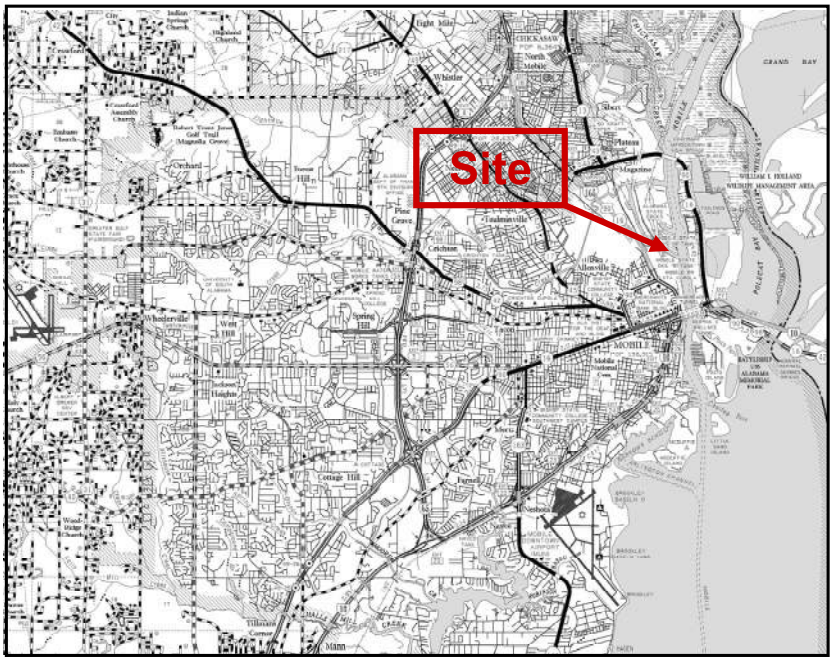
LIMITATIONS

The evaluations and recommendations presented by this report are based on the data obtained from the soil borings and laboratory tests performed specifically for this project and on data obtained by previous studies at the project site. Additional assumptions may have been outlined in the discussions contained in previous sections of this report.

We prepared this report to assist in the design of various aspects of the project. The recommendations provided are based in part on the project information provided to GET and only apply to the specific project and site discussed in this report. If the project description or stated assumptions are incorrect or if additional information is available, correct or additional information should be conveyed to GET for review. Recommendations can then be modified if warranted.

Our professional services for this project have been performed, findings obtained, and recommendations prepared in accordance with generally accepted engineering principles and practices. The services identified herein were completed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions as this project. No other representation, expressed or implied, is included or intended and no warranty or guarantee is included or intended in this report or any other instrument of service.

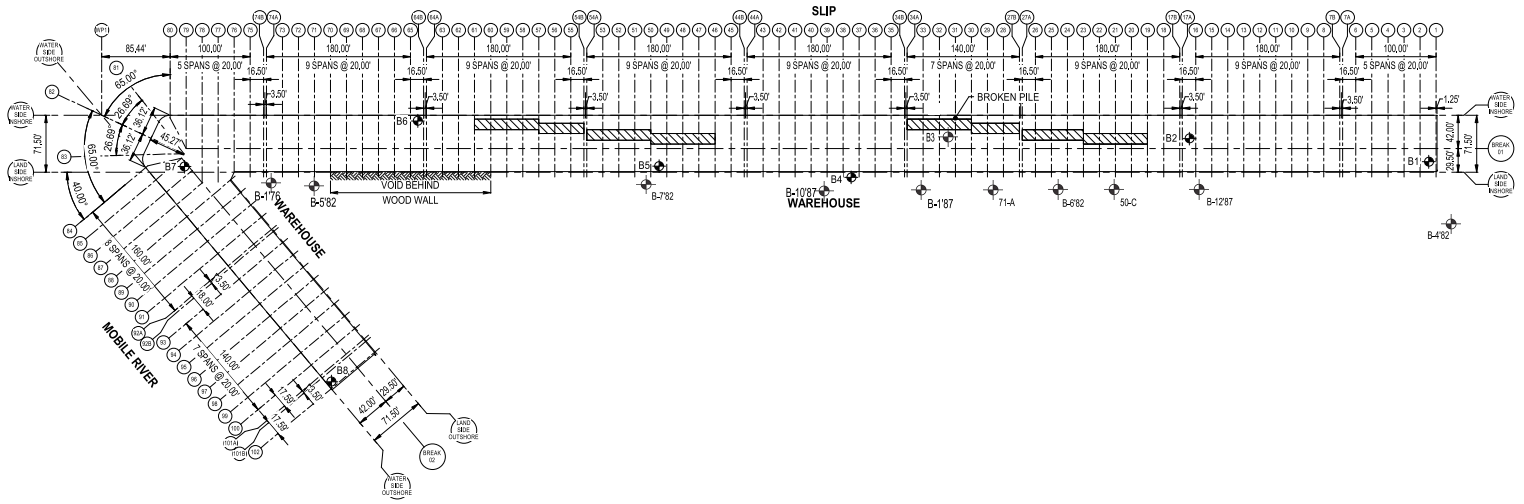
FIGURES



Source – General Highway Map Mobile County, Alabama, Alabama Dept. of Transportation, 2010

GEOTECHNICAL ENGINEERING TESTING, INC.

Figure 1 - Highway Location Map
Alabama State Port Authority Pier B South Renovations
Mobile, Alabama



1 PLAN OF APPROXIMATE BORING LOCATIONS

1" = 60'-0"

0 10' 30' 60' 120'

LEGEND

INDICATES 23" SLAB THICKNESS

B# INDICATES APPROXIMATE LOCATION OF SOIL BORING AND BORING NUMBER

Figure 2 - Boring Location Plan

MOBILE RIVER PIER B INSPECTION

397324

8/15/2018 1:07:03 PM

MOTT MACDONALD

Mott MacDonald, Florida, LLC
220 West Garden Street
Suite 700
Pensacola, Florida 32502
United States of America
Telephone: (850) 484-9011
www.mottmac.com/americas

Architects AA - C000035
Engineers EB - 0000155
Surveyors LB - 0006763

Client

ALABAMA STATE DOCKS COMMISSION

MOBILE, ALABAMA

Rev	Date	Drawn	Description	Ch'k'd	App'd

THIS DRAWING IS NOT FOR CONSTRUCTION

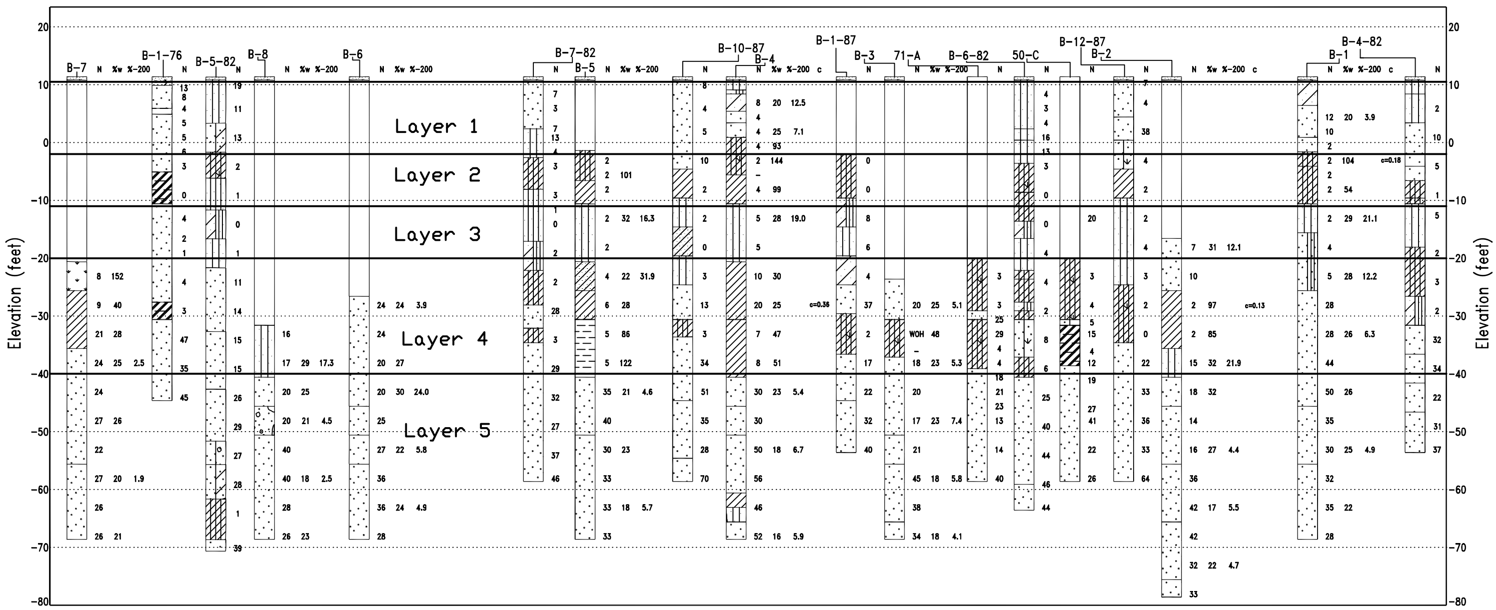
Designed	C. LYNER, M. TUGWELL		Eng Check	L. DENTY	
Drawn	KWD		Coordination		
Dwg Check	BPH		Approved		
Scale at ANSI D		Status	Rev		Security

Project Number: 397324 | B/O | Total

Drawing Number: S-001

Title: MOBILE RIVER PIER B INSPECTION

PLAN OF APPROXIMATE BORING LOCATIONS



Note: Layer references correspond with those presented in Table II.

LEGEND

Topsoil	Sandy Clay	Sand with Clay
Poorly-graded Sand	Lean Clay	Sand with Silt
Silty Sand	Fat Clay	Water
Clayey Sand	Silt	High Plasticity Organic silt or clay

N – SPT value determined in field ASTM D1586
%w – Percent Water
c – Cohesive Shear Strength, tsf
c* – Cohesive Shear Strength, tsf (Hand Penetrometer)
MV – Vane Shear Strength, tsf
Class – USCS Classification

Figure 3 – Subsurface Profile

PROJECT NAME: RENOVATION OF PIER B SOUTH
G.E.T. PROJ. NUMBER: 18-152
PROJECT LOCATION: ASPA – MOBILE, ALABAMA

11 X 17 ELEV (N_%W_-#200_C) 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 9/28/18

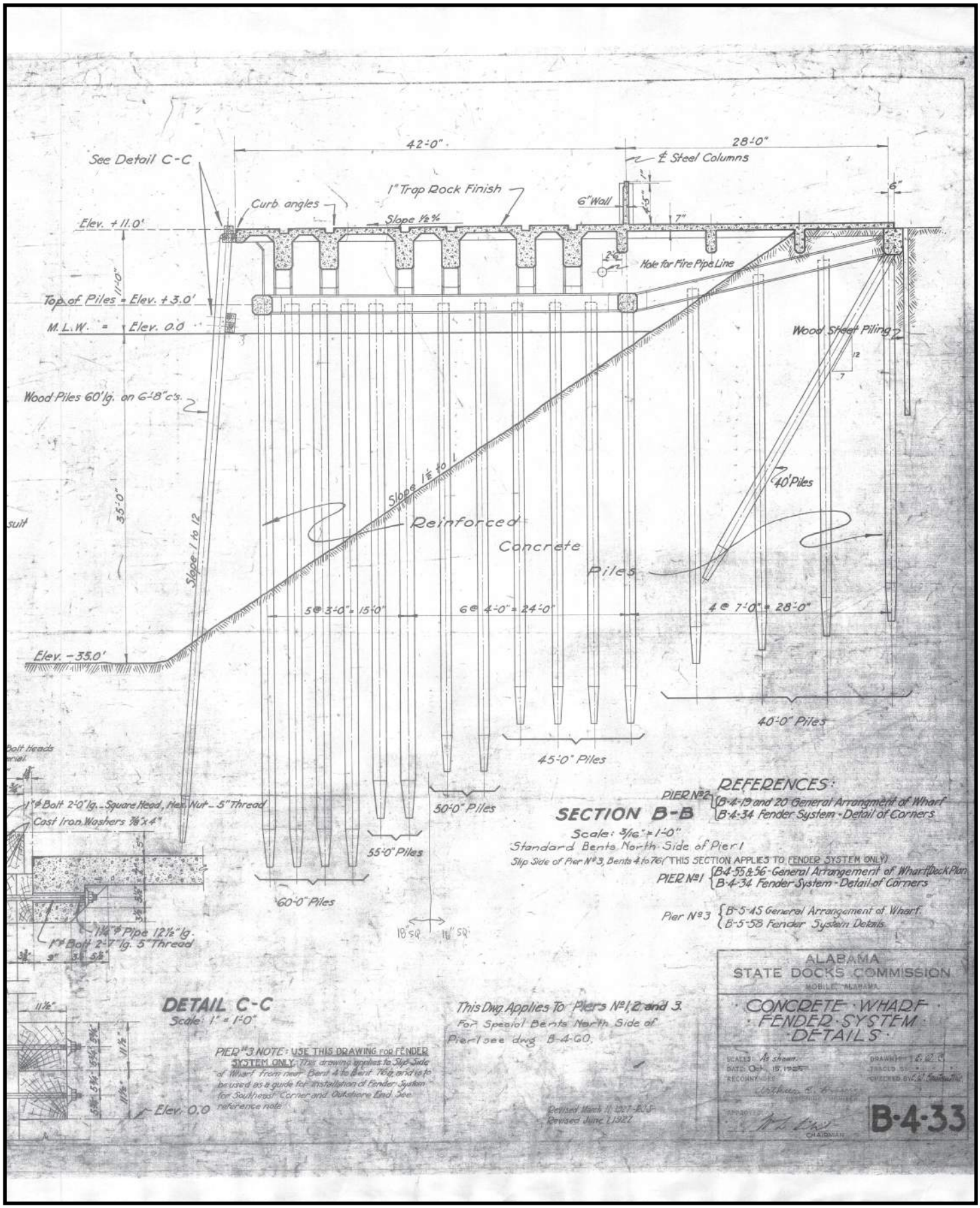


Figure 4 - Original Construction Drawing

TABLES

Table I - SOIL BORING COORDINATES
ASPA Pier B South Renovations

	STATE PLANE COORDINATES		GEOGRAPHIC COORDINATES	
LOCATION	North	East	Latitude	Longitude
B-1	258248.8	1797498.7	30°42.537'	-88°02.648'
B-2	258081.4	1797750.2	30°42.510'	-88°02.600'
B-3	257917.2	1798001.6	30°42.483'	-88°02.552'
B-4	257905.0	1798129.5	30°42.481'	-88°02.527'
B-5	257777.5	1798337.9	30°42.460'	-88°02.487'
B-6	257582.8	1798570.9	30°42.428'	-88°02.443'
B-7	257482.3	1798854.5	30°42.412'	-88°02.389'
B-8	257781.5	1798825.7	30°42.461'	-88°02.394'

GEOTECHNICAL ENGINEERING-TESTING, INC.
MOBILE, ALABAMA
OCTOBER 24, 2018

Table II - RECOMMENDED DESIGN SOIL PARAMETERS
PIER B SOUTH RENOVATIONS

	Elevation			Unit Weight			Undrained Strength		Drained Strength		Lateral Pressure Coefficients	
Layer	Top	Bottom	Soil Type	Moist	Saturated	Bouyant	Cohesion	Friction Angle	Cohesion	Friction Angle	k_a	k_p
1	10.5 Ft	-2 Ft	Loose Sand	103 pcf	114.5 pcf	52 pcf	-	Φ = 29°	-	Φ = 29°	0.35	2.88
2	-2 Ft	-11 Ft	Very Soft Clay	65 pcf	87 pcf	24.5 pcf	400 psf	-	-	Φ = 22°	-	-
3	-11 Ft	-20 Ft	Loose Sand	103 pcf	114.5 pcf	52 pcf	-	Φ = 28°	-	Φ = 28°	0.36	2.77
4	-20 Ft	-40 Ft	Soft Clay	102 pcf	110 pcf	47.5 pcf	700 psf	-	-	Φ = 25°	-	-
5	-40 Ft	-	Firm Sand	115 pcf	121 pcf	58.5 pcf	-	Φ = 34.5°	-	Φ = 34.5°	0.28	3.61

Geotechnical Engineering-Testing, Inc.
Mobile, Alabama
March 27, 2020

Table III - ESTIMATED ULTIMATE CAPACITIES IN KIPS - EXISTING PILES
ASPA PIER B SOUTH RENOVATION

18" X 60' Piles								
Bent 15			Bent 30			Bent 75		
Compression			Compression			Compression		
Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
206	143	123	174	120	102	146	109	84

18" X 55' Piles								
Bent 15			Bent 30			Bent 75		
Compression			Compression			Compression		
Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
182	106	108	146	89	85	146	89	85

16" X 50' Piles								
Bent 15			Bent 30			Bent 75		
Compression			Compression			Compression		
Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
112	63	60	134	61	76	109	51	62

16" X 45' Piles								
Bent 15			Bent 30			Bent 75		
Compression			Compression			Compression		
Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
112	45*	60	106	45*	58	94	45*	53

16" X 40' Piles								
Bent 15			Bent 30			Bent 75		
Compression			Compression			Compression		
Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
82	45*	56	74	45*	50	53	45*	35

*45 kip long-term capacity based on estimated loads on piles. Calculated long-term capacity is less than 45 kips.

Table IV - RECOMMENDED ALLOWABLE CAPACITIES IN KIPS - NEW PILES
ASPA PIER B SOUTH RENOVATION

	18" X 60' Piles								
	Bent 15			Bent 30			Bent 75		
In Vicinity of Existing	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
18" X 60' Piles	170	139	60	148	123	54	128	110	45
18" X 55' Piles	190	152	74	161	132	64	161	132	60
16" X 50' Piles	207	165	81	202	161	77	174	141	66
16" X 45' Piles	232	189	92	219	177	86	193	154	76
16" X 40' Piles	247	187	102	234	178	95	211	168	82

	24" X 60' Piles								
	Bent 15			Bent 30			Bent 75		
In Vicinity of Existing	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
18" X 60' Piles	269	226	84	234	201	76	205	180	63
18" X 55' Piles	298	248	103	254	216	84	254	216	84
16" X 50' Piles	325	270	113	317	262	111	274	230	93
16" X 45' Piles	362	305	129	345	289	120	303	251	105
16" X 40' Piles	385	305	142	364	291	132	331	273	114

Note: Pile capacity recommendations considered only the pile-soil interaction. Structural properties of piles were not considered.

Table V - LATERAL PILE ANALYSIS RESULTS - EXISTING PILES
ASPA PIER B SOUTH RENOVATION

		18" X 60' Piles					
		Bent 15		Bent 30		Bent 75	
Deflection		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	0.5	2.3	0.4	1.8	0.3	1.5
	Max. Moment, in-kips	236.7	543.5	230.2	467.4	204.8	422.8
1.0"	Lateral Load, kips	0.9	4.1	0.6	3.2	0.5	2.6
	Max. Moment, in-kips	443.8	1008	355.3	865.5	353.9	759.1
2.0"	Lateral Load, kips	1.5	7.1	1.1	5.7	0.9	4.7
	Max. Moment, in-kips	778.9	1832	691	1607	674.3	1426
3.0"	Lateral Load, kips	2.1	9.8	1.5	7.9	1.2	6.6
	Max. Moment, in-kips	1122	2607	979.9	2288	940.6	2052

		18" X 55' Piles					
		Bent 15		Bent 30		Bent 75	
Deflection		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	0.7	2.9	0.4	2.1	0.4	2.1
	Max. Moment, in-kips	278.0	630.7	204.1	516.8	204.1	516.8
1.0"	Lateral Load, kips	1.2	5.1	0.8	3.7	0.8	3.7
	Max. Moment, in-kips	506.3	1159	428.5	948.3	428.5	948.3
2.0"	Lateral Load, kips	2.1	8.7	1.3	6.5	1.3	6.5
	Max. Moment, in-kips	928.2	2077	733.0	1744	733.0	1744
3.0"	Lateral Load, kips	2.8	11.9	1.9	8.9	1.9	8.9
	Max. Moment, in-kips	1285	2935	1108	2459	1108	2459

		16" X 50' Piles					
		Bent 15		Bent 30		Bent 75	
Deflection		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	0.6	2.4	0.6	2.3	0.4	1.7
	Max. Moment, in-kips	210.6	471.1	213.9	455.8	177.3	382.3
1.0"	Lateral Load, kips	1.0	4.2	1.0	4.1	0.7	3.0
	Max. Moment, in-kips	361.6	859.7	367.5	848.5	321.2	702.5
2.0"	Lateral Load, kips	1.8	7.3	1.7	7.1	1.2	5.2
	Max. Moment, in-kips	680.4	1570	651.8	1544	574.5	1267
3.0"	Lateral Load, kips	2.5	10.0	2.4	9.7	1.6	7.2
	Max. Moment, in-kips	970.0	2217	945	2174	784	1805

		16" X 45' Piles					
		Bent 15		Bent 30		Bent 75	
Deflection		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	0.8	3.0	0.7	2.6	0.5	2.1
	Max. Moment, in-kips	226.8	542.7	230.9	492.9	188.6	430.6
1.0"	Lateral Load, kips	1.3	5.2	1.2	4.6	0.9	3.7
	Max. Moment, in-kips	393.8	983.2	412.1	912.4	351.3	794.3
2.0"	Lateral Load, kips	2.3	8.9	2.0	7.9	1.5	6.4
	Max. Moment, in-kips	735.0	1773	710.8	1648.0	611.4	1446
3.0"	Lateral Load, kips	3.1	11.8	2.7	10.6	2.1	8.6
	Max. Moment, in-kips	1022	2449	985	2294	876	2013

		16" X 40' Piles					
		Bent 15		Bent 30		Bent 75	
Deflection		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	4.6	11.7	3.2	9.1	1.0	3.0
	Max. Moment, in-kips	425.7	1188	385.0	1048	241.9	531.1
1.0"	Lateral Load, kips	7.1	>16	5.2	14.9	1.4	4.9
	Max. Moment, in-kips	729.4	>1188	677.5	1839	350.5	944.3
2.0"	Lateral Load, kips	11.1	>16	8.4	>16	2.1	7.5
	Max. Moment, in-kips	1287	>1188	1189	>1839	543.5	1615
3.0"	Lateral Load, kips	14.3	>16	11.0	>16	2.6	9.4
	Max. Moment, in-kips	1765	>1188	1628	>1839	701	2199

Table VI - LATERAL PILE ANALYSIS RESULTS - NEW PILES
ASPA PIER B SOUTH RENOVATION

Deflection		18" X 60' Piles Near Outboard Side of Deck (Area of Existing 18" X 60' Piles)					
		Bent 15		Bent 30		Bent 75	
		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	0.6	2.7	0.4	2.1	0.3	1.7
	Max. Moment, in-kips	304.4	610.1	254.3	526.8	237.3	466.3
1.0"	Lateral Load, kips	1.0	5.0	0.7	3.8	0.5	3.0
	Max. Moment, in-kips	527.5	1172	465.7	984.9	411.8	848
2.0"	Lateral Load, kips	1.7	8.9	1.2	6.8	0.8	5.5
	Max. Moment, in-kips	944.3	2171	846.1	1829	689.5	1608
3.0"	Lateral Load, kips	2.4	12.3	1.6	9.6	1.1	7.8
	Max. Moment, in-kips	1385	3078	1165	2647	994.7	2333

Deflection		24" X 60' Piles Near Outboard Side of Deck (Area of Existing 18" X 60' Piles)					
		Bent 15		Bent 30		Bent 75	
		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head
0.5"	Lateral Load, kips	1.9	7.3	1.4	5.8	1.1	4.7
	Max. Moment, in-kips	736.5	1685	623.3	1458	546.8	1270
1.0"	Lateral Load, kips	3.4	12.9	2.6	10.2	2.1	8.5
	Max. Moment, in-kips	1350	3103	1183	2663	1066	2376
2.0"	Lateral Load, kips	6.0	22.3	4.6	18.0	3.7	15.1
	Max. Moment, in-kips	2442	5612	2142	4898	1924	4386
3.0"	Lateral Load, kips	8.2	30.6	6.4	25.0	5.2	21.1
	Max. Moment, in-kips	3397	7922	3030	6980	2751	6273

APPENDIX

LOGS OF BORINGS & LABORATORY TEST REPORTS

PROJECT NAME:

G.E.T. PROJ. NUMBER:

PROJECT LOCATION:

DRILL RIG:

DRILL METHOD:

DRILL CREW:

DATE DRILLED:

BORING DEPTH:

BORING ELEV.:

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC

BORING NUMBER: LEGEND

BORING LOCATION:

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
		SAND		Nf - Standard penetration test value determined in field-ASTM D 1586 (WOH indicates penetration of sampler under weight of 140 lb hammer)	Nc - Standard penetration test value of sand corrected for overburden by Peck-Hansen-Thornburn, 1974	w.c. % - Percent water content based on dry soil weight	L.L. - Liquid Limit	P.I. - Plasticity Index	Unit Wt., pcf - Dry unit weight of soil, pounds per cubic foot	% Minus #200 - Percent by weight of soils finer than #200 sieve	c - Cohesion, tons per square foot ϕ - Angle of internal friction, degrees s - Vane shear strength, tons per square foot c* - Values measured with a pocket penetrometer	Classification according to the Unified Classification System
		CLAY										
		SILT										
		ORGANICS										
		GRAVEL										
		LIMESTONE										
		SPLIT-SPOON SAMPLE (STANDARD PENETRATION TEST)										
		UNDISTURBED TUBE SAMPLE										
		SAMPLE NOT RECOVERED										
		VANE SHEAR TEST										

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

G:\GINTW\LEGEND.DWG
LOG OF BORING LEGEND.GPJ GETI_AL.GDT 1/24/01

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/29/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-1

BORING LOCATION: 30°42.537'N, 88°02.648'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete Wharf Yellowish red clayey sand w/ gravel (not sampled)										
5		Firm brown, gray, light gray fine to medium sand w/ trace small & medium gravel	1	12		20				3.9		SP
			2	10								
10		Very loose light gray fine to medium sand w/ trace small gravel	3	2								
		Soft dark grayish brown organic clay	4	2		104	174	67	43		c=0.18	
15			5	2								
20		Soft gray & dark gray silty clay	6	2		54	40	13				
25		Very loose dark gray silty sand w. trace shell fragments	7	2		29				21.1		
			8	4								
30		Loose dark gray & gray fine sand w/ silt & w/ trace shell fragments										
35			9	5		28				12.2		
40			10	28								
45		Firm to dense light gray, gray, light brown fine sand w/ trace shell fragments	11	28		26				6.3		
			12	44								
50			13	50		26						
55			14	35								
60		Dense gray fine to medium sand w/ silty lenses	15	30		25				4.9		
65			16	32								
70		Dense to firm brownish gray fine to coarse sand w/ small to medium gravel	17	35		22						
75			18	28								
80		B.T. @ 80 FT										
85												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/29/18

BORING DEPTH: 90 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-2

BORING LOCATION: 30°42.510'N, 88°02.600'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete Wharf										
5												
10												
15		Wharf to Mudline										
20												
25												
30		Loose to firm dark gray fine sand w/ some shell fragments	1	7		31				12.1		
35			2	10								
40		Soft dark brown & dark gray clay w/ wood	3	2		97	99	52	44		c=0.13	
45			4	2		85						
50		Firm gray silty sand	5	15		32				21.9		
55		Firm gray fine sand w/ clay lenses	6	18		32						
60		Firm light brown fine to medium sand	7	14								
65			8	16		27				4.4		
70		Dense light brown fine to coarse sand w/ small gravel & very small clay pockets	9	36								
75			10	42		17				5.5		
80		Dense light brown fine to medium sand w/ small gravel	11	42								
85			12	32		22				4.7		SP

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/29/18

BORING DEPTH: 90 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-2

BORING LOCATION: 30°42.510'N, 88°02.600'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
85												
90		Dense light brown fine to coarse sand w/ small to medium gravel	13	33								
		B.T. @ 90 FT										
95												
100												
105												
110												
115												
120												
125												
130												
135												
140												
145												
150												
155												
160												
165												
170												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/24/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-3

BORING LOCATION: 30°42.483'N, 88°02.552'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15		Wharf to mudline										
20												
25												
30												
35												
40		Firm light brown fine sand	1	20		25				5.1		
45		Very soft dark brown organic clay & peat	2	WOH		48	47	10				
			T-1	-								
50			3	18		23				5.3		
55		Firm light brown, light gray, brown fine sand w/ trace small gravel below 55'	4	20								
60			5	17		23				7.4		
65		Firm gray fine to medium sand w/ trace small gravel & w/ wood	6	21								
70		Dense light brown & brown fine to coarse sand w/ small amount of small gravel	7	45		18				5.8		
75			8	38								
80		Dense light brown fine sand w/ small gravel	9	34		18				4.1		SP
85		B.T. @ 80 FT										

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/28/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-4

BORING LOCATION: 30°42.481'N, 88°02.527'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
		Orange/brown silty sand w/clay pockets										
		Orange/brown silty clayey sand w/wood										
5		Loose light brown fine sand w/ orange clayey sand	1	8		20				12.5		
			2	4								
		Loose brown fine sand w/trace small gravel	3	4		25				7.1		
10		Loose gray fine to medium sand w/ trace small gravel	4	4		93	179	83				
		Soft dark gray organic clay & peat w/ some gray clay	5	2		144						
15			T-1	-								
20		Soft gray clay & brown organic clay	7	4		99	110	80				
25			8	5		28				19.0		
		Loose dark gray silty sand										
30			9	5								
35			10	10		30						
		Stiff to very stiff light gray clay										
40			11	20		25	32	13	99		c=0.36	
45			12	7		47						
		Medium consistency brown & gray clay w/ organics & organic clay w/ sand pockets										
50			13	8		51	47	17				
55		Dense light brown fine sand	14	30		23				5.4		
60		Dense light brown fine to coarse sand	15	30								
65			16	50		18				6.7		
		Very dense brown fine to medium sand w/ trace coarse sand										
70			17	56								
75		Very stiff gray clay w/ sand pocket	18	46								
		Dense reddish yellow silty sand w/ small gravel										
80		Very dense light brown & reddish yellow fine to medium sand w/ trace small gravel	19	52		16				5.9		
85		B.T. @ 80 FT										

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/10/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-5

BORING LOCATION: 30°42.460'N, 88°02.487'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5		Wharf to mudline										
10												
15		Soft dark gray silty clay w/ wood	1	2								
			2	2		101	75	52				
20		Soft dark gray clay w/ silty sand lenses	3	2								
25			4	2		32				16.3		
		Very loose dark gray silty sand										
30			5	2								
35		Medium consistency greenish gray sandy clay w/ greenish gray silty sand pocket	6	4		22	18	5		31.9		SC-SM
40		Medium consistency greenish gray clay w/ sand	7	6		28					c*=0.20	
45			8	5		86					c*=0.25	
		Medium consistency dark brown organic silt w/ wood										
50			9	5		122					c*=0.35	
55			10	35		21				4.6		SP
		Dense brown & light gray fine to medium sand										
60			11	40								
65			12	30		23						
70			13	33								
		Dense dark brown & light brown fine to medium sand w/ trace gravel										
75			14	33		18				5.7		
80			15	33								
		B.T. @ 80 FT										
85												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 8/30/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-6

BORING LOCATION: 30°42.428'N, 88°02.443'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15												
20		Wharf to mudline										
25												
30												
35												
40			1	24		24	NP	NP		3.9		SP
45			2	24								
50		Firm light brown fine to medium sand w/ clayey lenses below 50'	3	20		27						
55			4	20		30	NP	NP		24.0		SM
60		Firm light gray fine to coarse sand w/ trace small gravel	5	25								
65		Firm light gray fine to medium sand w/ trace small to medium gravel	6	27		22	NP	NP		5.8		SP-SM
70			7	36								
75		Dense to firm light gray & light brown fine sand w/ trace small to medium gravel	8	36		24	NP	NP		4.9		SP
80			9	28								
85		B.T. @ 80 FT										

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/7/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-7

BORING LOCATION: 30°42.412'N, 88°02.389'W

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15		Wharf to mudline										
20												
25												
30												
35		Peat & wood	1	8		152						
40		Stiff to very stiff light greenish gray clay w/ sand & silty sand pockets	2	9		40	27	17				
45			3	21		28						
50			4	24		25				2.5		SP
55		Firm brown & light brown fine to medium sand w/ trace gravel below 60'	5	24								
60			6	27		26						
65			7	22								
70			8	27		20				1.9		SP
75		Firm light brown fine to coarse sand w/ trace gravel	9	26								
80			10	26		21						
85		B.T. @ 80 FT										

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18

PROJECT NAME: RENOVATION OF PIER B SOUTH

G.E.T. PROJ. NUMBER: 18-152

PROJECT LOCATION: ASPA - MOBILE, ALABAMA

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

DRILL CREW: ES,RS, CS(LOGGER)

DATE DRILLED: 9/6/18

BORING DEPTH: 80 FT.

BORING ELEV.: 11 FT.

DATUM:

WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-8

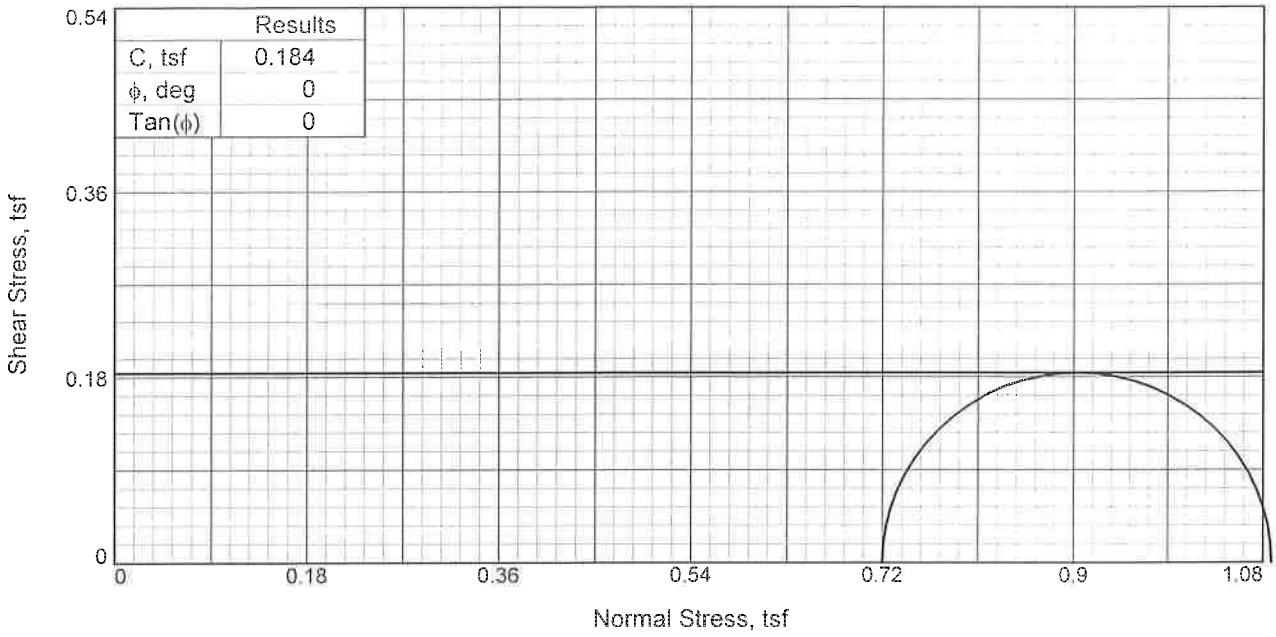
BORING LOCATION: 30°42.461'N, 88°02.394'W

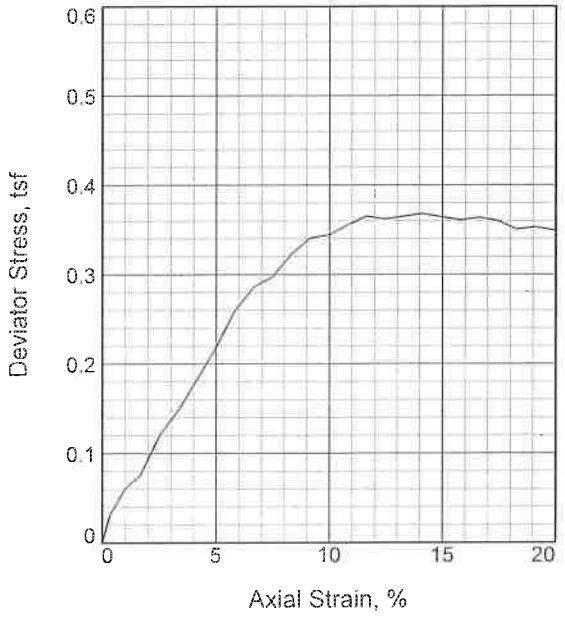
DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_C	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Concrete wharf										
5												
10												
15												
20		Wharf to mudline										
25												
30												
35												
40												
45			1	16								
		Firm black & brown silty sand w/ some gravel	2	17		29				17.3		
50												
55		Firm brown fine to medium sand w/ small amount gravel	3	20		25						
60		Firm brown fine to coarse sand w/ gravel & shell	4	20		21				4.5		SP
65			5	40								
70		Dense to firm fine to medium sand w/ small amount gravel	6	40		18				2.5		SP
75			7	28								
80			8	26		23						
		B.T. @ 80 FT										
85												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES 18-152 - NEW BORINGS.GPJ GETI_AL.GDT 10/24/18





Sample No.		1
Initial	Water Content, %	104.4
	Dry Density, pcf	43.3
	Saturation, %	97.8
	Void Ratio	2.8631
	Diameter, in.	1.40
	Height, in.	3.01
At Test	Water Content, %	106.8
	Dry Density, pcf	43.3
	Saturation, %	100.0
	Void Ratio	2.8631
	Diameter, in.	1.40
	Height, in.	3.01
Strain rate, in./min.		0.03
Back Pressure, psi		0.00
Cell Pressure, psi		10.00
Fail. Stress, tsf		0.37
Strain, %		14.1
Ult. Stress, tsf		0.37
Strain, %		
σ_1 Failure, tsf		1.09
σ_3 Failure, tsf		0.72

Type of Test: Unconsolidated Undrained

Sample Type: Split Spoon

Description: Dark Brownish Gray and Black Fat Organic Clay

LL= 174 **PL=** 107 **PI=** 67

Assumed Specific Gravity= 2.68

Remarks:

Figure _____

Client:

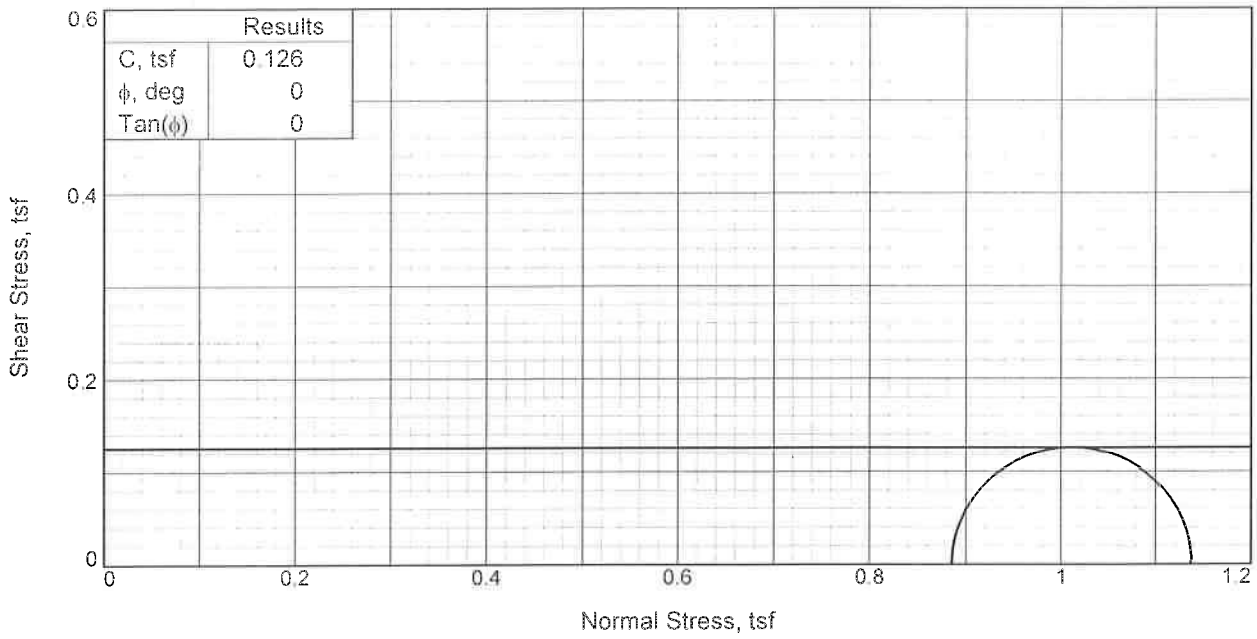
Project: RENOVATION OF PIER B SOUTH ASPA - MOBILE, ALABAMA

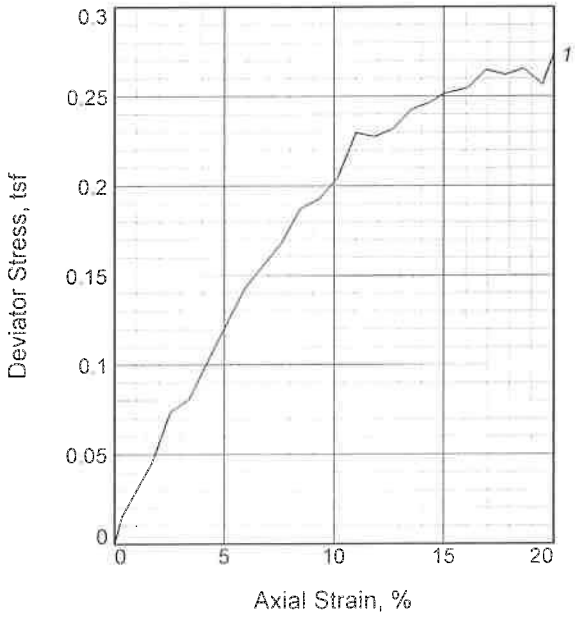
Sample Number: B-1, S-4 **Depth:** 13.5'-15.0'

Proj. No.: 18-152 **Date Sampled:** 09-05-2018

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

Tested By: RGP





Sample No.		1
Initial	Water Content, %	97.4
	Dry Density, pcf	43.9
	Saturation, %	92.9
	Void Ratio	2.8110
	Diameter, in.	1.42
	Height, in.	2.96
At Test	Water Content, %	104.2
	Dry Density, pcf	44.1
	Saturation, %	100.0
	Void Ratio	2.7936
	Diameter, in.	1.41
	Height, in.	2.95
Strain rate, in./min.		0.03
Back Pressure, psi		0.00
Cell Pressure, psi		12.30
Fail. Stress, tsf		0.25
Strain, %		15.0
Ult. Stress, tsf		0.25
Strain, %		
σ_1 Failure, tsf		1.14
σ_3 Failure, tsf		0.89

Type of Test: Unconsolidated Undrained

Sample Type: Split Spoon

Description: Dark Brownish Gray and Black Fat Organic Clay

LL= 99 **PL=** 47 **PI=** 52

Assumed Specific Gravity= 2.68

Remarks:

Figure _____

Client:

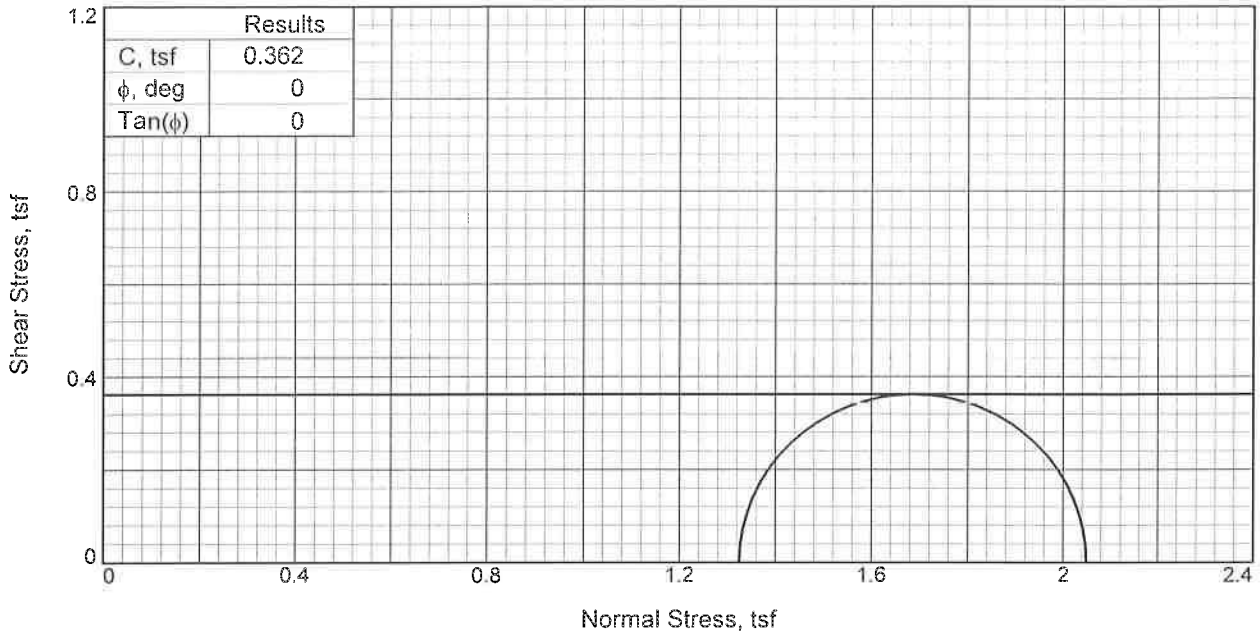
Project: RENOVATION OF PIER B SOUTH ASPA - MOBILE, ALABAMA

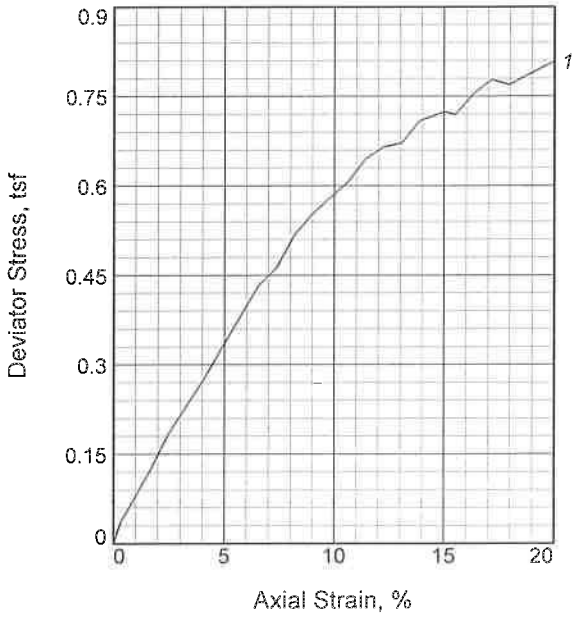
Sample Number: B-2, S-3 **Depth:** 38.5'-40.0'

Proj. No.: 18-152 **Date Sampled:** 09-06-2018

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

Tested By: RGP





Sample No.		1
Initial	Water Content, %	25.3
	Dry Density, pcf	98.6
	Saturation, %	97.2
	Void Ratio	0.6962
	Diameter, in.	1.42
	Height, in.	3.06
At Test	Water Content, %	26.0
	Dry Density, pcf	98.6
	Saturation, %	100.0
	Void Ratio	0.6962
	Diameter, in.	1.42
	Height, in.	3.06
Strain rate, in./min.		0.03
Back Pressure, psi		0.00
Cell Pressure, psi		18.40
Fail. Stress, tsf		0.72
Strain, %		15.0
Ult. Stress, tsf		0.72
Strain, %		
σ_1 Failure, tsf		2.05
σ_3 Failure, tsf		1.32

Type of Test: Unconsolidated Undrained

Sample Type: Split Spoon

Description: Light Bluish Gray Lean Clay with Sand

LL= 32 **PL=** 19 **PI=** 13

Assumed Specific Gravity= 2.68

Remarks:

Figure _____

Client:

Project: RENOVATION OF PIER B SOUTH
ASPA - MOBILE, ALABAMA

Sample Number: B-4, S-11 **Depth:** 38.5'-40.0'

Proj. No.: 18-152 **Date Sampled:** 09-06-2018

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

Tested By: RGP

SUPPLEMENTAL REPORT

Geotechnical Engineering-Testing, Inc.

PROFESSIONAL ENGINEERS

Geotechnical Evaluations - Geosciences - Construction Materials - Pavement Management

March 27, 2020

Mott MacDonald
107 St. Francis Street
Suite 2900
Mobile, AL 36602

Attn.: John W. Peterson, P.E., Principal Engineer/Associate

Re: Supplemental Report - Proposed Renovations to Pier B South at the Alabama State Port Authority in Mobile, Alabama (GET Project #18-152)

Gentlemen:

Geotechnical Engineering-Testing, Inc. (GET) submitted a draft geotechnical report for the proposed renovations at Pier B South at the Alabama State Port Authority (ASPA) in Mobile, Alabama in October 2018. The analyses performed during the development of that report considered only the existing ground surface profile at discrete locations. The existing ground surface elevation was assumed to be -35 ft at the outboard side of the pier. Subsequently, in March 2019, we were asked to perform analyses to estimate lateral capacities of potential new 18-inch and 24-inch square concrete piles in the event that the slip was dredged to elevation -42 ft (design dredge depth of -40 ft plus an additional 2 ft for potential over dredge).

Using the subsurface soil conditions described in our geotechnical report and information provided Mott MacDonald we performed lateral pile analyses of the potential new piles installed to a tip elevation of -67 ft (70 ft long piles) and with an assumed axial compression load of 75 tons. The same methods were used for these subsequent analyses as were used for the original analyses. Rather than simply translating the existing surface profiles down to the new dredge depth, uniform long-term surface slopes were assumed for each of the bents analyzed. The assumed uniform long-term slopes were selected based on the existing slopes near the outboard side of the pier. The assumed uniform long-term slopes were 17°, 12°, 20° at bents 15, 30, and 75, respectively. Information provided by Mott MacDonald indicated that new pile bents would include 16 piles and that the total lateral load at each bent, at the pile heads, would be 76 kips. Our supplemental estimates of pile head deflection and maximum moment within the piles under free head and fixed head conditions are presented in the attached **Table I**.

It is noted that estimates are presented for outboard piles, middle piles, and inboard piles. We recommend that linear interpolation be used to estimate values for intermediate piles. It can be seen that no values are presented for an 18-inch square pile under free head conditions. This is because the analysis program "crashed" when performing these analyses. The "crash" was the result of excessive pile head deflection because of the flexibility of the pile and the length of pile above the dredge line. Extending the pile deeper did not affect the pile head deflection calculations.

We were also asked to perform analyses to estimate axial capacities of 24-inch square piles installed to a tip elevation of -67 ft (70 ft long pile) with the slip dredged to elevation -42 ft. The same methods were used for these subsequent analyses as were used for the original analyses. Subsequent axial analyses were supplemented using the computer program APILE version 2018.8.1. The analyses assumed the same uniform long-term surface slopes at described above. Our supplemental estimates of axial pile capacities are presented in the attached **Table II**.

It is noted that axial capacity estimates are presented for outboard piles, middle piles, and inboard piles. We recommend that linear interpolation be used to estimate values for intermediate piles.

The limitations stated in our original report apply to this supplemental report.

GET appreciates this opportunity to be of service to Mott MacDonald. Please contact Hank Oakes, P.E. if questions arise of if additional information is needed.

Sincerely,

GEOTECHNICAL ENGINEERING-TESTING, INC.

Hank M. Oakes, P.E.
Sr. Project Engineer
Alabama License No. 19576

Attachments

TABLE I - LATERAL PILE ANALYSIS RESULTS
ASPA PIER B SOUTH RENOVATION
MOBILE, ALABAMA
ASSUMED DREDGE LINE OF EL. -42 FT AT FACE OF PIER

		18" X 70' Piles							
		Outboard Pile		Middle Pile		Inboard Pile		**Estimated Design Value**	
Location		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head	**Free-Head**	**Fixed-Head**
Bent 15	Head Deflection, Inch	?	4.7	20.8	2.2	3.8	0.6	**?**	**2.3**
	Max. Moment, in-lbs	?	2,082,020	4,995,691	1,533,968	1,969,156	984,980	**?**	**1,533,910**
Bent 30	Head Deflection, Inch	?	4.7	33.5	2.9	12.5	1.6	**?**	**2.9**
	Max. Moment, in-lbs	?	2,082,020	7,066,554	1,712,620	3,620,822	1,352,032	**?**	**1,713,171**
Bent 75	Head Deflection, Inch	?	4.7	16.9	1.9	2.8	0.5	**?**	**2.0**
	Max. Moment, in-lbs	?	2,082,020	4,335,630	1,450,529	1,613,557	884,956	**?**	**1,454,649**

		24" X 70' Piles							
		Outboard Pile		Middle Pile		Inboard Pile		**Estimated Design Value**	
Location		Free-Head	Fixed-Head	Free-Head	Fixed-Head	Free-Head	Fixed-Head	**Free-Head**	**Fixed-Head**
Bent 15	Head Deflection, Inch	8.0	1.4	3.6	0.7	1	0.2	**3.7**	**0.7**
	Max. Moment, in-lbs	4,002,925	1,872,697	2,661,609	1,461,662	1,604,301	976,916	**2,679,360**	**1,457,055**
Bent 30	Head Deflection, Inch	8.0	1.4	4.8	0.9	2.6	0.5	**4.9**	**0.9**
	Max. Moment, in-lbs	4,002,925	1,872,697	3,079,469	1,615,483	2,295,076	1,305,826	**3,088,160**	**1,612,205**
Bent 75	Head Deflection, Inch	8.0	1.4	3.1	0.6	0.8	0.2	**3.3**	**0.6**
	Max. Moment, in-lbs	4,002,925	1,872,697	2,490,773	1,388,967	1,369,436	888,892	**2,515,199**	**1,387,945**

GEOTECHNICAL ENGINEERING-TESTING, INC.
MOBILE, ALABAMA
March 22, 2019

TABLE II - RECOMMENDED ALLOWABLE AXIAL CAPACITIES IN **KIPS** - NEW PILES
ASPA PIER B SOUTH RENOVATION
MOBILE, ALABAMA
DREDGE LINE AT FACE OF PIER AT ELEVATION -42 FT

Location	24" X 70' Precast Concrete Pile - Tip Elevation = -67'								
	Outboard Pile			Middle Pile			Inboard Pile		
	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift	Short-Term	Long-Term	Uplift
Bent 15	189	189	43	292	283	83	385	361	126
Bent 30	189	189	43	255	250	68	328	314	99
Bent 70	189	189	43	310	298	91	416	385	143

Note:
1. Pile capacity recommendations considered only the pile-soil interaction. Structural properties of piles were not considered.
2. Recommended allowable capacities derived by application of a factor of safety of approximately 2.0 to estimated ultimate capacities.
3. Uplift loads are assumed to be short-term.

GEOTECHNICAL ENGINEERING-TESTING, INC.
MOBILE, ALABAMA
March 27, 2019

MOTT MACDONALD

PORT OF MOBILE
ALABAMA PORT AUTHORITY

APPENDIX B

SURVEY

E 1 797 300 E 1 797 450 E 1 797 600 E 1 797 750 E 1 797 900 E 1 798 050

N 258 300 N 258 150 N 258 000 N 257 850 N 257 700

SOUTH PIER B

SOUTH B WAREHOUSE

FF-10.44

FF-10.84

FF-10.63

REST ROOM

GUARD

CONC.DOCK

5' X 13' DECK DRAIN (TYP.)

TIMBER FENDER

HEAD SLIP B

SLIP B

STEEL PLATE

CP-1 (X ON ELEC.MANHOLE)
N=258142.756
E=1797295.174
Z=8.749

CP-3 (X ON DRAIN GRATE)
N=258191.418
E=1797516.166
Z=9.996

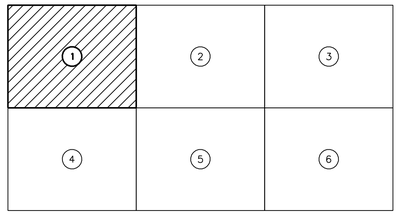
CP-4 (X ON STEEL RAIL)
N=257730.999
E=1797574.584
Z=9.851

MATCH SHEET 4

MATCH SHEET 2

LEGEND

CURB LINES	WATER VALVE	PARCEL BOUNDARY	
BURIED TELEPHONE —T—·—T·—	TELEPHONE BOX	ADJOINING PROPERT	
OVERHEAD LINES —OHE——OHE—	UNKNOWN ELECTRICAL	SECTION LINE	
FIBER OPTIC CABLE —FOC·—FOC·—	STREET LIGHTS	SET BACK LINES	
SANITARY SEWER —SS·—SS·—	POLES	EASEMENTS	
WATER MAINS —W·—W·—	GUY ANCHORS	SPOT ELEVATIONS 21.5	
RAILROAD	TRANSFORMERS	INDEX CONTOURS 10	
FENCES —X—X—X—	ACCENT LIGHTS	CONTOURS	
BUILDINGS	SHORELINES	TEMPORARY CONTROL POINT	
CULVERTS	SIGNS	MONUMENTS	
CATCH BASINS	DECIDUOUS TREES	IRON PINS & PIPES AS NOTED	
MAN HOLES	GATE VALVE	RCP=REINFORCED CONCRETE PIPE	
FIRE HYDRANT	HVAC UNIT	CRS=LAWLER 1/2" CAPPED REBAR SET	
WATER METER	PIPE STUB	CTIF=CRIMP TOP IRON PIPE FOUND	
GAS METER	SANITARY CLEAN OUT	REC=DEED RECORD DIMENSION	
FIBER OPTIC CABLE	R/W=RIGHT OF WAY	ACT=ACTUAL FIELD MEASUREMENT	
CABLE TV BOX	CMP=CORRUGATED METAL PIPE	CRF=CAPPED REBAR FOUND	
ROOF DRAIN	CONC.=CONCRETE	IRF=IRON ROD (REBAR) FOUND	
HANDICAP PARKING	A/C=CENTRAL HVAC UNIT	XF=SCRIBED X FOUND IN CONCRETE	
PALM TREES	SEC.=GOVERNMENTAL SECTION	CMF=CONCRETE MONUMENT FOUND	



INDEX TO SHEETS

FLOOD ZONE:
FEMA NFIP FLOOD INSURANCE RATE MAP 01097C0558K DATED MARCH 17, 2010, SHOWS THIS PROPERTY IN ZONE AE, BASE FLOOD ELEVATION 12.0' NAVD 1988. FLOOD ZONE DETERMINATION MADE FROM GRAPHIC PLOTTING ONLY.

GENERAL NOTES:
150 FOOT GRID BASED ON ALABAMA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 (2011) ESTABLISHED ON SITE USING RTK GPS REFERENCING ALDOT CORS NETWORK.
ELEVATIONS AND ONE FOOT CONTOUR INTERVAL BASED ON NAVD, 1988 REFERENCING ALDOT CORS NETWORK AND ESTABLISHED ON SITE WITH RTK GPS.
TO CONVERT NAVD TO MLLW, ADD 0.41 FEET TO NAVD.
TOPOGRAPHIC DATA COLLECTED WITH LEICA TOTAL STATIONS
HYDROGRAPHIC DATA COLLECTED WITH DIFFERENTIAL GPS BASED AUTOMATED SYSTEM
MODELING AND CONTOURING ACCOMPLISHED WITH INROADS INSIDE MICROSTATION
FIELD SURVEY COMPLETED 30 AUGUST, 2018
FILE:\ASPA\PORTOFMOBILE\ 18069-SOUTH-B\ 18069-SOUTH-B-ASBUILT.DGN

CERTIFICATION:
I, W. J. LAWLER, III, A REGISTERED LAND SURVEYOR IN THE STATE OF ALABAMA HEREBY CERTIFY THAT ALL PARTS OF THIS SURVEY AND DRAWING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF ALABAMA TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

THIS THE 11TH DAY OF SEPTEMBER, 2018

W. J. LAWLER, III PLS 17513

N

30 0 30 60 90

SCALE IN FEET

REVISIONS		
01	5-7-20	LABEL PRIMARY SURVEY CONTROL

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON	
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 01 OF 06
PROJ. NO. 18-069		DWG. No. 18-069-1

ALABAMA REGISTERED No. 17513 PROFESSIONAL LAND SURVEYOR W. J. LAWLER III ORIGINAL DOCUMENT SEALED

LAWLER AND COMPANY
LAND AND INDUSTRIAL SURVEYORS
2879 CLAUDIA LANE
THEODORE, ALABAMA 36590
(251) 661-9411 FAX (251) 661-9177

E 1 798 050 E 1 798 200 E 1 798 350 E 1 798 500 E 1 798 650 E 1 798 800

N 258 300 N 258 150 N 258 000 N 257 850 N 257 700

MATCH SHEET 1

MATCH SHEET 3

MATCH SHEET 5

SOUTH PIER B

SOUTH B WAREHOUSE

CONC. DOCK

GRATE

STEEL PLATE

GUARD RAIL

SANITARY SEWER LIFT STATION THE WELL

REST ROOM

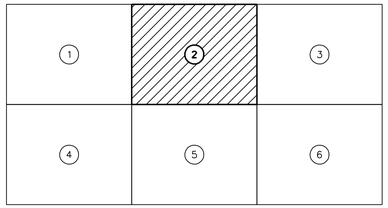
FF=0.56

FF=0.53

FF=0.47

LEGEND

CURB LINES	WATER VALVE	PARCEL BOUNDARY	
BURIED TELEPHONE —T——T—	TELEPHONE BOX	ADJOINING PROPERT	
OVERHEAD LINES —OHE——OHE—	UNKNOWN ELECTRICAL	SECTION LINE	
FIBER OPTIC CABLE —FOC—FOC—	STREET LIGHTS	SET BACK LINES	
SANITARY SEWER —SS—SS—	POLES	EASEMENTS	
WATER MAINS —W—W—	GUY ANCHORS	SPOT ELEVATIONS 21.5	
RAILROAD	TRANSFORMERS	INDEX CONTOURS 10	
FENCES	ACCENT LIGHTS	CONTOURS	
BUILDINGS	SHORELINES	TEMPORARY CONTROL POINT	
CULVERTS	SIGNS	MONUMENTS	
CATCH BASINS	DECIDUOUS TREES	IRON PINS & PIPES AS NOTED	
MAN HOLES	GATE VALVE	RCP•REINFORCED CONCRETE PIPE	
FIRE HYDRANT	HVAC UNIT	CRS•LAWLER ½" CAPPED REBAR SET	
WATER METER	PIPE STUB	CTIF•CRIMP TOP IRON PIPE FOUND	
GAS METER	SANITARY CLEAN OUT	REC•DEED RECORD DIMENSION	
FIBER OPTIC CABLE	R/W•RIGHT OF WAY	ACT•ACTUAL FIELD MEASUREMENT	
CABLE TV BOX	CMP•CORRUGATED METAL PIPE	CRF•CAPPED REBAR FOUND	
ROOF DRAIN	CONC.•CONCRETE	IRF•IRON ROD (REBAR) FOUND	
HANDICAP PARKING	A/C•CENTRAL HVAC UNIT	XF•SCRIBED X FOUND IN CONCRETE	
PALM TREES	SEC.•GOVERNMENTAL SECTION	CMF•CONCRETE MONUMENT FOUND	



INDEX TO SHEETS

FLOOD ZONE:
FEMA NFIP FLOOD INSURANCE RATE MAP 01097C0558K DATED MARCH 17, 2010, SHOWS THIS PROPERTY IN ZONE AE, BASE FLOOD ELEVATION 12.0' NAVD 1988. FLOOD ZONE DETERMINATION MADE FROM GRAPHIC PLOTTING ONLY.

GENERAL NOTES:
150 FOOT GRID BASED ON ALABAMA STATE PLANE COORDINATE SYSTEM, WEST ZONE,NAD 83 (2011) ESTABLISHED ON SITE USING RTK GPS REFERENCING ALDOT CORS NETWORK.
ELEVATIONS AND ONE FOOT CONTOUR INTERVAL BASED ON NAVD, 1988 REFERENCING ALDOT CORS NETWORK AND ESTABLISHED ON SITE WITH RTK GPS.
TO CONVERT NAVD TO MLLW, ADD 0.41 FEET TO NAVD.
TOPOGRAPHIC DATA COLLECTED WITH LEICA TOTAL STATIONS
HYDROGRAPHIC DATA COLLECTED WITH DIFFERENTIAL GPS BASED AUTOMATED SYSTEM MODELING AND CONTOURING ACCOMPLISHED WITH INROADS INSIDE MICROSTATION
FIELD SURVEY COMPLETED 30 AUGUST, 2018
FILE:\\ASPA\PORTOFMOBILE_18069-SOUTH-B_18069-SOUTH-B-ASBUILT.DGN

CERTIFICATION:
I, W. J. LAWLER, III, A REGISTERED LAND SURVEYOR IN THE STATE OF ALABAMA HEREBY CERTIFY THAT ALL PARTS OF THIS SURVEY AND DRAWING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF ALABAMA TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

THIS THE 11TH DAY OF SEPTEMBER, 2018

W. J. LAWLER, III PLS 17513

N

30 0 30 60 90

SCALE IN FEET

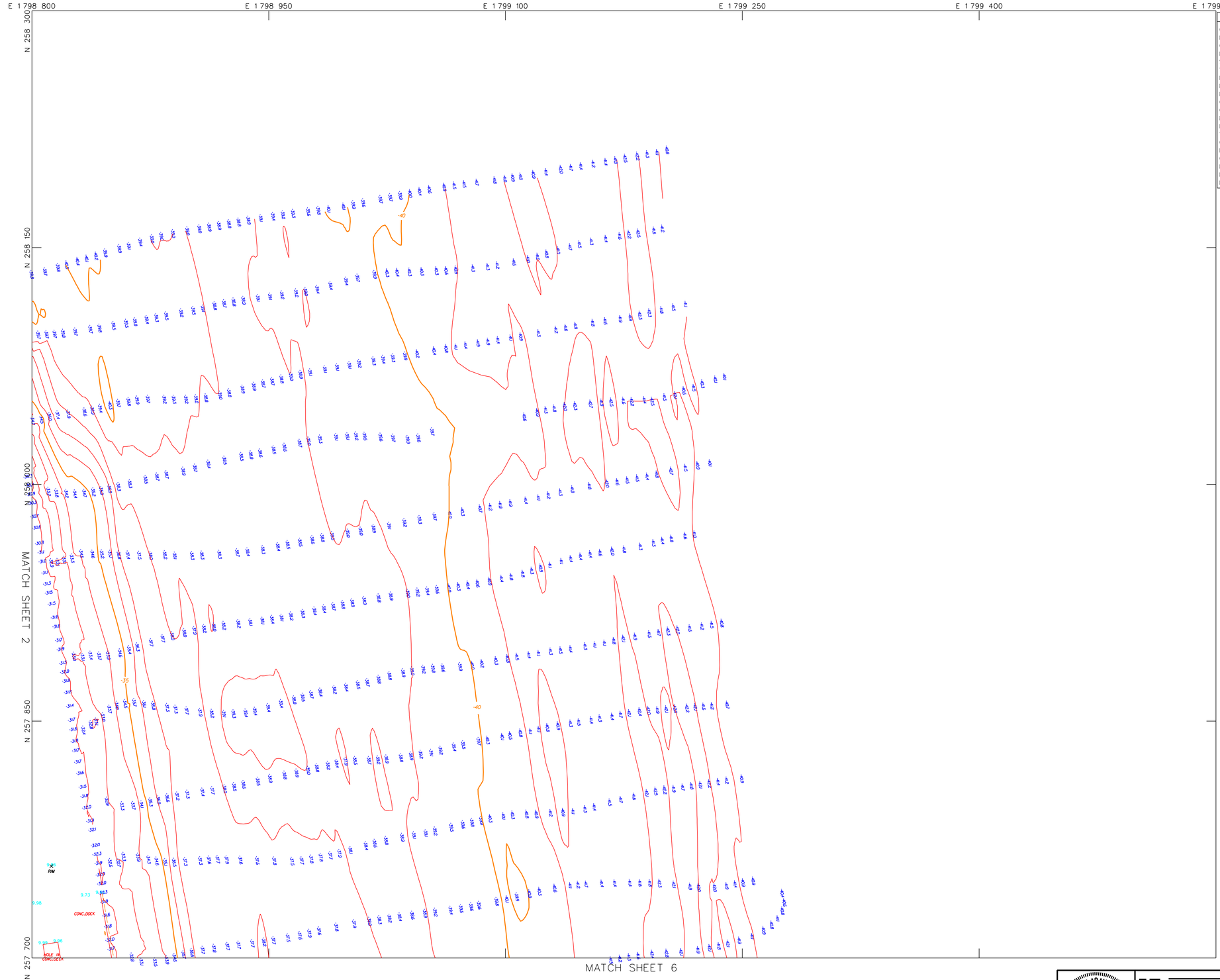
REVISIONS

ALABAMA REGISTERED No. 17513 PROFESSIONAL LAND SURVEYOR W. J. LAWLER III ORIGINAL SEAL

LAWLER AND COMPANY
LAND AND INDUSTRIAL SURVEYORS
2879 CLAUDIA LANE
THEODORE, ALABAMA 36590
(251) 661-9411 FAX (251) 661-9177

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON	
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 02 OF 06
PROJ. NO. 18-069		DWG. No. 18-069-1



LEGEND

CURB LINES	WATER VALVE		PARCEL BOUNDARY
BURIED TELEPHONE —T—T—	TELEPHONE BOX		ADJOINING PROPERT
OVERHEAD LINES —OHE—OHE—	UNKNOWN ELECTRICAL		SECTION LINE
FIBER OPTIC CABLE —FOC—FOC—	STREET LIGHTS		SET BACK LINES
SANITARY SEWER —SS—SS—	POLES		EASEMENTS
WATER MAINS —W—W—	GUY ANCHORS	21.5	SPOT ELEVATIONS
RAILROAD	TRANSFORMERS	10	INDEX CONTOURS
FENCES	ACCENT LIGHTS		CONTOURS
BUILDINGS	SHORELINES		TEMPORARY CONTROL POINT
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MAN HOLES	GATE VALVE		RCP-REINFORCED CONCRETE PIPE
FIRE HYDRANT	HVAC UNIT		CRS-LAWLER ½" CAPPED REBAR SET
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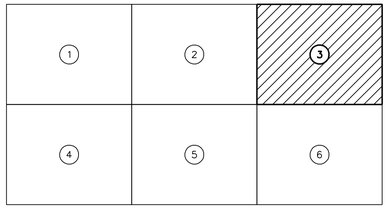
HANDICAP PARKING	A/C-CENTRAL HVAC UNIT		XF-SCRIBED X FOUND IN CONCRETE
PALM TREES	SEC.-GOVERNMENTAL SECTION		CMF-CONCRETE MONUMENT FOUND



INDEX TO SHEETS

FLOOD ZONE:
FEMA NFIP FLOOD INSURANCE RATE MAP 01097C0558K DATED MARCH 17, 2010, SHOWS THIS PROPERTY IN ZONE AE, BASE FLOOD ELEVATION 12.0 NAVD 1988. FLOOD ZONE DETERMINATION MADE FROM GRAPHIC PLOTTING ONLY.

GENERAL NOTES:
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TO CONVERT NAVD TO MLLW, ADD 0.41 FEET TO NAVD.
TOPOGRAPHIC DATA COLLECTED WITH LEICA TOTAL STATIONS
HYDROGRAPHIC DATA COLLECTED WITH DIFFERENTIAL GPS BASED AUTOMATED SYSTEM
MODELING AND CONTOURING ACCOMPLISHED WITH INROADS INSIDE MICROSTATION
FIELD SURVEY COMPLETED 30 AUGUST, 2018
FILE:\ASPA\PORTOFMOBILE\ 18069-SOUTH-B\ 18069-SOUTH-B-ASBUILT.DGN

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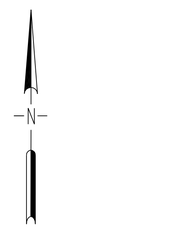
THIS THE 11TH DAY OF SEPTEMBER, 2018

W. J. LAWLER, III PLS 17513



30 0 30 60 90

SCALE IN FEET

REVISIONS

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON	
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 03 OF 06
PROJ. NO. 18-069		DWG. No. 18-069-1

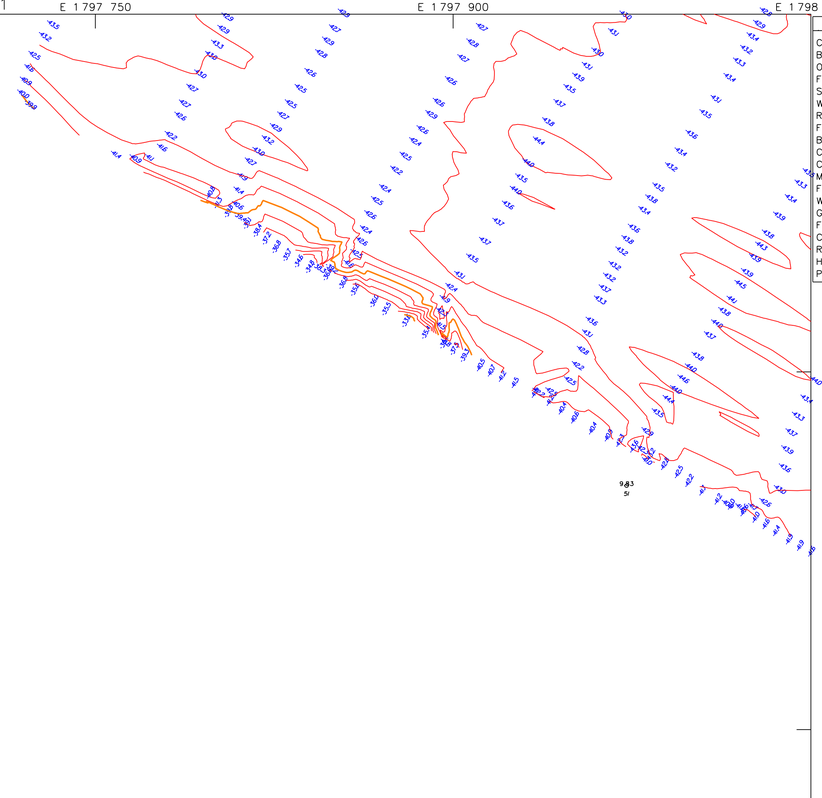
ALABAMA REGISTERED No. 17513 PROFESSIONAL LAND SURVEYOR W. J. LAWLER III ORIGINAL SIGNATURE AL

LAWLER AND COMPANY
LAND AND INDUSTRIAL SURVEYORS
2879 CLAUDIA LANE
THEODORE, ALABAMA 36590
(251) 661-9411 FAX (251) 661-9177

E 1 797 300 E 1 797 450 E 1 797 600 MATCH SHEET 1 E 1 797 750 E 1 797 900 E 1 798 050

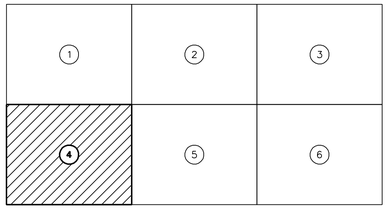
N 258 700
N 258 550
N 258 400
N 257 250
N 257 100

MATCH SHEET 5



LEGEND

CURB LINES	WATER VALVE	PARCEL BOUNDARY	
BURIED TELEPHONE —T—T—	TELEPHONE BOX	ADJOINING PROPERT	
OVERHEAD LINES —OHE—OHE—	UNKNOWN ELECTRICAL	SECTION LINE	
FIBER OPTIC CABLE —FOC—FOC—	STREET LIGHTS	SET BACK LINES	
SANITARY SEWER —SS—SS—	POLES	EASEMENTS	
WATER MAINS —W—W—	GUY ANCHORS	SPOT ELEVATIONS	21.5
RAILROAD	TRANSFORMERS	INDEX CONTOURS	10
FENCES	ACCENT LIGHTS	CONTOURS	
BUILDINGS	SHORELINES	TEMPORARY CONTROL POINT	
CULVERTS	SIGNS	MONUMENTS	
CATCH BASINS	DECIDUOUS TREES	IRON PINS & PIPES AS NOTED	
MAN HOLES	GATE VALVE	RCP-REINFORCED CONCRETE PIPE	
FIRE HYDRANT	HVAC UNIT	CRS-LAWLER ½" CAPPED REBAR SET	
WATER METER	PIPE STUB	CTIF-CRIMP TOP IRON PIPE FOUND	
GAS METER	SANITARY CLEAN OUT	REC-DEED RECORD DIMENSION	
FIBER OPTIC CABLE	R/W-RIGHT OF WAY	ACT-ACTUAL FIELD MEASUREMENT	
CABLE TV BOX	CMP-CORRUGATED METAL PIPE	CRF-CAPPED REBAR FOUND	
ROOF DRAIN	CONC.-CONCRETE	IRF-IRON ROD (REBAR) FOUND	
HANDICAP PARKING	A/C-CENTRAL HVAC UNIT	XF-SCRIBED X FOUND IN CONCRETE	
PALM TREES	SEC.-GOVERNMENTAL SECTION	CMF-CONCRETE MONUMENT FOUND	



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HYDROGRAPHIC DATA COLLECTED WITH DIFFERENTIAL GPS BASED AUTOMATED SYSTEM
MODELING AND CONTOURING ACCOMPLISHED WITH INROADS INSIDE MICROSTATION
FIELD SURVEY COMPLETED 30 AUGUST, 2018
FILE:\ASPA\PORTOFMOBILE\ 18069-SOUTH-B\ 18069-SOUTH-B-ASBUILT.DGN

CERTIFICATION:
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THIS THE 11TH DAY OF SEPTEMBER, 2018

W. J. LAWLER, III PLS 17513

N

30 0 30 60 90
SCALE IN FEET

REVISIONS

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF
PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON	
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 04 OF 06
PROJ. NO. 18-069		DWG. No. 18-069-1

ALABAMA REGISTERED No. 17513 PROFESSIONAL LAND SURVEYOR W. J. LAWLER III ORIGINAL DOCUMENT SEALED

LAWLER AND COMPANY
LAND AND INDUSTRIAL SURVEYORS
2879 CLAUDIA LANE
THEODORE, ALABAMA 36590
(251) 661-9411 FAX (251) 661-9177

E 1 797 300 E 1 797 450 E 1 797 600 E 1 797 750 E 1 797 900 E 1 798 050

N 258 700 N 258 550 N 258 400 N 257 250 N 257 100

MATCH SHEET 2

MATCH SHEET 4

MATCH SHEET 6

SLIP B

SOUTH PIER B

SOUTH B WAREHOUSE

SOUTH PIER B

SLIP B

CONC.DOCK

FF-10.73

REST ROOM

HOLE IN CONC.DECK

STEEL PLATE

LEGEND

CURB LINES	WATER VALVE	PARCEL BOUNDARY	
BURIED TELEPHONE —T—T—	TELEPHONE BOX	ADJOINING PROPERT	
OVERHEAD LINES —OHE—OHE—	UNKNOWN ELECTRICAL	SECTION LINE	
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WATER MAINS —W—W—	GUY ANCHORS	SPOT ELEVATIONS 21.5	
RAILROAD	TRANSFORMERS	INDEX CONTOURS 10	
FENCES	ACCENT LIGHTS	CONTOURS	
BUILDINGS	SHORELINES	TEMPORARY CONTROL POINT	
CULVERTS	SIGNS	MONUMENTS	
CATCH BASINS	DECIDUOUS TREES	IRON PINS & PIPES AS NOTED	
MAN HOLES	GATE VALVE	RCP=REINFORCED CONCRETE PIPE	
FIRE HYDRANT	HVAC UNIT	CRS=LAWLER ½" CAPPED REBAR SET	
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PALM TREES	SEC.=GOVERNMENTAL SECTION	CMF=CONCRETE MONUMENT FOUND	

1	2	3
4	5	6

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W. J. LAWLER, III PLS 17513

N

30 0 30 60 90

SCALE IN FEET

REVISIONS

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LAND AND INDUSTRIAL SURVEYORS
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(251) 661-9411 FAX (251) 661-9177

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON	
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 05 OF 06
PROJ. NO. 18-069		DWG. No. 18-069-1

E 1 797 300 E 1 797 450 E 1 797 600 MATCH SHEET 3 E 1 797 750 E 1 797 900 E 1 798 050

N 258 700 N 258 550 N 258 400 MATCH SHEET 5 N 257 250 N 257 100

SOUTH PIER B

SOUTH PIER B

MOBILE RIVER

CP-2 BRASS CAP "PIER B-2"
LAWLER 5996
N=257474.388
E=1798886.585
Z=10.030

PIER B-2
LAWLER

CONC. DOCK

GRATE

LEGEND

CURB LINES	WATER VALVE	PARCEL BOUNDARY	
BURIED TELEPHONE —T—·—T·—	TELEPHONE BOX	ADJOINING PROPERT	
OVERHEAD LINES —ONE——ONE—	UNKNOWN ELECTRICAL	SECTION LINE	
FIBER OPTIC CABLE —FOC·—FOC·—	STREET LIGHTS	SET BACK LINES	
SANITARY SEWER —SS·—SS·—	POLES	EASEMENTS	
WATER MAINS —W·—W·—	GUY ANCHORS	SPOT ELEVATIONS 21.5	
RAILROAD	TRANSFORMERS	INDEX CONTOURS 10	
FENCES —x—x—x—	ACCENT LIGHTS	CONTOURS	
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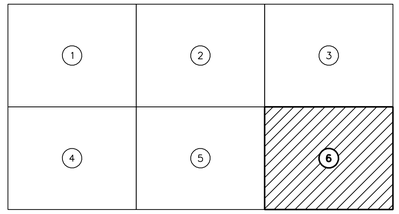

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W. J. LAWLER, III PLS 17513

N

30 0 30 60 90
SCALE IN FEET

REVISIONS		
01	5-7-20	LABEL PRIMARY SURVEY CONTROL

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF PIER B SOUTH, PORT OF MOBILE

REF: MOTT McDONALD--JOHN PETERSON

DATE: 11 SEPT., 2018 | SCALE: 1"=30' | SHEET 06 OF 06

PROJ. NO. 18-069 | DWG. No. 18-069-1

ALABAMA REGISTERED No. 17513 PROFESSIONAL LAND SURVEYOR W. J. LAWLER III ORIGINAL SEAL

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THEODORE, ALABAMA 36590
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SPOT ELEVATION OF EXISTING WAREHOUSE SLAB AT ROLLUP DOORS

E 1 797 300 E 1 797 450 E 1 797 600 E 1 797 750 E 1 797 900 E 1 798 050

N 258 300
N 258 150
N 258 000
N 257 850
N 257 700

WEST SIDE DOOR 1
TOP OF DOOR 1
EAST SIDE DOOR 1
27

WOMENS BATHROOM

WEST SIDE DOOR 2
TOP OF DOOR 2
EAST SIDE DOOR 2
26

WEST SIDE DOOR 3
TOP OF DOOR 3
EAST SIDE DOOR 3
25

MATCH SHEET 2

MATCH SHEET 4

LEGEND

CURB LINES	WATER VALVE	PARCEL BOUNDARY	
BURIED TELEPHONE —T—T—	TELEPHONE BOX	ADJOINING PROPERT	
OVERHEAD LINES —OHE—OHE—	UNKNOWN ELECTRICAL	SECTION LINE	
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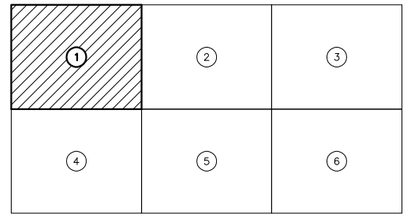

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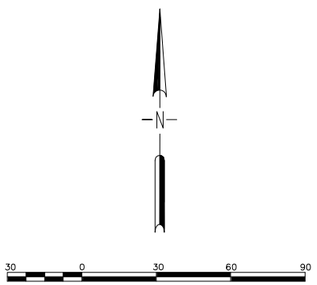

REVISIONS		
01	10-31-23	ADD\UPDATE DOOR ELEVATIONS

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF
PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON	
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 01 OF 06
PROJ. NO. 18-069		DWG. No. 18-069-1

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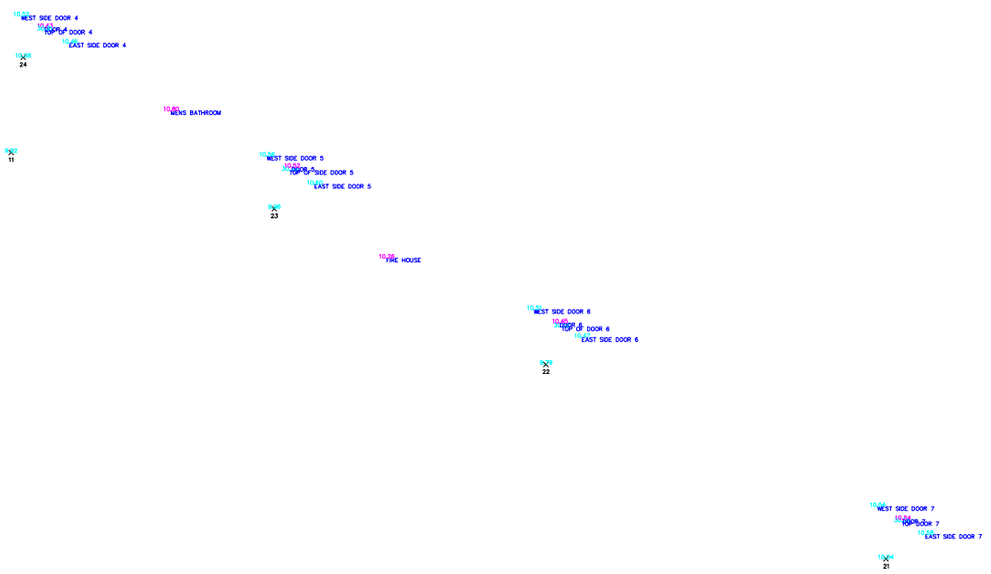

MATCH SHEET 5

MATCH SHEET 3

LEGEND

CURB LINES		WATER VALVE		PARCEL BOUNDARY	
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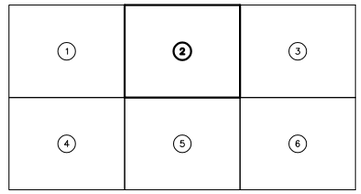

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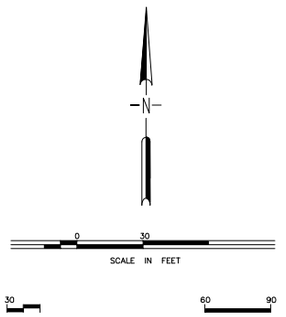

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MATCH SHEET 2

MATCH SHEET 6

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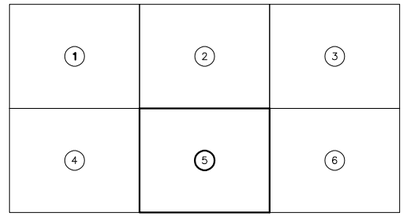
CULVERTS		SIGNS		MONUMENTS	
CATCH BASINS		DECIDUOUS TREES		IRON PINS & PIPES AS NOTED	
MAN HOLES		GATE VALVE		RCP=REINFORCED CONCRETE PIPE	
FIRE HYDRANT		HVAC UNIT		CRS=LAWLER ?" CAPPED REBAR SET	
WATER METER		PIPE STUB		CTIF=CRIMP TOP IRON PIPE FOUND	
GAS METER		SANITARY CLEAN OUT		REC=DEED RECORD DIMENSION	
FIBER OPTIC CABLE		R/W=RIGHT OF WAY		ACT=ACTUAL FIELD MEASUREMENT	
CABLE TV BOX		CMP=CORRUGATED METAL PIPE		CRF=CAPPED REBAR FOUND	
ROOF DRAIN		CONC.=CONCRETE		IRF=IRON ROD (REBAR) FOUND	
HANDICAP PARKING		A/C=CENTRAL HVAC UNIT		XF=SCRIBED X FOUND IN CONCRETE	
PALM TREES		SEC.=GOVERNMENTAL SECTION		CMF=CONCRETE MONUMENT FOUND	



INDEX TO SHEETS

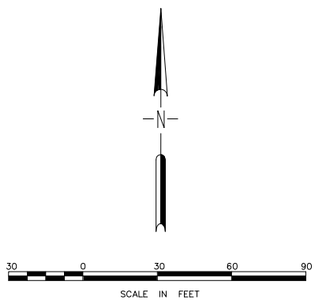
FLOOD ZONE:
FEMA NFIP FLOOD INSURANCE RATE MAP 01097C0558K DATED MARCH 17, 2010, SHOWS THIS PROPERTY IN ZONE AE, BASE FLOOD ELEVATION 12.0' NAVD 1988. FLOOD ZONE DETERMINATION MADE FROM GRAPHIC PLOTTING ONLY.

GENERAL NOTES:
150 FOOT GRID BASED ON ALABAMA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 (2011) ESTABLISHED ON SITE USING RTK GPS REFERENCING ALDOT CORS NETWORK.
ELEVATIONS AND ONE FOOT CONTOUR INTERVAL BASED ON NAVD, 1988 REFERENCING ALDOT CORS NETWORK AND ESTABLISHED ON SITE WITH RTK GPS.
TO CONVERT NAVD TO MLLW, ADD 0.41 FEET TO NAVD.
TOPOGRAPHIC DATA COLLECTED WITH LEICA TOTAL STATIONS
HYDROGRAPHIC DATA COLLECTED WITH DIFFERENTIAL GPS BASED AUTOMATED SYSTEM
MODELING AND CONTOURING ACCOMPLISHED WITH INROADS INSIDE MICROSTATION
FIELD SURVEY COMPLETED 30 AUGUST, 2018
FILE:\ASPA\PORTOFMOBILE\ 18069-SOUTH-B\ 18069-SOUTH-B-ASBUILT.DGN

CERTIFICATION:
I, W. J. LAWLER, III, A REGISTERED LAND SURVEYOR IN THE STATE OF ALABAMA HEREBY CERTIFY THAT ALL PARTS OF THIS SURVEY AND DRAWING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF ALABAMA TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

THIS THE 11TH DAY OF SEPTEMBER, 2018

W. J. LAWLER, III PLS 17513



REVISIONS		
01	10-31-23	ADD\UPDATE DOOR ELEVATIONS

ALABAMA STATE PORT AUTHORITY
ASBUILT SURVEY OF
PIER B SOUTH, PORT OF MOBILE

REF:	MOTT McDONALD--JOHN PETERSON		
DATE: 11 SEPT., 2018	SCALE: 1"=30'	SHEET 01 OF 06	
PROJ. NO. 18-069		DWG. No. 18-069-1	

NOT VALID WITHOUT ORIGINAL RAISED SEAL

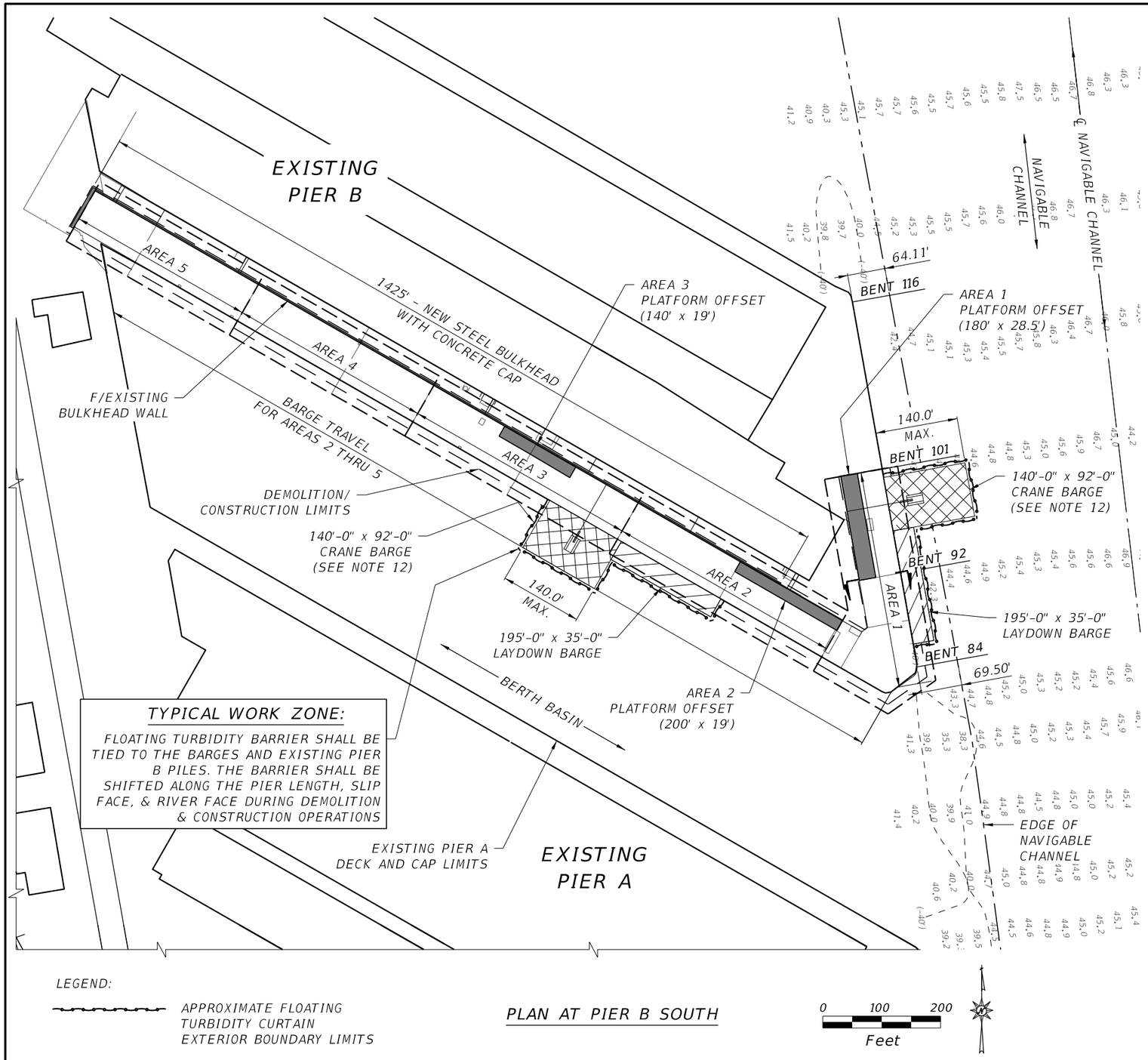
LAWLER AND COMPANY
LAND AND INDUSTRIAL SURVEYORS
2879 CLAUDIA LANE
THEODORE, ALABAMA 36590
(251) 661-9411 FAX (251) 661-9177

MOTT MACDONALD

PORT OF MOBILE
ALABAMA PORT AUTHORITY

APPENDIX C

TURBIDITY CURTAIN



TYPICAL WORK ZONE:

FLOATING TURBIDITY BARRIER SHALL BE TIED TO THE BARGES AND EXISTING PIER B PILES. THE BARRIER SHALL BE SHIFTED ALONG THE PIER LENGTH, SLIP FACE, & RIVER FACE DURING DEMOLITION & CONSTRUCTION OPERATIONS

LEGEND:

APPROXIMATE FLOATING TURBIDITY CURTAIN EXTERIOR BOUNDARY LIMITS

PLAN AT PIER B SOUTH

0 100 200
Feet

Turbidity Curtain Notes:

1. The positions of floating turbidity curtain along the slip and channel side illustrate the general requirements around the demolition and construction activities as these operations progress around the Pier B South work area.
2. The turbidity barrier shall conform to "The Alabama Handbook For Erosion Control, Sediment Control, and Stormwater Management On Construction Sites And Urban Areas".
3. The location of the turbidity curtains shown on these plans are for encapsulation of the demolition and construction zones. Turbidity curtains shall be located and repositioned by the contractor using best management practices to assure water quality standards are maintained throughout demolition and construction.
4. Barriers should be a bright color (yellow or "international" orange are recommended) that will attract the attention of nearby boaters.
5. The curtain fabric shall meet manufacturer's recommendations for the application.
6. Floatation devices shall be flexible, buoyant units contained in an individual floatation sleeve or collar attached to the curtain. Buoyancy provided by the floatation units shall be sufficient to support the weight of the curtain and maintain a freeboard of at least 3 inches above the water surface level.
7. The Contractor is responsible for maintenance of the curtain shall do so for the duration of the project in order to ensure the continuous protection of the watercourse.
8. Should repairs to the geotextile fabric become necessary, repair kits are generally available from the manufacturer. The manufacturer's instructions must be followed to ensure the adequacy of the repair.
9. When the curtain is no longer required, the curtain and related components shall be removed in such a manner as to minimize turbidity. Remaining sediment shall be sufficiently settled before removing the curtain. Sediment may be removed and the original depth (or plan elevation) restored. Any spoils must be taken to an approved upland disposal area and stabilized in accordance with the approved plan.
10. Turbidity curtains shall be located and secured to prevent conflict and / or creation of a navigation hazard to passing vessel traffic and adjacent marine facilities.
11. A floating turbidity barrier shall be attached directly to the barges and adjacent existing Pier B piling when the demolition or construction operations are being performed.
12. Crane barge basis of design is a minimum 200 ton Manitowoc Ringer 4100 with A-frame for anticipated maximum barge size shown. Barge sizes may vary based on actual crane used. Two different orientations are shown and can be interchanged at contractors discretion.

SUMMARY OF IN WATER WORK:

AREA 1 IN WATER WORK:

1. DEMOLISH PARTIAL SECTION OF EXIST CONCRETE PIER (DECK, SUPPORT BEAMS, SUPPORT WALLS)
2. CONSTRUCT NEW PLATFORM OFFSET (180' L X 28.5' W) THAT INCLUDES:
   - (36) 24" SQ X 60'-0" PRESTRESSED CONCRETE PILES.
   - (9) 3'-8" WIDE x 3'-0" PILE CAPS
   - 18" CONCRETE DECK
   - T/DECK EL TO MATCH EXISTING

AREA 2 IN WATER WORK:

1. DEMOLISH PARTIAL SECTION OF EXIST CONCRETE PIER (DECK, SUPPORT BEAMS, SUPPORT WALLS)
2. CONSTRUCT NEW PLATFORM OFFSET (200' L X 19' W) THAT INCLUDES:
   - (30) 24" SQ X 60'-0" PRESTRESSED CONCRETE PILES.
   - (10) 3'-8" WIDE x 3'-0" PILE CAPS
   - 18" CONCRETE DECK
   - T/DECK EL TO MATCH EXISTING

AREA 3 IN WATER WORK:

1. DEMOLISH PARTIAL SECTION OF EXIST CONCRETE PIER (DECK, SUPPORT BEAMS, SUPPORT WALLS)
2. CONSTRUCT NEW PLATFORM OFFSET (140' L X 19' W) THAT INCLUDES:
   - (21) 60'-0" NEW PRESTRESSED CONCRETE PILES.
   - (7) 3'-8" WIDE x 3'-0" PILE CAPS
   - 18" CONCRETE DECK
   - T/DECK EL TO MATCH EXISTING

MOTT MACDONALD

Mott MacDonald
Alabama, LLC
107 St. Francis Street
Suite 2900,
Mobile, Alabama 36602
Telephone: (251) 343-4366
www.mottmac.com/americas

Client

ALABAMA STATE
PORT AUTHORITY

PORT OF MOBILE
ALABAMA PORT AUTHORITY

Rev	Date	Drawn	Description	Ch'k'd	App'd

FOR REFERENCE ONLY
CONTRACTOR SHALL SUBMIT OWN BMP PLAN FOR REVIEW PRIOR TO CONSTRUCTION

Project Number	B/O	Total
502397324-001		

Designed			Eng check		
Drawn			Coordination		
Dwg check			Approved		
Scale at ARCH D	Status		Rev	Security	
Drawing Number					

Title

PIER B SOUTH

TEMPORARY CONSTRUCTION BARGE AND TURBIDITY CURTAIN PLAN

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Mitigation Measures and Conditions [CFR 1505.2(c)]:
Summarized below are all mitigation measures adopted by the Responsible Entity to reduce, avoid or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor: Endangered Species Act

Mitigation Measure or Condition: In a letter dated 6/8/2023, the USFWS requested that the following mitigation measures be implemented during construction to avoid adverse impacts to the Gulf Sturgeon, West Indian Manatee, and Alabama red-bellied turtle.

For the Gulf Sturgeon, if individuals are observed, halt operations until the species has left the area. If this step cannot be exercised or there is an occurrence of a collision with an/or injury to a sturgeon as a result of the project, then work should cease and further consultation with the USFWS should be undertaken. Any observation of a sturgeon within the area during project operations should be reported to the USFWS.

For the West Indian Manatee, implement the USFWS Alabama Standard Manatee Construction Conditions (ASMCC) for in-water construction activities. The ASMCC are attached.

For the Alabama red-bellied turtle, the USFWS requested that any observation of this species within the area during operation be reported to the USFWS.

No mitigation for protected species was requested by the NMFS in their clearance letter dated 11/6/2023. The NMFS 11/6/2023 letter is attached.

The grant recipient is responsible for documenting and notifying HUD of all instances or occurrences triggering requirements for halting work, additional consultation with state or federal authorities, or other actions necessary to mitigate impacts to protected species. Additionally, the grantee will provide to HUD documentation evidencing satisfactory completion of all mitigation requirements, whether noted herein or required as a result of subsequent review and coordination with state and federal agencies.

Law, Authority, or Factor: Soil Suitability / Slope/ Erosion / Drainage and Storm Water Runoff

Mitigation Measure or Condition: Implementation of a SWPPP and construction best management practices will be completed.

Mitigation Plan: The grant recipient is responsible for documenting and notifying HUD of all instances or occurrences triggering requirements for halting work, additional consultation with

state or federal authorities, or other actions necessary to mitigate impacts to protected species. Additionally, the grantee will provide to HUD documentation evidencing satisfactory completion of all mitigation requirements, whether noted herein or required as a result of subsequent review and coordination with state and federal agencies.

Law, Authority, or Factor: Vegetation / Wildlife (Introduction, Modification, Removal, Disruption, etc.)

Mitigation Measure or Condition: NMFS. Mitigation will be provided for impacts to wetlands through the purchase of credits from an approved mitigation bank. The NMFS Southeast Regional Office, Protected Species Construction Conditions will be followed. If necessary, ramp up pile driving will be implemented for pile installation using impact hammers. USFWS. For the Gulf sturgeon, if any individuals are observed, halt operations until the species has left the area. If there is an occurrence of a collision with an/or injury to a sturgeon as a result of the proposed project, then work should cease and further consultation with the USFWS should be undertaken. The USFWS also requested that any observation of a sturgeon within the area during operation be reported to their office. For the West Indian Manatee, the USFWS requested that the Standard Manatee Conditions for In-Water Construction Activities (Standard Conditions) be implemented. If there is an occurrence of a collision with an/or injury to a manatee as a result of the proposed project, then work should cease and further consultation with the USFWS should be undertaken. The USFWS also requested that any observation of a manatee within the area during operation be reported to their office. The Standard Conditions are as follows: a. The lessee/grantee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatees. b. The lessee/grantee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the MMPA of 1972 and the ESA of 1973. c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to, or exit from, essential habitat. d. All vessels associated with the construction project shall operate at no wake/idle speeds at all times while in the construction area and while in water where draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible. e. If manatees are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure their protection. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition. f. Any collision with and/or injury to a manatee shall be reported immediately to the USFWS at 251-441-5181. g. Temporary signs concerning the manatees shall be posted prior to and during all construction /dredging activities. All signs are to be removed by the lessee/grantee upon completion of the project. A sign measuring at least 3 by 4 ft. which reads Caution: Manatee Area will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction and should be placed visible to the vessel operator. The second sign should be at least 8 1/2 by 11 inches which reads Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shut down if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be

reported immediately to the USFWS at 251-441-5181. For the Alabama red-bellied turtle, any observation of this species within the area during project operations be reported to their office.

Mitigation Plan: The grant recipient is responsible for documenting and notifying HUD of all instances or occurrences triggering requirements for halting work, additional consultation with state or federal authorities, or other actions necessary to mitigate impacts to protected species. Additionally, the grantee will provide to HUD documentation evidencing satisfactory completion of all mitigation requirements, whether noted herein or required as a result of subsequent review and coordination with state and federal agencies.

Project Mitigation Plan

Mitigation measures are outlined above. Mitigation plans and responsible entities are outlined in the attached USACE Nationwide Permit 3, Maintenance issued for the project. The USACE Nationwide Permit 3 is attached. The grant recipient is responsible for documenting and notifying HUD of all instances or occurrences triggering requirements for halting work, additional consultation with state or federal authorities, or other actions necessary to mitigate impacts to protected species. Additionally, the grantee will provide to HUD documentation evidencing satisfactory completion of all mitigation requirements, whether noted herein or required as a result of subsequent review and coordination with state and federal agencies.

END OF SECTION

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT
P.O. BOX 2288
MOBILE, AL 36628-0001

September 06, 2023

Special Projects Branch
Regulatory Division

SUBJECT: Department of the Army Nationwide Permit, File Number SAM-2018-01099-GAC, Alabama State Port Authority, Mobile River

Alabama State Port Authority
Attention: Doug Otto, P.E.
Post Office Box 1588
Mobile, Alabama 36633
Email: doug.otto@alports.com

Dear Mr. Otto,

This letter is in response to your request for verification of Department of the Army Nationwide Permit (NWP) authorization for the demolition and rehabilitation of Pier B at the Port of Mobile. The project has been assigned file number SAM-2018-01099-GAC which should be referred to in any future correspondence with this office concerning this project. The project is located along State Docks Road, in Section 52, Township 4 South, Range 1 West; at Latitude 30.708208° North, Longitude -88.042153° West; in Mobile, Mobile County, Alabama.

Department of the Army permit authorization is necessary because your project involves work in waters of the United States, including wetlands, under our regulatory jurisdiction. The project activities include the following:

Repair and rehabilitation of the existing Pier B South within the Port of Mobile. All new construction will be in the same footprint as structures currently present on site. Construction activities are to include:

a. Demolition of the existing concrete Pier B through the removal of the existing concrete deck, concrete beams, concrete pile caps, and supporting piles as necessary to facilitate the installation of the new pier.
b. Construction of a new 72-foot wide by 1,900-foot-long pier to include 24 inch mechanically driven concrete piles, new pile caps, concrete beams, and concrete decking.
c. Refurbishment of an existing 31-foot-wide by 1,400-foot-long pile supported relieving platform. Construction activities include the removal of the existing concrete deck and installation of new 12 inch mechanically driven piles and new concrete decking.

d. Installation of new mooring bollards and fenders.

Based upon the information and plans you provided, we hereby verify the work described above, which would be performed in accordance with the attached drawings, is authorized by NWP 3, *Maintenance,* in accordance with 33 CFR Part 330 of our regulations. This NWP and associated Regional and General Conditions are attached for your review and compliance.

This verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 14, 2026. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

Your use of this NWP is subject to the following special conditions:

a. The activity shall be conducted in accordance with the information submitted and meets the conditions applicable to the NWP, as described at Parts B and C of the NWP Program and State Regional Conditions.
b. Within 30 days of completion of the work authorized, the attached Compliance Certification must be completed and submitted to the USACE.
c. The attached yellow Notice of Authorization sign must be posted at the site during construction of the permitted activity.
d. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers (USACE), to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
e. The permittee shall implement the attached “Alabama Standard Manatee Construction Conditions” throughout project construction. In the event of an equipment strike, collision with and/or injury to a manatee as a result of project implementation, work shall cease and the permittee shall immediately contact this office at (251) 690-2658 and the U.S. Fish and Wildlife Service in Daphne (251) 441-5181.

f. Best management practices shall be implemented to minimize sedimentation and turbidity in adjacent waters of the United States. Appropriate turbidity and siltation control measures must be implemented and maintained in effective operating condition during all demolition and construction activities.

g. Should historic properties, artifacts, archaeological features, or cultural resources be encountered during project activities, all work shall cease and the USACE, Mobile District shall be consulted immediately, such that appropriate coordination with state, federal, and tribal organizations may be initiated. The USACE, Mobile District must be contacted by telephone at: (251) 386-4023. This condition shall be included on all construction plans associated with the project.
h. The Permittee shall notify the Mobile District at the beginning of construction and demolition activities so that a navigation bulletin can be issued for the Mobile River Channel.

Nothing in this letter shall be construed as excusing you from compliance with other federal, state, or local statutes, ordinances, or regulations which may affect this work. Revisions to your proposal may invalidate this authorization. In the event changes to this project are contemplated, it is recommended that you coordinate with us prior to proceeding with the work.

You are receiving an electronic copy only of this verification letter. If you wish to receive a paper copy, you should send a written request to this office at the following address: U.S. Army Corps of Engineers, Mobile District, Regulatory Division, Post Office Box 2288, Mobile, Alabama 36628. Electronic copies of this letter are also being sent to your agent, Volkert Inc., Attention: Evan Reid, at evan.reid@volkert.com; to the Alabama Department of Environmental Management, Mobile Branch / Coastal Section, Attention: Mr. Scott Brown, at coastal@adem.alabama.gov; and to the Alabama Department of Conservation and Natural Resources, State Lands Division, Attention: Mr. Will Underwood and Mr. Jeremiah Kolb, at submerged.lands@dcnr.alabama.gov.

Please contact me at (251) 690-3265, or by e-mail at Beverly.a.lowery@usace.army.mil if you have any questions. For additional information about our Regulatory Program, visit our web site at http://www.sam.usace.army.mil/Missions/Regulatory.aspx, and please take a moment to complete our customer satisfaction survey. Your responses are appreciated and will allow us to improve our services.

Sincerely,

Digitally signed by Beverly Lowery
Date: 2023.09.06 06:50:10 -05'00'

Beverly Lowery
Project Manager
Special Projects Branch
Mobile District, Regulatory Division

Attachments

When the structures or work authorized by this nationwide permit (file number **SAM-2018-01099-GAC**) are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE) (DATE)

COMPLIANCE CERTIFICATION

US Army Corps of Engineers
Mobile District

Permit Number: **SAM-2018-01099-GAC**

Name of Permittee: **Alabama State Port Authority, Doug Otto, P.E.**

Date of Issuance: **September 06, 2023**

Upon completion of the activity authorized by this permit and any mitigation required by the permit, please sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Mobile District
Regulatory Division
Post Office Box 2288
Mobile, Alabama 36628-0001

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with all terms and conditions of this permit, the permit is subject to permit suspension, modification, or revocation and you are subject to an enforcement action by this office.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit including any general or specific conditions, and the required mitigation was completed in accordance with the permit conditions and documentation required by 33 CFR 332.3(l)(3) has been provided to this office.

_____ _____

Signature of Permittee Date

Standard Manatee Conditions for In-Water Activities

The following conditions are recommended for any in-water work occurring between June 1 and December 31.

1. All on-site personnel will be responsible for observing water-related activities for the presence of manatees.

2. If a manatee is spotted within a 50-foot radius (buffer zone) of the action area, all work, equipment, and vessel operation **must** cease. Manatees must not be herded or harassed into leaving the active work area. Once the manatee has left the buffer zone on its own accord, and after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).

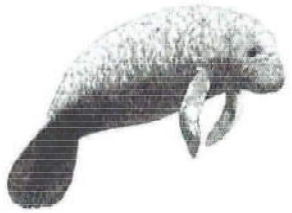
3. If a manatee(s) is sighted outside of, but near to the action area, all vessels associated with the project should operate at "no wake/idle" speeds within the action area; and at all times while in waters where the draft of the vessel provides less than a 4-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.

4. If used, siltation or turbidity barriers should be properly secured and be monitored to avoid manatee entrapment or obstruction to their movement.

5. Temporary signs concerning manatees **must** be posted prior to and during all in-water project activities and then removed upon completion of in-water activities. Each vessel involved in construction activities **must** display a temporary sign at the vessel control station or in a prominent location, visible to all employees operating the vessel. The temporary sign must be at least 8½" x 11" reading language similar to the following: "CAUTION: MANATEE AREA. IDLE SPEED IS REQUIRED IN ACTION AREA AND WHERE THERE IS LESS THAN FOUR-FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½" x 11" **must** be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA. EQUIPMENT **MUST** BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF VESSEL OPERATION".

6. Collisions with, injury to, or sightings of manatees **must** be immediately reported to the USFWS's Mobile, AL (251-441-5181) or Panama City, FL (850-769-0552) Ecological Services Office. Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

CAUTION:
MANATEE HABITAT



IDLE SPEED IS REQUIRED IF OPERATING A VESSEL IN THE CONSTRUCTION OR EVENT AREA

All equipment must be SHUTDOWN if a manatee comes within 50 FEET of operation

Report any collision with and/or injury to a manatee immediately to:

Dauphin Island Sea Lab's Manatee Sighting Network:

1-866-493-5803

and the U.S. Fish and Wildlife Service in Daphne, AL:

(251) 441-5839 or (251) 441-5181

US Army Corps of Engineers

This notice of authorization must be conspicuously displayed at the site of work.

A permit to perform work authorized by statutes and regulations of the Department of the Army at

Pier B, State Docks Road, Mobile, Alabama 36602

has been issued to Alabama State Port Authority, Doug Otto, P.E. **on** September 09, 2023

Address of Permittee: Post Office Box 1588, Mobile, Alabama 36633

Beverly Lowery

Digitally signed by Beverly Lowery
Date: 2023.09.06 06:49:28 -05'00'

PERMIT NUMBER

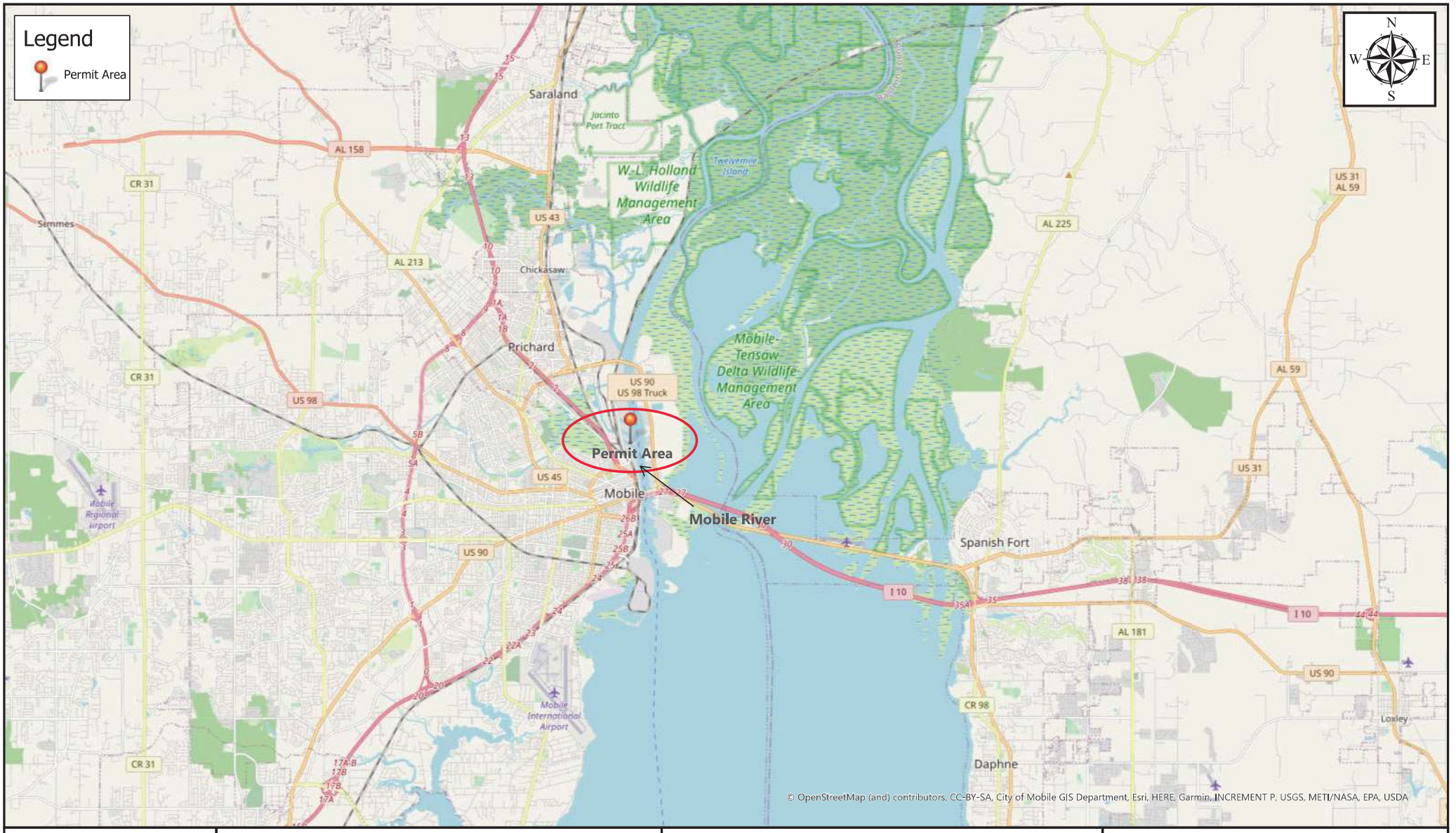
SAM-2018-01099-GAC

Mobile District, Regulatory Division

For the **District Commander**

ENG FORM 4336, Jul 81 (33 CFR 320-330) EDITION OF JUL 70 MAY BE USED

Proponent: CECW-O



SAM-2018-01099-GAC // Vicinity Map

0 2.25 4.5 9
mi

Map Center: 88.005257°W 30.716177°N

Map Created by: Beverly Lowery

Date: 8/29/2023

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere

SAM-2018-01099-GAC // Alabama State Port Authority, Pier B; State Docks Road, Mobile, AL 36602; Parcel Number: RO22904520007001.000

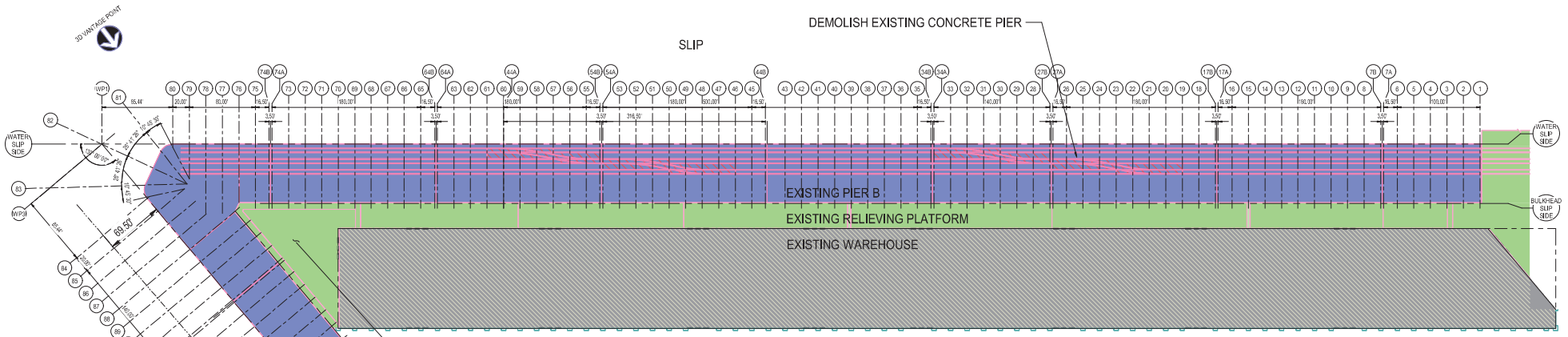
0 0.13 0.25 0.5
mi

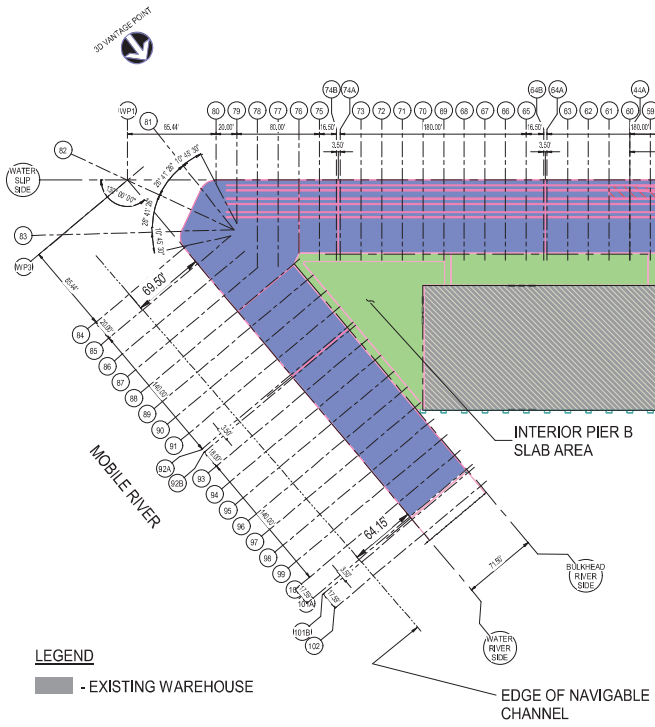
Map Center: 88.04013°W 30.709063°N

Map Created by: Beverly Lowery

Date: 8/29/2023

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere





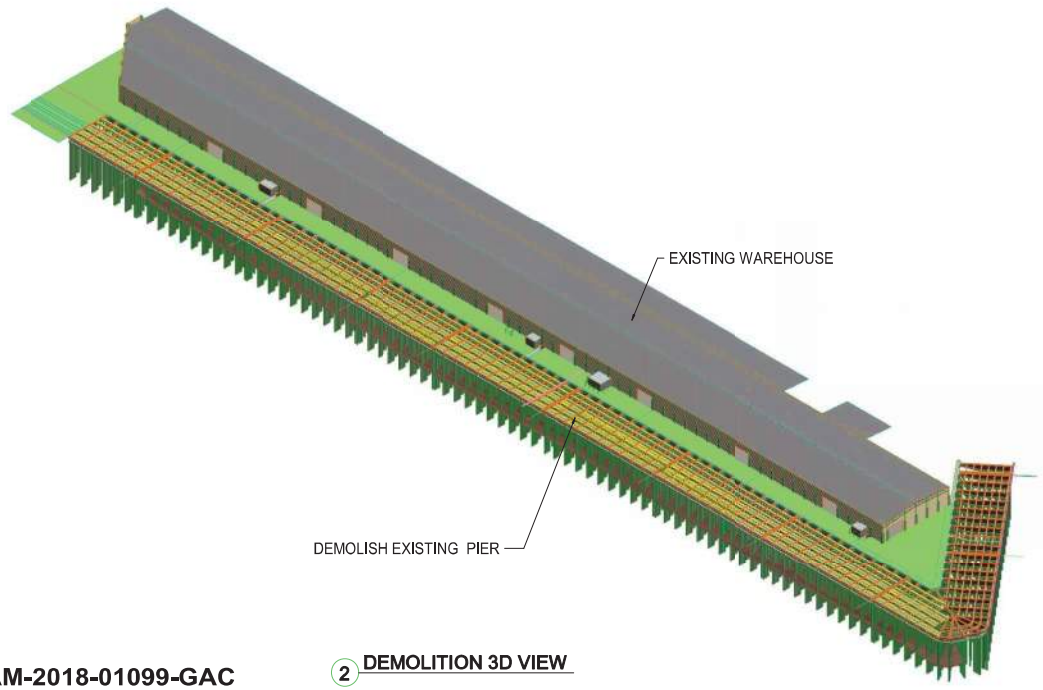
LEGEND

- EXISTING WAREHOUSE
- EXISTING RELIEVING PLATFORM
- EXISTING PIER B

1 **DEMOLITON PLAN**

1" = 60'-0"

0 10' 30' 60' 120'



2 **DEMOLITION 3D VIEW**

Department of the Army // SAM-2018-01099-GAC

MOTT MACDONALD

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Client
ALABAMA STATE PORT AUTHORITY

MOBILE, ALABAMA

Rev	Date	Drawn	Description	CHKd	AppVd
A	11-14-2018	BJL	ALTERNATIVES REPORT	LJD	AC/BP

PRELIMINARY NOT FOR CONSTRUCTION

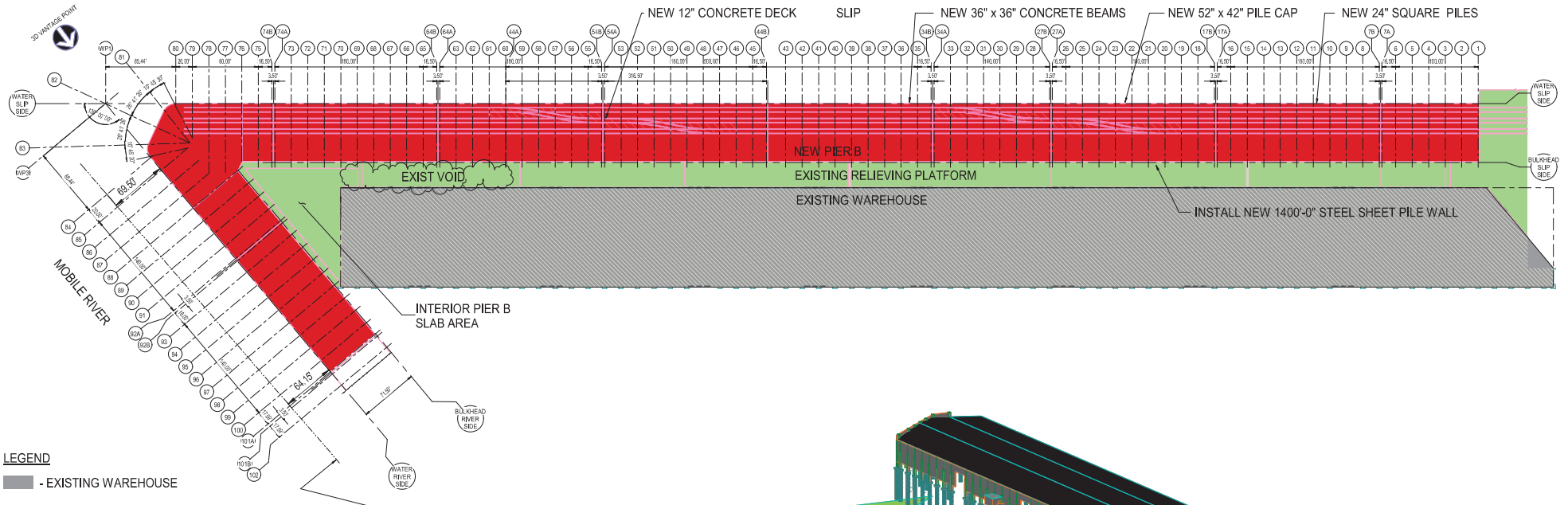
Project Number	B/O	Total
397324		

Designed	KP,CL,MT		Eng Check	L. DENTY	
Drawn	RC		Coordination	LD	
Dwg Check	LJD		Approved	AC,BP	
Scale at ANSI D	AS SHOWN	Status		Rev	Security

Drawing Number S-301

Title
MOBILE RIVER PIER B SOUTH REHABILITATION

NEW ELEVATED PIER - DEMOLITION PLAN



LEGEND

- EXISTING WAREHOUSE

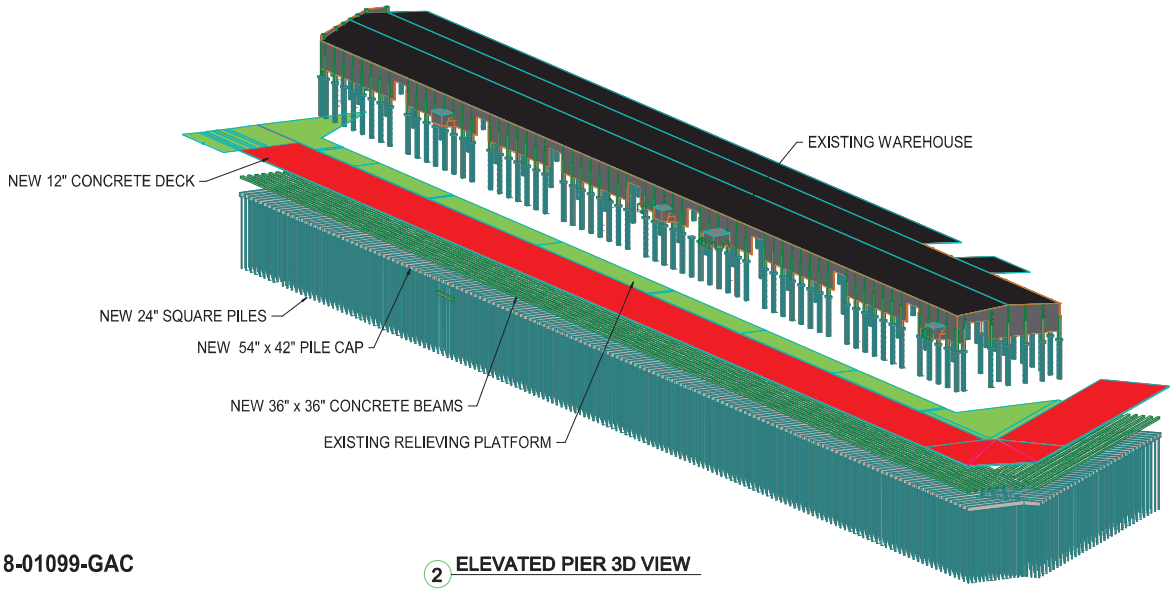
-EXISTING RELIEVING PLATFORM

- NEW PIER B

1 NEW ELEVATED PIER TYPICAL PLAN

1" = 60'-0"

0 10' 30' 60' 120'



2 ELEVATED PIER 3D VIEW

NEW ELEVATED PIER PLAN KEY ELEMENTS

1. PIER TO BE DEMOLISHED AND REPLACED.(PIER SHALL BE REMOVED IN ITS ENTIRETY; PILES SHALL BE REMOVED IN THEIR ENTIRETY).
2. NEW PIER WITH NEW PILES, PILE CAPS, BEAMS AND DECKS SHALL BE INSTALLED.
3. LOADING CAPACITY: 1,000 PSF.
4. EXISTING WOOD BULKHEAD WALL TO BE REPLACED W/ NEW SHEET PILE WALL.
5. NEW FENDER SYSTEM TO BE PROVIDED.
6. RAILING TO BE REPLACED.

Department of the Army // SAM-2018-01099-GAC

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MOBILE, ALABAMA

Rev	Date	Drawn	Description	CHKd	App'd
1 A	Dec 6 2018	BJL	ALTERNATIVES REPORT	LJD	AC/BP

PRELIMINARY NOT FOR CONSTRUCTION

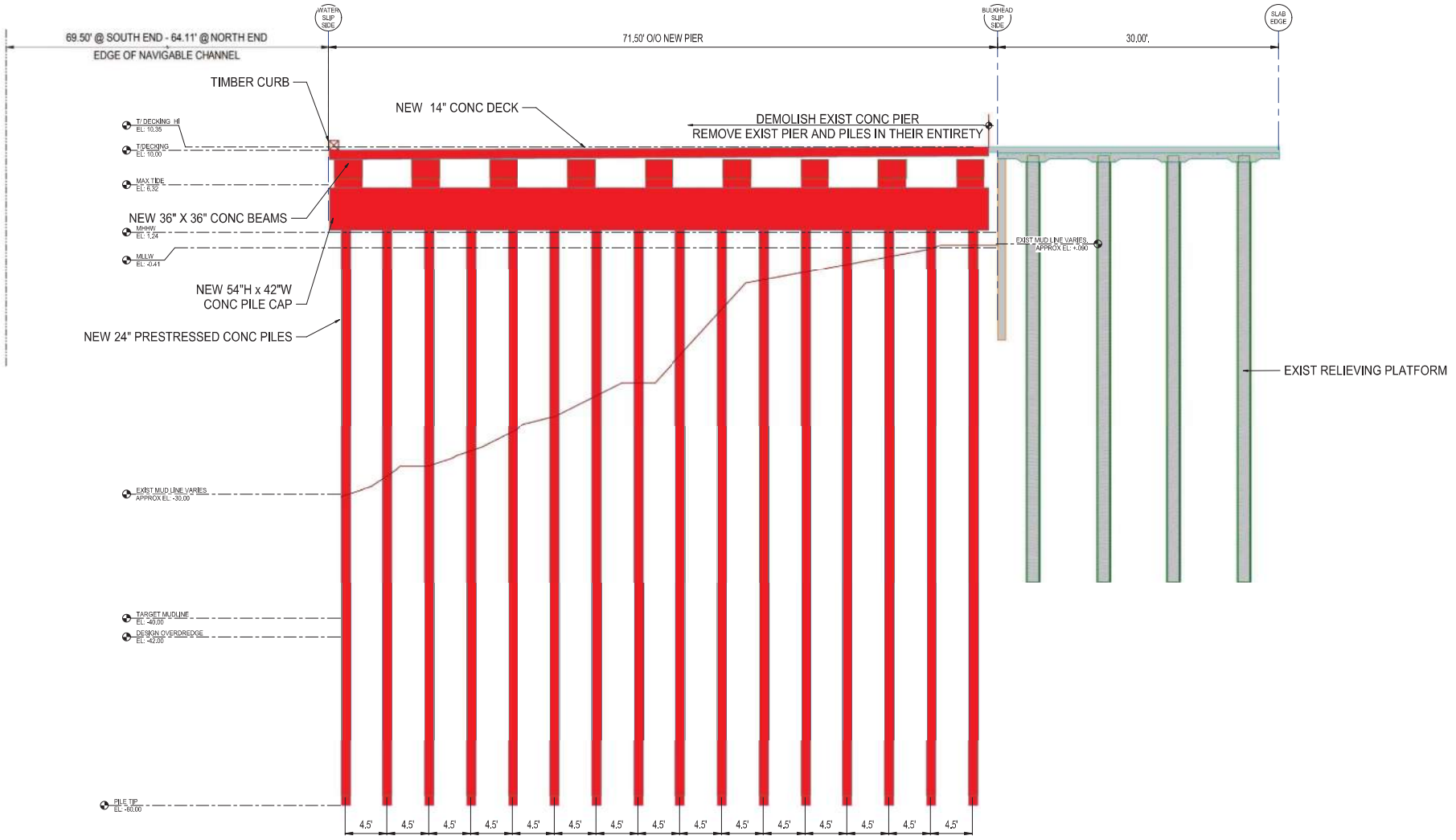
Project Number 397324 | B/O | Total

Designed	KP,CL,MT		Eng Check	L. DENTY	
Drawn	RC		Coordination	LD	
Dwg Check	LD		Approved	AC,BP	
Scale at ANSI D	As Shown	Status	Rev	Security	

Drawing Number S-302

Title
MOBILE RIVER PIER B SOUTH REHABILITATION

NEW ELEVATED PIER - TYPICAL PLAN



1 TYPICAL SECTION
3/16" = 1'-0"

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Rev	Date	Drawn	Description	Ch'k'd	App'd
A	11-14-2018	BJL	ALTERNATIVES REPORT	LJD	AC,BP

PRELIMINARY
NOT FOR
CONSTRUCTION

Project Number	B/O	Total
397324		

Designed	KP,CL,MT		Eng Check	LJDENTY	
Drawn	RC		Coordination	LD	
Dwg Check	LD		Approved	AC,BP	
Scale at ANSI D	Status PI Project Status		Rev		Security

Drawing Number
S-303

Title
MOBILE RIVER PIER B SOUTH REHABILITATION

NEW ELEVATED PIER - TYPICAL SECTION

U S Army Corps of Engineers

2021 Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – February 25, 2022

3. Maintenance.

(a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

(c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a preconstruction notification to the district engineer prior to commencing the activity (see general condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (Sections 10 and 404)).

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

A. Regional Conditions

1. **Alabama Water Quality Certification - See Attached**
2. **Alabama Coastal Zone Management Conditions - See Attached**

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every

person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

☐ 1. **Navigation**.

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☐ 2. **Aquatic Life Movements**. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

☐ 3. **Spawning Areas**. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

☐ 4. **Migratory Bird Breeding Areas**. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

☐ 5. **Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

☐ 6. **Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

☐ 7. **Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

☐ 8. **Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

☐ 9. **Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☐ 10. **Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☐ 11. **Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ 12. **Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

☐ 13. **Removal of Temporary Fills**. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☐ 14. **Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

☐ 15. **Single and Complete Project**. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

☐ 16. **Wild and Scenic Rivers**.

☐ (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for

possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

☐ (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

☐ (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: https://www.rivers.gov/.

☐ 17. **Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ 18. **Endangered Species**.

☐ (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

☐ (e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by

significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

☐ (f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

☐ (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at https://www.fws.gov/ or https://www.fws.gov/ipac/ and https://www.fisheries.noaa.gov/topic/endangered-species-conservation respectively.

☐ 19. **Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

☐ 20. **Historic Properties**.

☐ (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

☐ (d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required,

the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (e) Prospective permittees should be aware that section 110(k) of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☐ 21. **Discovery of Previously Unknown Remains and Artifacts**. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

☐ 22. **Designated Critical Resource Waters**. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

☐ 23. **Mitigation**. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

☐ (d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

☐ (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

☐ (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

☐ (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

☐ (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

☐ (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

☐ (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

☐ (6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

☐ (g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

☐ (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for

the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

☐ (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

☐ 24. **Safety of Impoundment Structures**. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

☐ 25. **Water Quality**.

☐ (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

☐ (b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

☐ (c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

☐ 26. **Coastal Zone Management**. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

☐ 27. **Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

☐ 28. **Use of Multiple Nationwide Permits**. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

☐ (a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

☐ (b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

☐ 29. **Transfer of Nationwide Permit Verifications**. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

☐ 30. **Compliance Certification**. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

☐ (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

☐ (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

☐ (c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

☐ 31. **Activities Affecting Structures or Works Built by the United States**. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

☐ 32. **Pre-Construction Notification**.

☐ (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed activity;

☐ (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

☐ (4)

☐ (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional

general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

☐ (ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

☐ (iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

☐ (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

☐ (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

☐ (8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

☐ (9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

☐ (10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

☐ (c) Form of Pre-Construction Notification: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

☐ (2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

☐ (3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

☐ 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

☐ 2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

☐ 3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

☐ 4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal.

When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

E. Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s) but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high-water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required, and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource.

Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23).

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high-water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high-water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channel ward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

Lance R. LeFleur
Director

Kay Ivey
Governor

Alabama Department of Environmental Management
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1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
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December 14, 2020

Colonel Sebastien P. Joly
Commander, Mobile District
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

RE: Clean Water Act (CWA) Section 401 Water Quality Certification (WQC), U.S. Army Corps of Engineers (COE) 2020 Proposed Issuance of Alabama Nationwide Permits (ALNWPs) For Activities Within the State of Alabama

Dear Colonel Joly:

This office has completed a review of the above-referenced notice and all associated materials submitted related to the proposed ALNWPs. Any comments made during the public notice period have also been forwarded to the Department for review.

1. Aids to Navigation
2. Structures in Artificial Canals
3. Maintenance
4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
5. Scientific Measurement Devices
6. Survey Activities
7. Outfall Structures and Associated Intake Structures
8. Oil and Gas Structures on the Outer Continental Shelf
9. Structures in Fleeting and Anchorage Areas
10. Mooring Buoys
11. Temporary Recreational Structures
12. Oil or Natural Gas Pipeline Activities
13. Bank Stabilization
14. Linear Transportation Projects
15. U.S. Coast Guard Approved Bridges
16. Return Water From Upland Contained Disposal Areas
17. Hydropower Projects
18. Minor Discharges
19. Minor Dredging
20. Response Operations for Oil or Hazardous Substances
21. Surface Coal Mining Activities
22. Removal of Vessels
23. Approved Categorical Exclusions
24. Indian Tribe or State Administered Section 404 Programs
25. Structural Discharges
26. [Reserved]
27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities
28. Modifications of Existing Marinas

JAN 14 2021

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

29. Residential Developments
30. Moist Soil Management for Wildlife
31. Maintenance of Existing Flood Control Facilities
32. Completed Enforcement Actions
33. Temporary Construction, Access, and Dewatering
34. Cranberry Production Activities
35. Maintenance Dredging of Existing Basins
36. Boat Ramps
37. Emergency Watershed Protection and Rehabilitation
38. Cleanup of Hazardous and Toxic Waste
39. Commercial and Institutional Developments
40. Agricultural Activities
41. Reshaping Existing Drainage Ditches
42. Recreational Facilities
43. Stormwater Management Facilities
44. Mining Activities
45. Repair of Uplands Damaged by Discrete Events
46. Discharges in Ditches
47. [Reserved]
48. Commercial Shellfish Mariculture Activities
49. Coal Remining Activities
50. Underground Coal Mining Activities
51. Land-Based Renewable Energy Generation Facilities
52. Water-Based Renewable Energy Generation Pilot Projects
53. Removal of Low-Head Dams
54. Living Shorelines

A. Seaweed Mariculture Activities
B. Finfish Mariculture Activities
C. Electric Utility Line and Telecommunications Activities
D. Utility Line Activities for Water and Other Substances
E. Water Reclamation and Reuse Facilities

Because action pertinent to WQC is required by Section 401(a)(1) of the CWA, 33 U.S.C. Section 1251, et seq., we hereby issue certification that there is reasonable assurance that the discharge resulting from the proposed activities as submitted will not violate applicable water quality standards established under Section 303 of the CWA and Title 22, Section 22-22-9(g), Code of Alabama, 1975, provided the applicant acts in accordance with the following conditions as specified. We further certify that there are no applicable effluent limitations under Sections 301 and 302 nor applicable standards under Sections 306 and 307 of the CWA in regard to the activities specified. This certification shall expire at the same time as the expiration date for the above-referenced Alabama Nationwide Permits for activities within the State of Alabama.

To minimize adverse impacts to State waters, by copy of this letter we are requesting the Mobile District Corps of Engineers to incorporate the following as special conditions as appropriate to the type, location, scope, duration, and potential impact of each activity in Alabama authorized by the COE NWPs:

1. During project implementation, the applicant shall ensure compliance with applicable requirements of ADEM. Admin. Code Chapter 335-6-6 [National Pollutant Discharge Elimination System (NPDES)], Chapter 335-6-10 (Water Quality Criteria), and Chapter 335-6-11 (Water Use Classifications for Interstate and Intrastate Waters).

2. ADEM permit coverage may be required prior to commencing and/or continuing certain activities/operations relating to or resulting from the project. If an applicant has any questions regarding ADEM regulated activity or the need for NPDES permit coverage, the applicant can contact ADEM's Water Division at (334) 271-7823. If an applicant has any questions regarding ADEM regulated activity or the need for air permit coverage, the applicant can contact ADEM's Air Division at (334) 271-7869. If the applicant has any questions regarding ADEM regulated activity or the need for hazardous, toxic, and/or solid waste permit coverage, the applicant can contact ADEM's Land Division at (334) 271-7730.

3. Upon the loss or failure of any treatment facility, Best Management Practice (BMP), or other control, the applicant shall, where necessary to maintain compliance with this certification, suspend, cease, reduce or otherwise control work/activity and all discharges until effective treatment is restored. It shall not be a defense for the applicant in a compliance action that it would have been necessary to halt or reduce work or other activities in order to maintain compliance with the conditions of this certification.

4. The applicant shall retain records adequate to document activities authorized by this certification for a period of at least three years after completion of work/activity authorized by the certification. Upon written request, the applicant shall provide ADEM with a copy of any record/information required to be retained by this paragraph.

5. The applicant shall conduct or have conducted, at a minimum, weekly comprehensive site inspections until completion of the proposed activity to ensure that effective BMPs are properly designed, implemented, and regularly maintained (i.e. repair, replace, add to, improve, implement more effective practice, etc.) to prevent/minimize to the maximum extent practicable discharges of pollutants in order to provide for the protection of water quality.

6. The applicant shall implement a project-specific or a detailed general BMP Plan prepared by an ADEM recognized qualified credentialed professional (QCP) applicable to and commensurate with activities of the type proposed. Effective BMPs shall be implemented and continually maintained for the prevention and control of turbidity, sediment, and other sources of pollutants, including measures to ensure permanent revegetation or cover of all disturbed areas, during and after project implementation.

7. The applicant shall implement a Spill Prevention Control and Countermeasures (SPCC) Plan for all temporary and permanent onsite fuel or chemical storage tanks or facilities consistent with the requirements of ADEM Admin. Code R. 335-6-6-.12(r), Section 311 of the Federal Water Pollution Control Act, and 40 CFR Part 112. The applicant shall maintain onsite or have readily available sufficient oil & grease absorbing material and flotation booms to contain and clean-up fuel or chemical spills and leaks. The applicant shall immediately notify ADEM after becoming aware of a significant visible oil sheen in the vicinity of the proposed activity. In the event of a spill with the potential to impact groundwater or other waters of the State, the applicant should immediately call the National Response Center at 1-800-424-8802 and the Alabama Emergency Management Agency at 1-800-843-0699. The caller should be prepared to report the name, address and telephone number of person reporting spill, the exact location of the spill, the company name and location, the material spilled, the estimated quantity, the source of spill, the cause of the spill, the nearest downstream water with the potential to receive the spill, and the actions taken for containment and cleanup.

8. Additional, effective BMPs shall be fully implemented and maintained on a daily basis as needed to prevent to the maximum extent possible potential discharges of pollutants from activities authorized by this certification, directly to or to a tributary or other stream segment, that have the potential to impact a State water currently considered impaired [waterbody is identified on the Alabama 303(d) list, a total maximum daily load (TMDL) has been finalized for the waterbody, and/or the waterbody is otherwise considered a Tier 1 water pursuant to ADEM Admin. Code Ch. 335-6-10]. The applicant shall inspect all BMPs as often as is necessary (daily if needed) for effectiveness, need for maintenance, and the need to implement additional, effective BMPs. Additional effective BMPs shall immediately be implemented as needed to ensure full compliance with ADEM requirements and the protection of water quality in the impaired waterbody.

9. All construction and worker debris (e.g. trash, garbage, etc.) must be immediately removed and disposed in an approved manner. If acceptable offsite options are unavailable, effective onsite provisions for collection and control of onsite worker toilet wastes or gray waste waters (i.e. port-o-let, shower washdown, etc.) must be implemented and maintained. Soil contaminated by paint or chemical spills, oil spills, etc. must be immediately cleaned up or be removed and disposed in an approved manner. Also, the applicant shall manage and dispose of any trash, debris, and solid waste according to applicable state and federal requirements.

10. All materials used as fill, or materials used for construction of structures in a waterbody, must be non-toxic, non-leaching, non-acid forming, and free of solid waste or other debris. This requirement does not preclude the use of construction materials authorized by the COE that are typically utilized in marine or other aquatic applications.

11. The applicant shall implement appropriate measures to minimize the potential for a decrease of instream dissolved oxygen concentrations as a result of project implementation. In addition, the applicant shall ensure that the activities authorized by this certification do not significantly contribute to or cause a violation of applicable water quality standards for instream dissolved oxygen.

12. The applicant shall implement appropriate, effective BMPs, including installation of floating turbidity screens as necessary, to minimize downstream turbidity to the maximum extent practicable. The applicant shall visually monitor or measure background turbidity. The applicant must suspend operations should turbidity resulting from project implementation exceed background turbidity by more than 50 NTUs. Operations may resume when the turbidity decreases to within acceptable levels.

13. The applicant shall evaluate, characterize, and as necessary, conduct regular analysis of any material proposed to be dredged/removed/disturbed in order to ensure that potential pollutants are not present in concentrations that could cause or contribute to a violation of applicable water quality standards. Information regarding the evaluation, characterization, or detailed results of any analyses shall be made available to ADEM upon request.

14. If upland disposal areas are utilized, the applicant shall be responsible for the condition of the disposal area, including the structural integrity of any embankments, until the disposal area is permanently reclaimed or adequately stabilized, to ensure that sediment and/or turbidity in the return water and/or stormwater runoff will not cause substantial visible contrast with the receiving waters, or result in an increase of 50 NTUs above background turbidity levels in the receiving waters.

15. For proposed activities associated with new or updated docks, marinas, multiple boat slips, floating docks, large or multiple piers, etc. or that increase the number of berthing areas, the applicant shall

ensure that these facilities are equipped with appurtenances (i.e. trash receptacles, receptacles for fish offal and carcasses, SPCC for fueling facilities, and a sewage pump out system where appropriate) as needed to protect water quality.

16. The applicant is encouraged to consider additional pollution prevention practices, low impact development (LID), and other alternatives to assist in complying with applicable regulatory requirements and possible reduction/elimination of pollutant discharges. LID is an approach to land development or re-development that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. There are many practices that have been used to implement these sustainable ideas such as bio-retention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed.

17. The applicant is encouraged to consider and implement a site design plan/strategy for post-construction hydrology to mimic pre-construction hydrology to the extent feasible, and for post-construction stormwater runoff peak flows and total stormwater volume to minimize potential downstream channel and stream bank erosion.

18. In recognition that projects are site specific in nature and conditions can change during project implementation, ADEM reserves the right to require the submission of additional information or require additional management measures to be implemented, as necessary on a case-by-case basis, in order to ensure the protection of water quality. Liability and responsibility for compliance with this certification are not delegable by contract or otherwise. The applicant shall ensure that any agent, contractor, subcontractor, or other person employed by, under contract, or paid a salary by the applicant complies with this certification. Any violations resulting from the actions of such person may be considered violations of this certification.

19. Issuance of a certification by ADEM neither precludes nor negates an operator/owner's responsibility or liability to apply for, obtain, or comply with other ADEM, federal, state, or local government permits, certifications, licenses, or other approvals. This certification does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, and in no way purports to vest in the applicant title to lands now owned by the State of Alabama, nor shall it be construed as acquiescence by the State of Alabama of lands owned by the State of Alabama that may be in the applicant's possession.

Please feel free to contact me at 334/394-4304 in the event you have any questions.

Sincerely,

Anthony Scott Hughes, Chief
Field Operations Division

File: WQ401

c: Nashville District COE & EPA Region IV

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

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December 15, 2020

Colonel Sebastien P. Joly
District Commander
U. S. Army Corps of Engineers, Mobile District
109 St. Joseph Street
Mobile, Alabama 36619

RE: U. S. Army Corps of Engineers Nationwide Permits (NWPs) Program
State of Alabama Coastal Consistency Concurrence
2020 NWP Reissuance
ACAMP-2016-301.1 | COE-2020-0002

Dear Colonel Joly:

The NWPs listed below have been determined by the ADEM, based on their scope or nature, not to have a significant impact on coastal resources when implemented in accordance with the specific conditions described herein and are therefore categorically certified to be consistent with the ACAMP pursuant to ADEM Administrative Code 335-8-1-.03(4).

1. **Aids to Navigation**
No additional coastal consistency conditions.

2. **Structures in Artificial Canals**
The permittee must obtain all appropriate authorizations required by the Alabama Department of Conservation and Natural Resources – State Lands Division (ADCNR-SLD) prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

3. **Maintenance**
   A. Activities authorized under Nationwide Permit 3 must not be located within or in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources.
   B. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

4. **Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities**
The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

5. **Scientific Measurement Devices**
   A. Activities authorized under Nationwide Permit 5 must not be located within or in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources.
   B. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

6. **Survey Activities**
No additional coastal consistency conditions.

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
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(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

7. Outfall Structures and Associated Intake Structures

A. Activities authorized under Nationwide Permit 7 must not be located within or in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources.
B. There must be no placement of new riprap in previously unarmored areas.
C. There must be no construction of new outfall and/or intake structures on properties fronting the Gulf of Mexico, Pelican Bay, Weeks Bay, Dauphin Island Audubon Sanctuary, or the Point aux Pines wetland system owned by the Board of Trustees of the University of Alabama.
D. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

8. Oil and Gas Structures on the Outer Continental Shelf

No additional coastal consistency conditions.

9. Structures in Fleeting and Anchorage Areas

The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

11. Temporary Recreational Structures

The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

12. Utility Line Activities

A. The permittee must submit a copy of the Pre-Construction Notification (PCN) required by the Corps to the ADEM Mobile-Coastal office.
B. Activities authorized under Nationwide Permit 12 must not be located within or in close proximity to existing submersed grassbeds or natural oyster reefs and shall not result in adverse impacts to those resources.
C. The permittee must demonstrate avoidance and minimization of wetland impacts to the maximum extent practicable. Wetland impacts may be considered only after utilization of all available uplands.
D. The permittee must undertake restoration of any wetland areas or State waterbottoms temporarily impacted as a result of activities authorized under Nationwide Permit 12. Disturbed areas must be returned to preproject elevations and wetland areas must be revegetated.
E. The permittee must provide compensatory mitigation for any authorized permanent wetland impacts and must submit supporting documentation (e.g. certificate of credit purchase) to the ADEM Mobile-Coastal office for verification.
F. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

14. Linear Transportation Crossings

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office.
B. Nationwide Permit 14 may not be used to authorize wetland dredge or fill activities on residential or commercial lots, except on legally platted lots or parcels in existence on or before 14 August 1979. This condition does not apply to uses of regional benefit such as roads, highways, railways, trails, airport runways, and taxiways.
C. The permittee must demonstrate avoidance and minimization of wetland impacts to the maximum extent practicable. Wetland impacts may be considered only after utilization of all available uplands.
D. The permittee must provide compensatory mitigation for any authorized permanent wetland impacts and must submit supporting documentation (e.g. certificate of credit purchase) to the ADEM Mobile-Coastal office for verification.
E. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

15. U.S. Coast Guard Approved Bridges

The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

16. Return Water from Upland Contained Disposal Areas

A. The permittee must ensure the salinity of return waters from dredge disposal sites is similar to the salinity of the receiving waters.
B. The discharge from the upland contained disposal area(s) must not cause a violation of State water quality standards or applicable conditions of the State Clean Water Act Section 401 Water Quality Certification.

17. Hydropower Projects

No additional coastal consistency conditions.

18. Minor Discharges

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office. The PCN must include a copy of the legal plat.
B. There must be no dredging or filling of wetlands, except on legally platted lots or parcels in existence on or before 14 August 1979.
C. Nationwide Permit 18 must not be used to authorize fill to accommodate construction of swimming pools, boat ramps, tennis courts, lawns, play areas or other ancillary projects or activities not directly related to the construction of residential dwellings and/or associated access drives and parking.
D. Activities authorized under Nationwide Permit 18 must not be located in close proximity to existing submersed grassbeds or natural oyster reefs and shall not result in adverse impacts to those resources.
E. The permittee must demonstrate avoidance and minimization of wetland impacts to the maximum extent practicable. Wetland impacts may be considered only after utilization of all available uplands.
F. The permittee must provide compensatory mitigation for any authorized permanent wetland impacts and must submit supporting documentation (e.g. certificate of credit purchase) to the ADEM Mobile-Coastal office for verification.
G. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

19. Minor Dredging

A. Activities authorized under Nationwide Permit 19 must not be located in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources.
B. Dredging is prohibited in the Gulf of Mexico or Pelican Bay in an area from the ADEM Construction Control Line to a point 1,500 feet seaward of Mean High Tide.
C. Dredging is prohibited in the Gulf of Mexico in an area from the City of Gulf Shores Construction Control Line to a point 1,500 feet seaward of Mean High Tide.
D. Dredged material must be placed in an upland disposal area and properly contained to prevent re-entering the waterway or wetlands unless specifically authorized by other approved permits or exemptions.
E. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

20. Response Operations for Oil and Hazardous Substances

The permittee must undertake restoration of any wetland areas or State waterbottoms temporarily impacted as a result of activities authorized under Nationwide Permit 20. Disturbed areas must be returned to preproject elevations and wetland areas must be revegetated.

22. Removal of Vessels

A. The permittee must undertake restoration of any wetland areas or State waterbottoms temporarily impacted as a result of activities authorized under Nationwide Permit 22. Disturbed areas must be returned to preproject elevations and wetland areas must be revegetated.

B. Vessel removal related to a catastrophic natural disaster (e.g. hurricane, discrete flooding event, etc.) is not authorized during the time an applicable Temporary State/Regional General Permit for Emergency Vessel Removal related to the natural disaster recovery is in effect.

23. Approved Categorical Exclusions

No additional coastal consistency conditions.

25. Structural Discharges

A. Activities authorized under Nationwide Permit 25 must not be located in close proximity to existing submersed grassbeds or natural oyster reefs and shall not result in adverse impacts to those resources.

B. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office.

B. There must be no construction of open water areas in existing wetlands unless the impacted wetland acreage is replaced elsewhere within the restoration, establishment, and/or enhancement project area.

C. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

28. Modifications of Existing Marinas

A. The permittee must submit notification to the ADEM Mobile-Coastal office prior to reconfiguration of existing docking facilities at marinas having 10 or more wet slips.

B. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

31. Maintenance of Existing Flood Control Facilities

No additional coastal consistency conditions.

32. Completed Enforcement Actions

No additional coastal consistency conditions.

33. Temporary Construction, Access and Dewatering

No additional coastal consistency conditions.

35. Maintenance Dredging of Existing Basins

A. Dredged material must be placed in an upland disposal area and properly contained to prevent re-entering the waterway or wetlands unless specifically authorized by other approved permits or exemptions.

B. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

36. Boat Ramps

A. Activities authorized under Nationwide Permit 36 must not be located within or in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources.

B. Nationwide Permit 36 must not allow construction of boat ramps on properties fronting the Gulf of Mexico, Pelican Bay, Weeks Bay, Dauphin Island Audubon Sanctuary, or the Point aux Pines wetland system owned by the Board of Trustees of the University of Alabama.

C. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

37. Emergency Watershed Protection and Rehabilitation

No additional coastal consistency conditions.

38. Cleanup of Hazardous and Toxic Waste

No additional coastal consistency conditions.

45. Repair of Uplands Damaged by Discrete Events

A. Activities authorized under Nationwide Permit 45 must not be located within or in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources.

B. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

46. Discharges in Ditches and Canals

No additional coastal consistency conditions.

48. Commercial Shellfish Aquaculture Activities

A. Activities and structures authorized under Nationwide Permit 48 must not be located within or in close proximity to existing wetlands, submersed grassbeds, or natural oyster reefs and shall not result in adverse impacts to those resources. The permittee may be required to submit a submersed grassbed survey to the ADEM Mobile-Coastal office prior to commencement of work.

B. There must be no placement or addition of fill onto State-Owned Submerged Lands.

C. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

53. Removal of Low-Head Dams

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office.

B. The permittee must undertake the restoration of any wetland areas or State waterbottoms temporarily impacted as a result of activities authorized under Nationwide Permit 53. Disturbed areas must be restored to preproject elevations and wetland areas must be revegetated.

C. The permittee must obtain all appropriate authorizations required by the ADCNR-SLD prior to commencement of activities that would impact or be located over State-Owned Submerged Lands.

54. Living Shorelines

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office.

B. Activities and structures authorized under Nationwide Permit 54 must not be located within or in close proximity to existing submersed grassbeds or natural oyster reefs and shall not result in adverse impacts to those resources. The permittee may be required to submit a submersed grassbed survey to the ADEM Mobile-Coastal office prior to commencement of work.

NWP C Electric Utility Line and Telecommunications Activities

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office.
B. Activities and structures authorized under NWP C must not be located within or in close proximity to existing submersed grassbeds or natural oyster reefs and shall not result in adverse impacts to those resources.

NWP D Utility Line Activities for Water or Other Substances

A. The permittee must submit a copy of the PCN required by the Corps to the ADEM Mobile-Coastal office.
B. Activities and structures authorized under NWP D must not be located within or in close proximity to existing submersed grassbeds or natural oyster reefs and shall not result in adverse impacts to those resources.

Recognizing that projects are site specific in nature and scope and that conditions may change during project implementation, the ADEM reserves the right to the require a permittee to submit additional information or require additional management measures to be implemented, as necessary on a case-by-case basis, in order to ensure that activities authorized under one or more NWPs are being conducted in a manner that protects water quality and coastal resources.

These coastal consistency concurrences only addresses activities which are also regulated under the enforceable policies of the ACAMP as codified in ADEM Admin. Code R. 335-8. These concurrences do not convey any property rights in either real or personal property, or any exclusive privileges, nor do they authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations and in no way purports to vest in any person title to lands now owned by the State of Alabama nor may it be construed as acquiescence by the State of Alabama of lands owned by the State that may be in anyone's possession. These concurrences do not obviate the responsibility of any applicant to acquire all other needed permits nor do these concurrences, in any way, imply that proposed activities comply with the requirements of any other jurisdictional entity nor do they imply that the projects can or should be approved by any other jurisdictional entity.

The following NWPs have been found to be inconsistent with the ACAMP and are not authorized for use within the coastal area of Alabama without individual review of the applicant's certification of coastal consistency.

10. Mooring Bouys
13. Bank Stabilization
21. Surface Coal Mining Activities
24. Indian Tribe or State Administered Section 404 Programs
26. Reserved
29. Residential Developments
30. Moist Soil Management for Wildlife
34. Cranberry Production Activities
39. Commercial and Institutional Developments
40. Agricultural Activities
41. Reshaping Existing Drainage Ditches
42. Recreational Facilities
43. Stormwater Management Facilities
44. Mining Activities
47. Reserved
49. Coal Remining Activities
50. Underground Coal Mining Activities
51. Land-Based Renewable Energy Generation Facilities

52. Water-Based Renewable Energy Generation Pilot Projects
NWP A – Seaweed Mariculture Activities
NWP B – Finfish Mariculture Activities
NWP E – Water Reclamation and Reuse Facilities

Call, write, or email the Mobile-Coastal office anytime with questions. Always include the ADEM tracking code above when corresponding on this matter. The ADEM contact for this and other coastal zone management issues is J. Scott Brown. He may be reached by telephone at 251. 304.1176 or via e-mail (jsb@adem.alabama.gov).

Sincerely,

A. Scott Hughes, Chief
Field Operations Division

cc: DCNR.Coastal@dcnr.alabama.gov

MOTT MACDONALD

PORT OF MOBILE
ALABAMA PORT AUTHORITY

APPENDIX F

HUD GRANT CONTRACT PROVISIONS

FY2022 Community Project Funding

Grant Contract Provisions

Compliance with Federal Law, Regulations and Executive Orders

This is an acknowledgement that HUD financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, HUD policies, procedures, and directives.

Nondiscrimination

In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, and as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements HUD may issue.

Equal Employment Opportunity

The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq ., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms

of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements HUD may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements HUD may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements HUD may issue.

The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by HUD, modified only if necessary to identify the affected parties.

Suspension and Debarment 2 CFR 200.214

This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

The contractor must comply with 2 C.F.R. pt. 180, subpart C and2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

This certification is a material representation of fact relied upon by Alabama State Port Authority. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available Alabama State Port Authority, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

The bidder or proposer agrees to comply with the requirements of2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Lobbying *(Any project over $100,000)*

No federal funds under this agreement may be used to influence or attempt to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, continuation, renewal, amendments other than federal appropriated funds.

Drug Free Workplace

During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution,

dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

Trafficking in persons 2 CFR Part 175

This contract is covered by 2 CFR Part 175. A person who is an employee, agent, consultant, officer, or elected or appointed official of the recipient or subrecipient may not—

i. Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
ii. Procure a commercial sex act during the period of time that the award is in effect; or
iii. Use forced labor in the performance of the award or subawards under the award.

HUD, as the Federal awarding agency, may unilaterally terminate this award, without penalty.

Conflict of Interest

i. In the procurement of property or services by recipients and subrecipients, the conflict-of-interest rules in 2 CFR 200.317 and 2 CFR 200.318(c) shall apply. In all cases not governed by 2 CFR 200.317 and 2 CFR 200.318(c), recipients and subrecipients must follow the requirements contained in paragraphs ii-v below.

ii. General prohibition. No person who is an employee, agent, consultant, officer, or elected or appointed official of the recipient or subrecipient and who exercises or has exercised any functions or responsibilities with respect to assisted activities, or who is in a position to participate in a decision making process or gain inside information with regard to such activities, may obtain a financial interest or benefit from the activity, or have a financial interest in any contract, subcontract, or agreement with respect thereto, or the proceeds thereunder, either for himself or herself or for those with whom he or she has immediate family or business ties, during his or her tenure or for one year thereafter. Immediate family ties include (whether by blood, marriage or adoption) the spouse, parent (including a stepparent), child (including a stepchild), brother, sister (including a stepbrother or stepsister), grandparent, grandchild, and in-laws of a covered person.

iii. Exceptions. HUD may grant an exception to the general prohibition in paragraph (ii) upon the recipient's written request and satisfaction of the threshold requirements in paragraph (iv), if HUD determines the exception will further the Federal purpose of the award and the effective and efficient administration of the recipient's program or project, taking into account the cumulative effects of the factors in paragraph (v).

iv. Threshold requirements for exceptions. HUD will consider an exception only after the recipient has provided the following documentation:

a. A disclosure of the nature of the conflict, accompanied by an assurance that there has been public disclosure of the conflict and a description of how the public disclosure was made; and

b. An opinion of the recipient's attorney that the interest for which the exception is sought would not violate state or local law.

v. Factors to be considered for exceptions. In determining whether to grant a requested exception after the recipient has satisfactorily met the threshold requirements in paragraph (iii), HUD will consider the cumulative effect of the following factors, where applicable:

a. Whether the exception would provide a significant cost benefit or an essential degree of expertise to the program or project that would otherwise not be available;
b. Whether an opportunity was provided for open competitive bidding or negotiation;
c. Whether the person affected is a member of a group or class of low- or moderate-income persons intended to be the beneficiaries of the assisted activity, and the exception will permit such person to receive generally the same interests or benefits as are being made available or provided to the group or class;
d. Whether the affected person has withdrawn from his or her functions or responsibilities, or the decision-making process with respect to the specific assisted activity in question;
e. Whether the interest or benefit was present before the affected person was in a position as described in paragraph (ii);
f. Whether undue hardship will result either to the recipient or the person affected when weighed against the public interest served by avoiding the prohibited conflict; and
g. Any other relevant considerations.

Contract Work Hours and Safety Standards *(Contracts awarded by recipients in excess of $2000 for construction contracts and in excess of $2500 for other contracts that involve the employment of mechanics or laborers)*

1. **Overtime requirements** - No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages** - In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
3. **Withholding for unpaid wages and liquidated damages** - The ASPA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same Contractor, such sums as may be determined to be necessary to

satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

4. **Subcontracts** - The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

Clean Air *(Contracts of amounts in excess of $100,000)*

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to MARAD and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by HUD.

Clean Water (*Contracts of amounts in excess of $100,000)*

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to HUD and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by HUD.

Copeland "Anti-Kickback" Act *(Contracts in excess of $2,000 for construction or repair)*

The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract. The Act provides that each contractor or subrecipient shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The recipient shall report all suspected or reported violations to HUD.

Section 3 HUD Act of 1968

The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1992 (Section 3). The purpose of Section 3, 24 CFR Part 75, is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

U.S Department of Housing and Urban Development

FY2022 Community Project Funding

Grant Forms

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS--PRIMARY COVERED TRANSACTIONS

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

_____ _____

Signature / Authorized Certifying Official **Typed Name & Title**

_____ _____

Applicant / Organization **Date Signed**

49 CFR PART 20--CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

(To be submitted with each bid or offer exceeding $100,000)

The undersigned [Contractor] certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.,* apply to this certification and disclosure, if any.

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

AFFIDAVIT AND CERTIFICATE OF COMPLIANCE

FORM FOR SECTIONS 9 (a) and (b) BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT; CODE OF ALABAMA, SECTIONS 31-13-9 (a) and (b) AFFIDAVIT FOR BUSINESS ENTITY/EMPLOYER /CONTRACTOR

(To be completed as a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees)

State of _____

County of _____

Before me, a notary public, personally appeared _____ (print name)

who, being duly sworn, says as follows:

As a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees, I hereby attest that in my capacity as

_____ (state position) for _____ (state business entity/employer/contractor name) that said business entity/employer/contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien.

I further attest that said business entity/employer/contractor is enrolled in the E-Verify program.

(ATTACH DOCUMENTATION ESTABLISHING THAT BUSINESS

ENTITY/EMPLOYER/CONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM)

_____Signature of Affiant

Sworn to and subscribed before me this _____day of _____, _____.

I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

_____Signature and Seal of Notary Public