US Army Corps
of Engineers®

MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE AL 36602

MOBILE HARBOR DEEPENING AND WIDENING PHASE 5

MOBILE, ALABAMA

MOBILE DISTRICT PROJECT CODE : CHC22011

SOLICITATION NUMBER : W9127823B0004

OCTOBER 2023

AMENDMENT NO. 0002

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G-003.1	GENERAL NOTES
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CN102	OVERALL DREDGE PLAN
CN103.1	PARTIAL DREDGE PLAN
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CN106	DREDGE PLACEMENT AREA
CN301	TYPICAL DREDGE SECTION
CN302.1	DREDGE CROSS SECTIONS
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BR316	BORING PROFILE
BR317	BORING PROFILE
BR318	BORING PROFILE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
1	AMENDMENT 0002, REPLACE DRAWING	DEC 2023

DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: WXXXXX-XX-X-XXX
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I.S.O SHEET FILE NAME: CHC22011-G-002.DGN

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL. 36602

MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

INDEX OF DRAWINGS

SHEET ID
G-002.1

AMENDMENT NO. 0002

GENERAL NOTES:

1. ALL ELEVATIONS SHOWN IN THIS PLAN SET ARE REFERENCED TO FEET IN MEAN LOWER LOW WATER (M.L.L.W.) DATUM.
2. ALL COORDINATES SHOWN IN THIS PLAN SET ARE IN FEET AND ARE REFERENCED TO ALABAMA STATE PLANE COORDINATE SYSTEM NAD 83 DATUM (0102) WEST ZONE.
3. THE HYDROGRAPHIC SURVEYS REFLECTED IN THIS PLAN SET WERE PERFORMED ON OCTOBER 26, 2023 BY THE IRVINGTON SITE OFFICE OF THE U.S. ARMY CORPS OF ENGINEERS.
4. THE INFORMATION DEPICTED IN THIS PLAN SET REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME.
5. FREQUENCY SOUNDINGS: 208KHZ
6. ALL UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL INVESTIGATE SUBMERGED, SURFACE, AND OVERHEAD STRUCTURES IN THE WORK AREAS IN ACCORDANCE WITH SECTION 01 00 00, PARAGRAPH 1.3, CONTRACTOR'S INVESTIGATION RESPONSIBILITY. CHANGE TO ANY UTILITY LOCATIONS SHOWN ARE APPROXIMATE. AS WE DO NOT HAVE ANY KNOWN UTILITIES FOR THIS PHASE OF WORK.
7. ONLY USACE GAGES SHALL BE USED FOR REFERENCE UNLESS OTHERWISE APPROVED BY THE COR. GAUGES WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING.
8. CHANNEL COORDINATES ON SHEETS CN102 TO CN105 CORRESPOND TO THE ELEVATION OF THE NEW WORK DREDGE TEMPLATE (EL. -50' MLLW). SEE SHEET CN301 FOR TYPICAL DREDGE SECTION.
9. THE AREA ADJACENT AND EAST OF THE CHANNEL DEEPENING BETWEEN STATIONS 267+72.53 AND 337+00 WILL BE DREDGED UNDER A SEPARATE PHASE 6 CONTRACT. THE CONTRACTOR SHALL ENSURE CLOSE COORDINATION REGARDING THEIR ORDER OF WORK IN ACCORDANCE WITH SECTION 35 20 23.00 36 PARAGRAPHS 1.3 ORDER OF WORK AND 1.6 OTHER COMMUNICATIONS.

MOBILE HARBOR CHANNEL CENTERLINE COORDINATES

STATION	NORTHING	EASTING
0+00.00	267145.47	1798020.87
30+38.38	264108.89	1798125.38
72+09.06	260026.86	1798980.75
75+09.16	259728.77	1799015.40
98+82.05	257371.75	1799289.35
105+53.94	256705.45	1799375.88
157+17.67	251589.58	1800077.25
198+76.99	247439.68	1799797.37
213+05.16	246045.01	1800104.88
244+65.83	243219.15	1801520.62
253+64.33	242321.22	1801488.67
259+30.00	241755.93	1801467.74
267+72.58	240913.92	1801436.88
302+72.59	237416.26	1801308.73
317+72.59	235917.26	1801253.80
404+67.98	227227.70	1800935.41
423+46.58	225350.36	1800866.62
1055+42.67	162421.95	1806677.00
1115+67.25	156398.05	1806586.50
1538+00.00	114515.26	1801160.91
1576+00.00	110746.75	1800672.73
1760+09.29	92490.01	1798307.71
1775+26.83	90984.40	1798117.75
1854+55.94	83147.48	1799323.38
1859+28.29	82675.54	1799303.76
2029+60.04	66091.47	1795424.45
2029+60.04	66091.47	1795424.45
2089+08.62	60301.94	1794058.08
2189+05.33	50923.23	1790597.75

US Army Corps of Engineers®

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1	AMENDMENT NO. 0002, REPLACE DRAWING	DEC 2023

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL. 36602

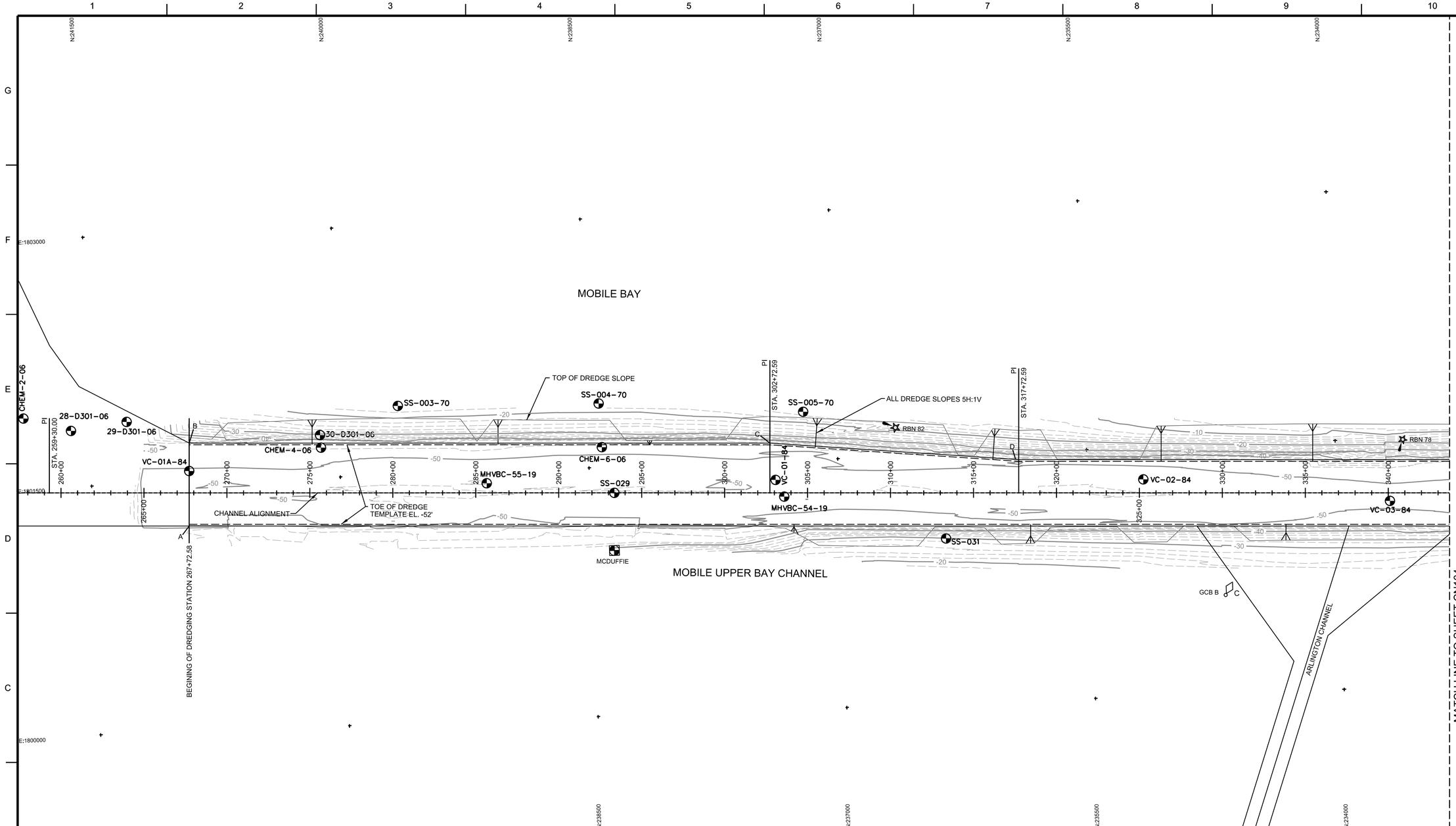
DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: WXXXXX-XX-X-XXX
CADD CODE: CHC22011
I.S.O SHEET FILE NAME: CHC22011-G-003.DGN

MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

GENERAL NOTES

SHEET ID
G-003.1

AMENDMENT NO. 0002



LEGEND

- GBN GREEN BEACON
- RBN RED BEACON
- GGB GREEN GAS BUOY
- RGB RED GAS BUOY
- C GREEN CAN BUOY
- TIDE GAGE
- XXXX-XX-XX BORING LOCATION (SS = SPT, MHVBC = VIBROCORE, MHSPT = SPT, VC= VIBROCORE)
- AUTO/STAFF TIDE GAGE REAR RANGE

KEY MAP

CN103 | CN104 | CN105

CHANNEL COORDINATES		
PT#	NORTHING	EASTING
A	240921.24	1801237.14
B	240902.55	1801736.66
C	237404.90	1801608.50
D	235909.58	1801453.65
E	227220.02	1801135.26
F	225344.45	1800666.27
G	223732.56	1801216.80
H	217747.42	1801769.43
I	217710.64	1801371.12

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.
2. THE TURNING BASIN IS NOT INCLUDED IN THE CONTRACT.
3. THE AREA ADJACENT AND EAST OF THE CHANNEL DEEPENING BETWEEN STATIONS 267+72.53 AND 337+00 WILL BE DREDGED UNDER A SEPARATE PHASE 6 CONTRACT. THE CONTRACTOR SHALL ENSURE CLOSE COORDINATION REGARDING THEIR ORDER OF WORK IN ACCORDANCE WITH SECTION 35 20 23.00 36 PARAGRAPHS 1.3 ORDER OF WORK AND 1.6 OTHER COMMUNICATIONS.

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CADD CODE: CHC22011
FILE NAME: CHC22011-CN103.dgn

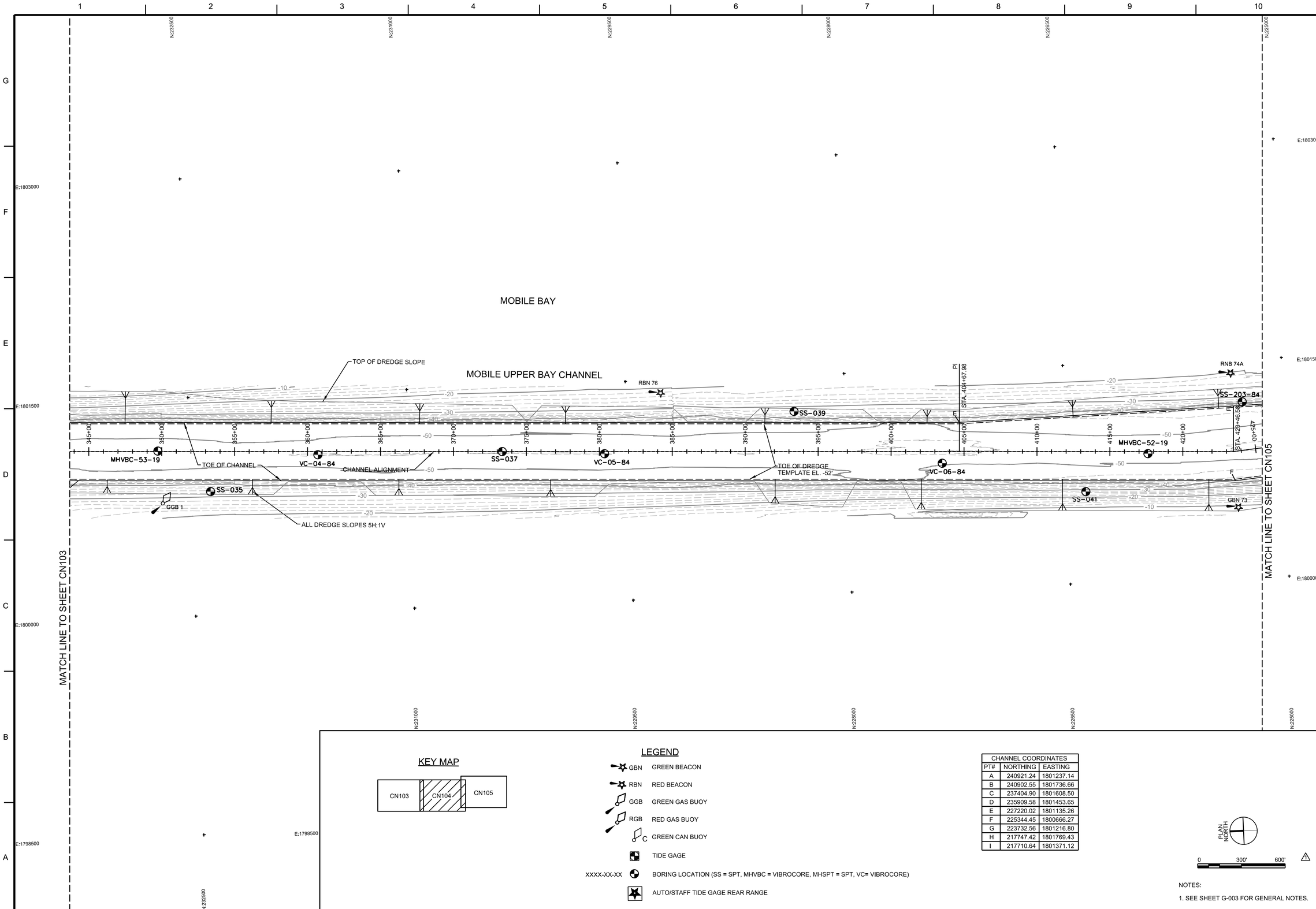
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

PARTIAL DREDGE PLAN

SHEET ID
CN103.1

AMENDMENT NO. 0002



CHANNEL COORDINATES		
PT#	NORTHING	EASTING
A	240921.24	1801237.14
B	240902.55	1801736.66
C	237404.90	1801608.50
D	235909.58	1801453.65
E	227220.02	1801135.26
F	225344.45	1800666.27
G	223732.56	1801216.80
H	217747.42	1801769.43
I	217710.64	1801371.12

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

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SOLICITATION NO.:
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CADD CODE: CHC22011

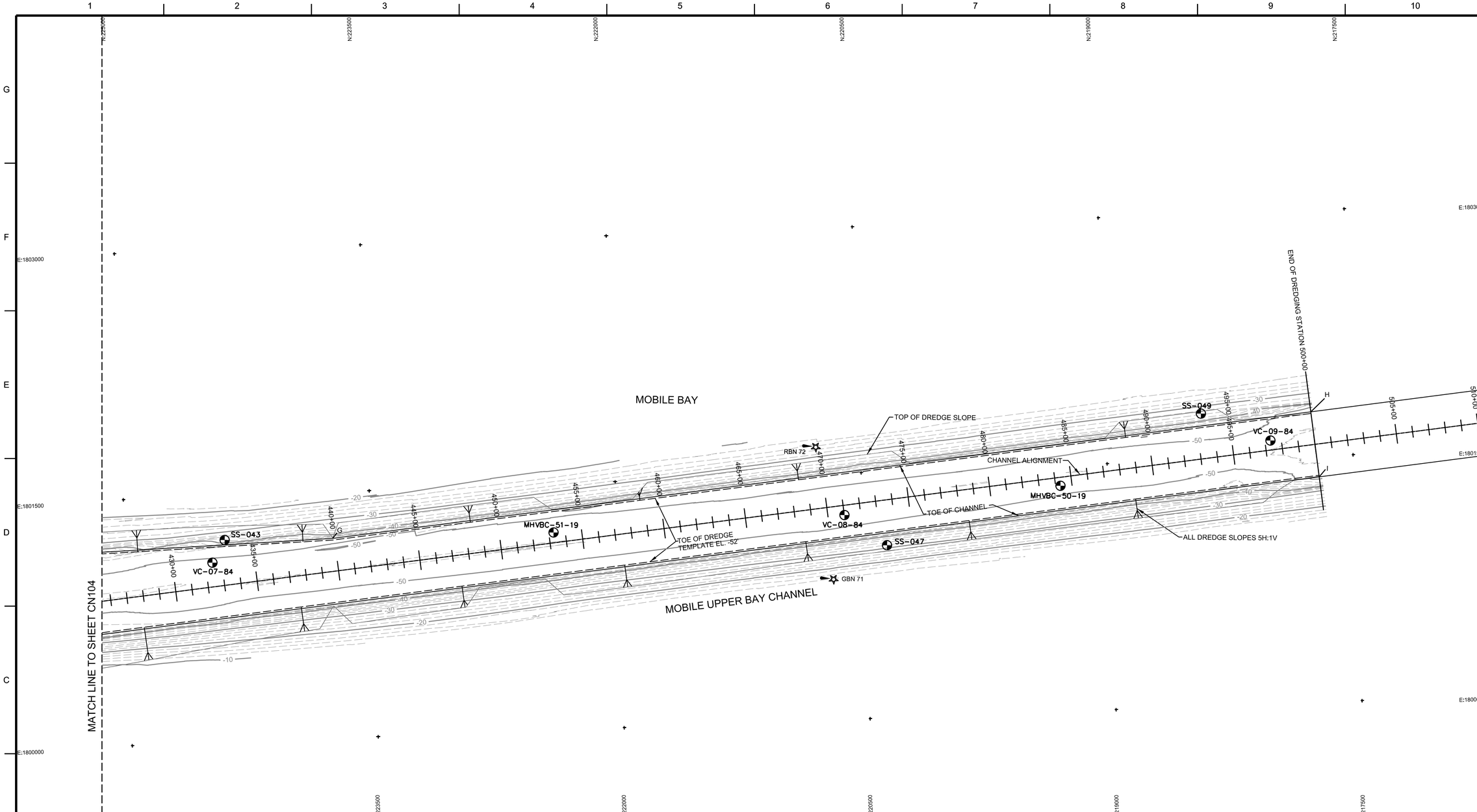
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL. 36602

MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

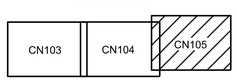
PARTIAL DREDGE PLAN

SHEET ID
CN104.1

AMENDMENT NO. 0002



KEY MAP



LEGEND

- GBN GREEN BEACON
- RBN RED BEACON
- GGB GREEN GAS BUOY
- RGB RED GAS BUOY
- C GREEN CAN BUOY
- TIDE GAGE
- XXXX-XX-XX BORING LOCATION (SS = SPT, MHVBC = VIBROCORE, MHSPT = SPT, VC= VIBROCORE)
- AUTO/STAFF TIDE GAGE REAR RANGE

CHANNEL COORDINATES		
PT#	NORTHING	EASTING
A	240921.24	1801237.14
B	240902.55	1801736.66
C	237404.90	1801608.50
D	235909.58	1801453.65
E	227220.02	1801135.26
F	225344.45	1800666.27
G	223732.56	1801216.80
H	217747.42	1801769.43
I	217710.64	1801371.12

PLAN NORTH

0 300' 600'

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

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CADD CODE: CHC22011

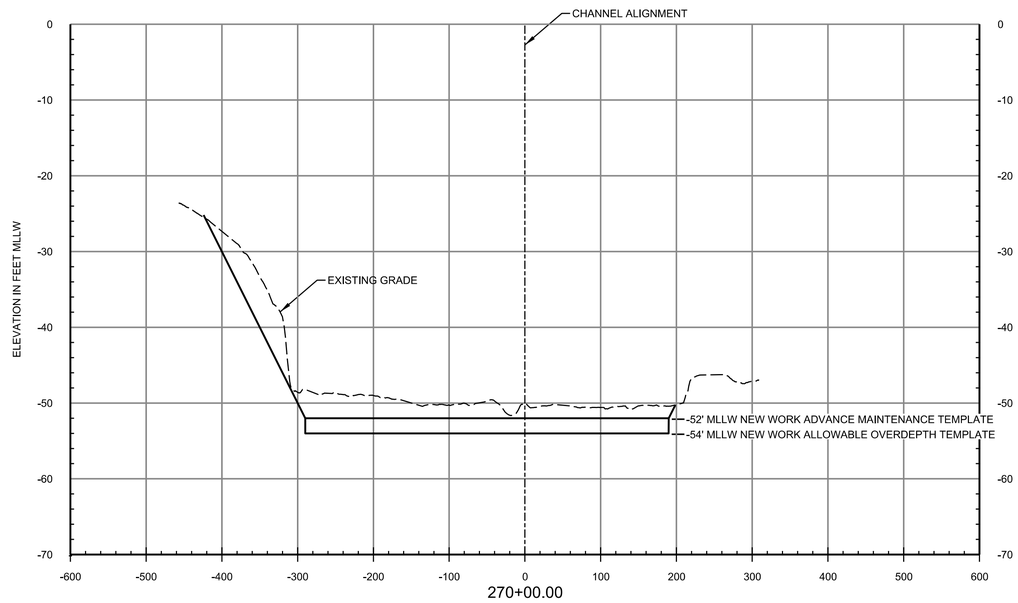
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL. 36602

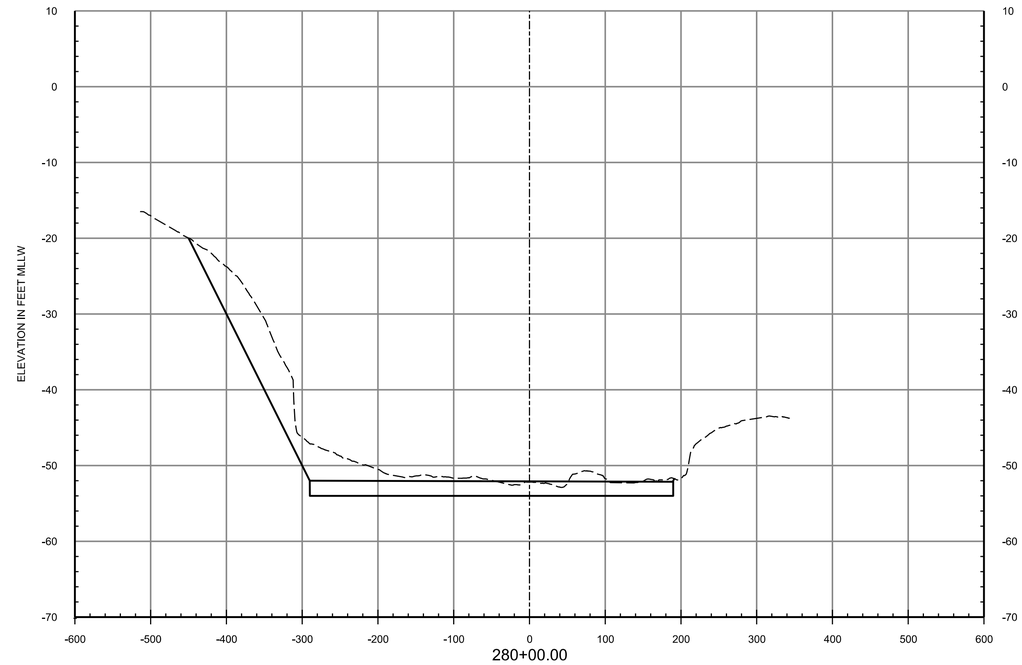
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

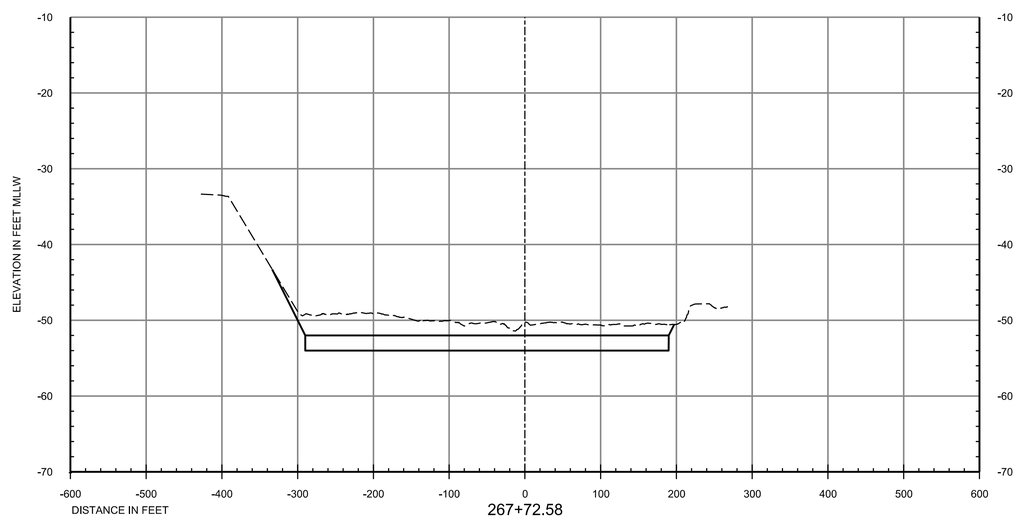
PARTIAL DREDGE PLAN

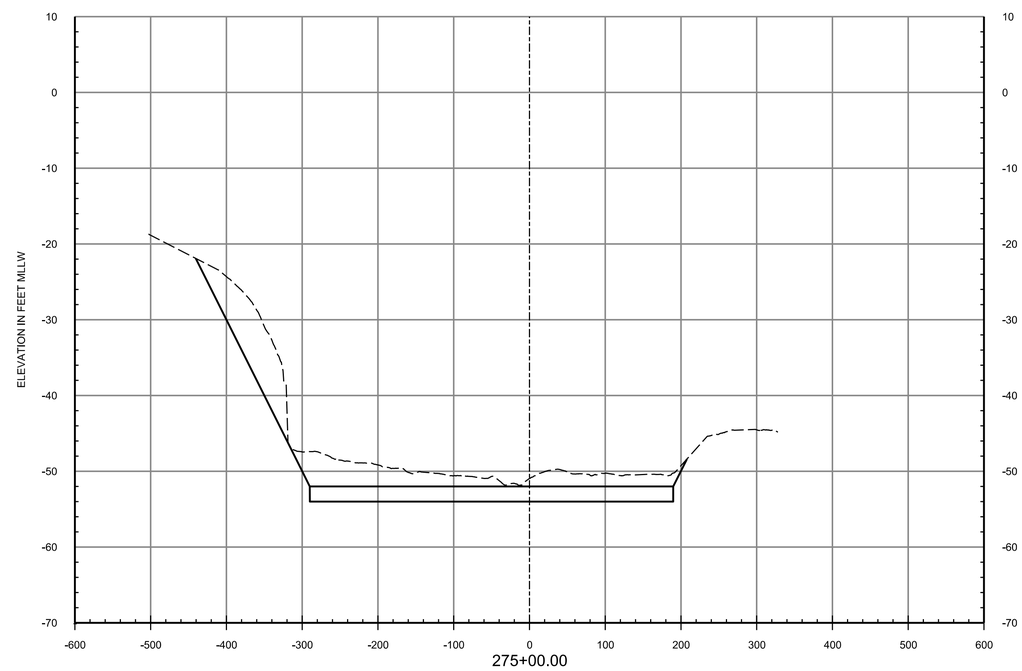
SHEET ID
CN105.1

AMENDMENT NO. 0002









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers ®

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MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

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SIZE: ANSI D
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SOLICITATION NO.
CONTRACT NO.: W0XXXX-XX-X-XXX
CADD CODE: CHC22011
U.S.O SHEET FILE NAME: CHC22011-CN302.dgn

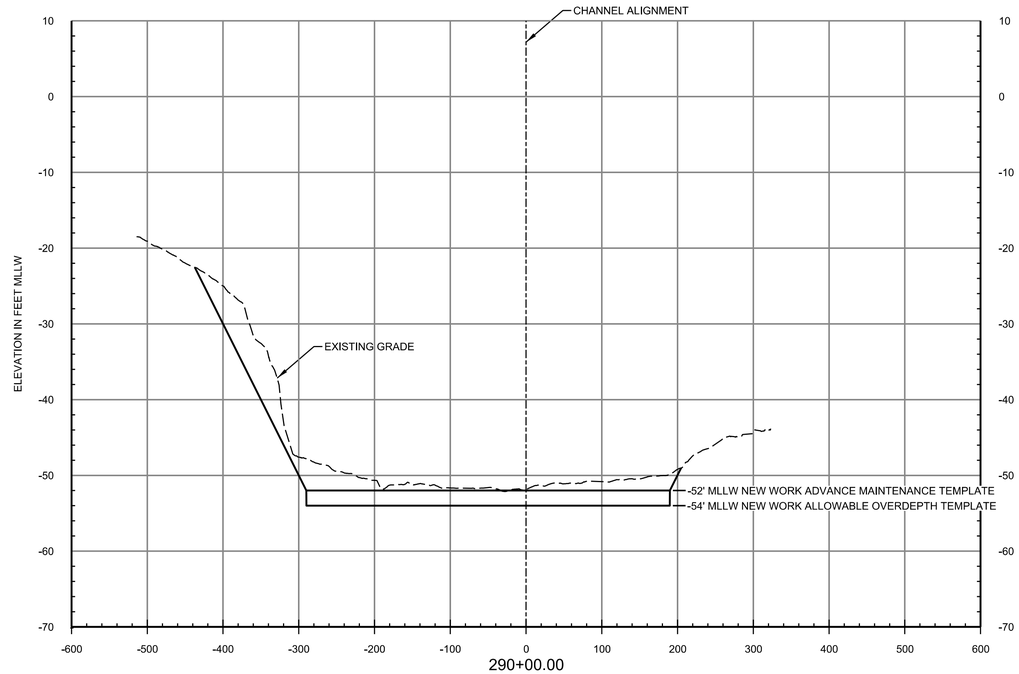
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

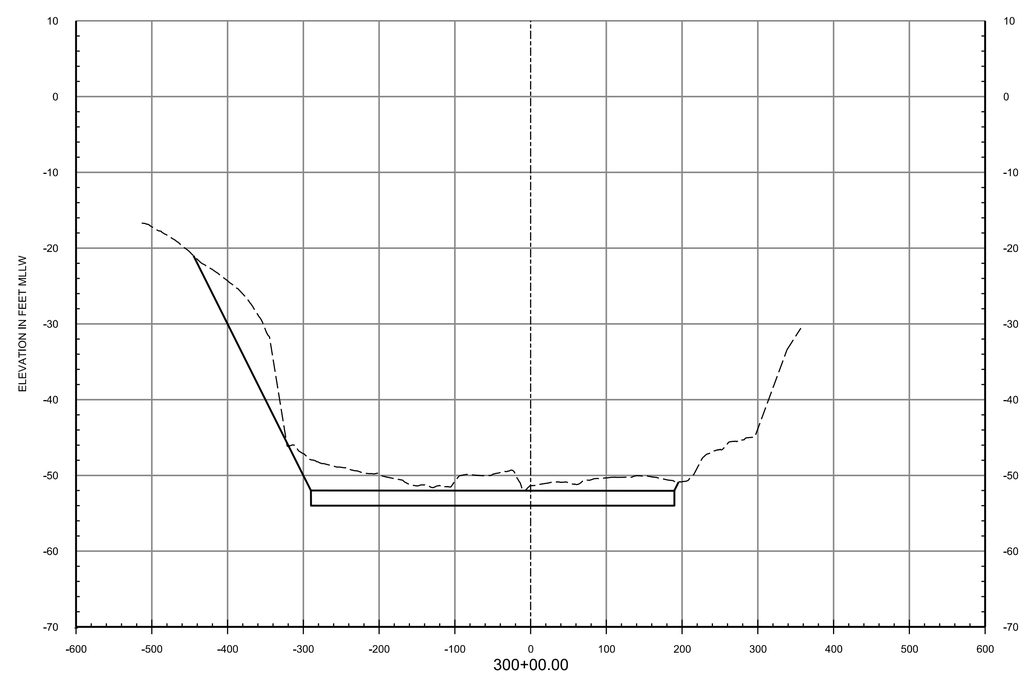
DREDGE CROSS SECTIONS

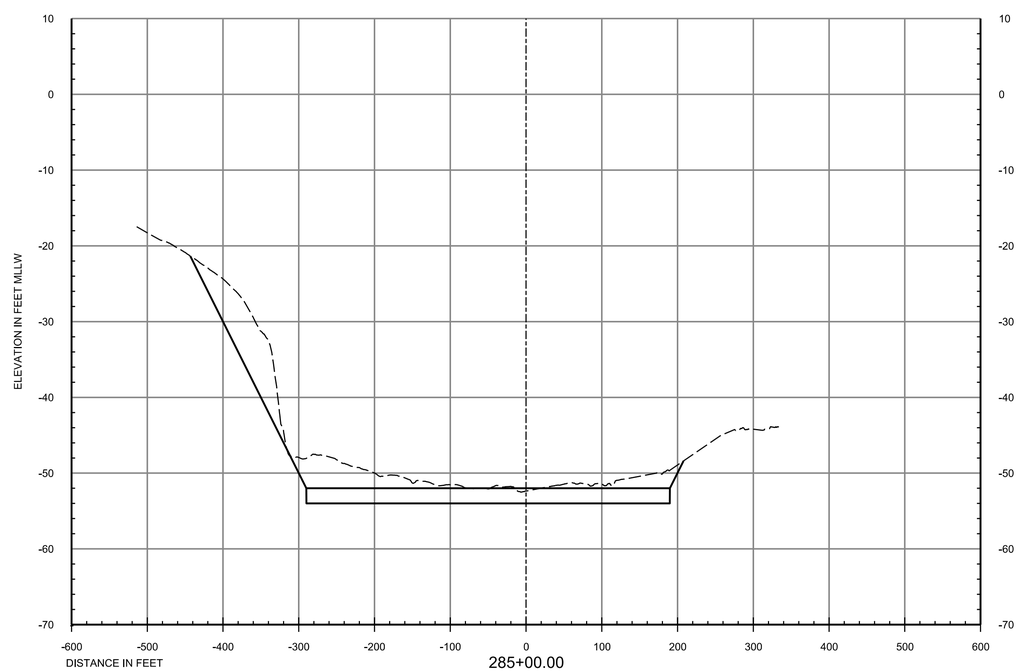
SHEET ID

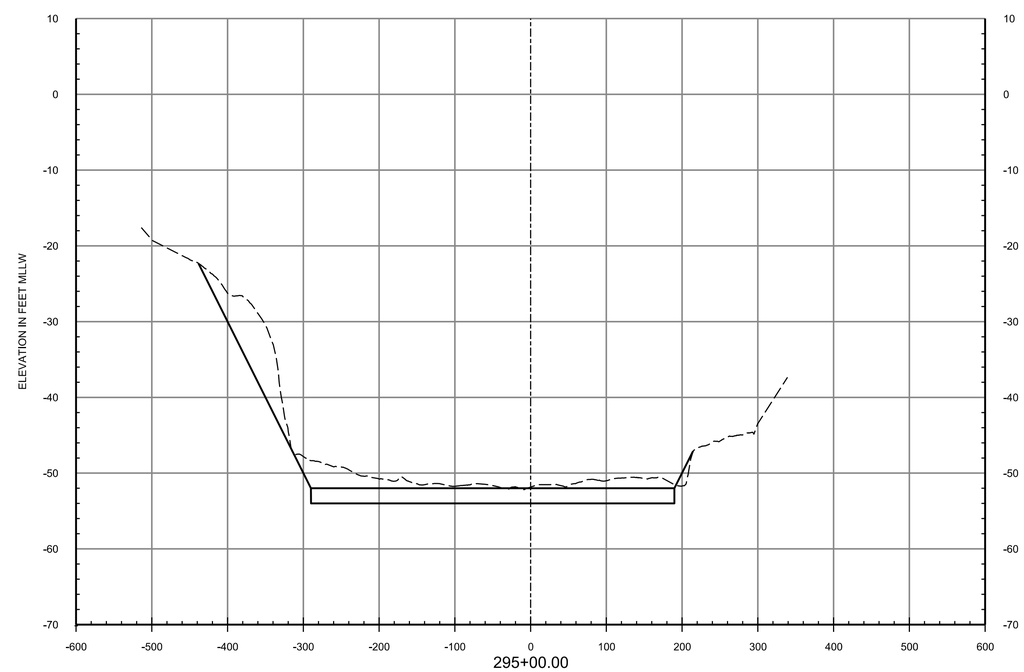
CN302.1

AMENDMENT NO. 0002









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

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CONTRACT NO.: W0XXXX-XX-X-XXX
CADD CODE: CHC22011
T.S.O SHEET FILE NAME: CHC22011-CN303.dgn

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

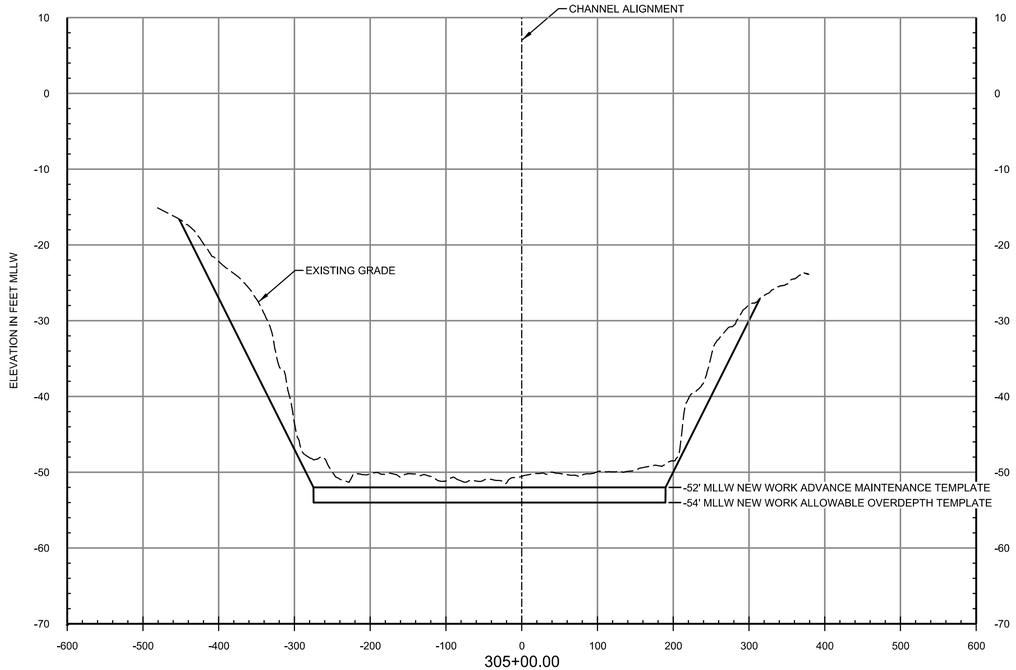
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

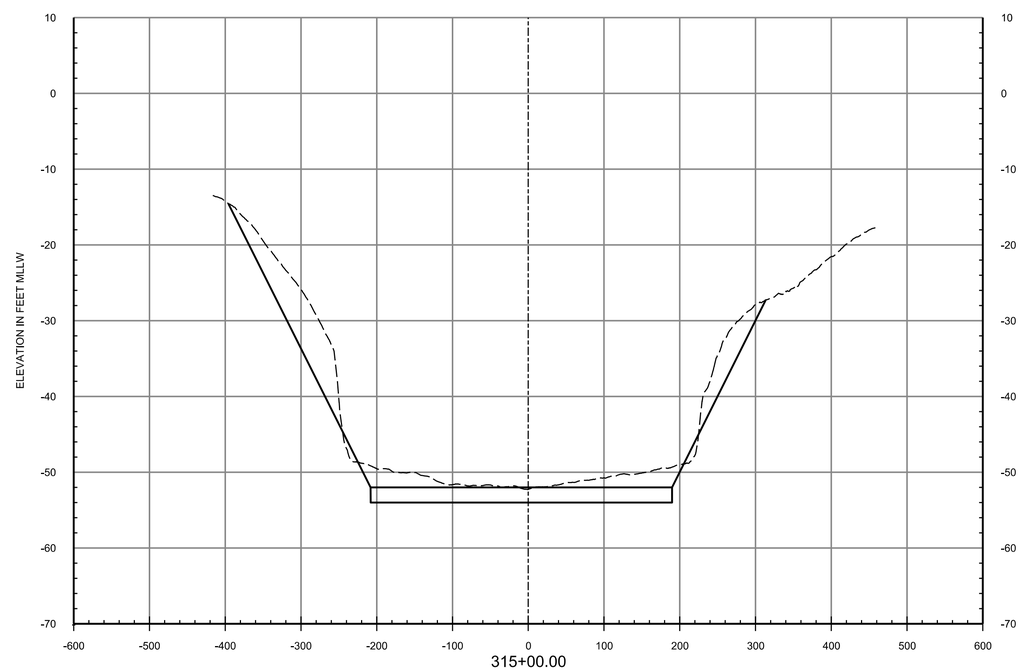
DREDGE CROSS SECTIONS

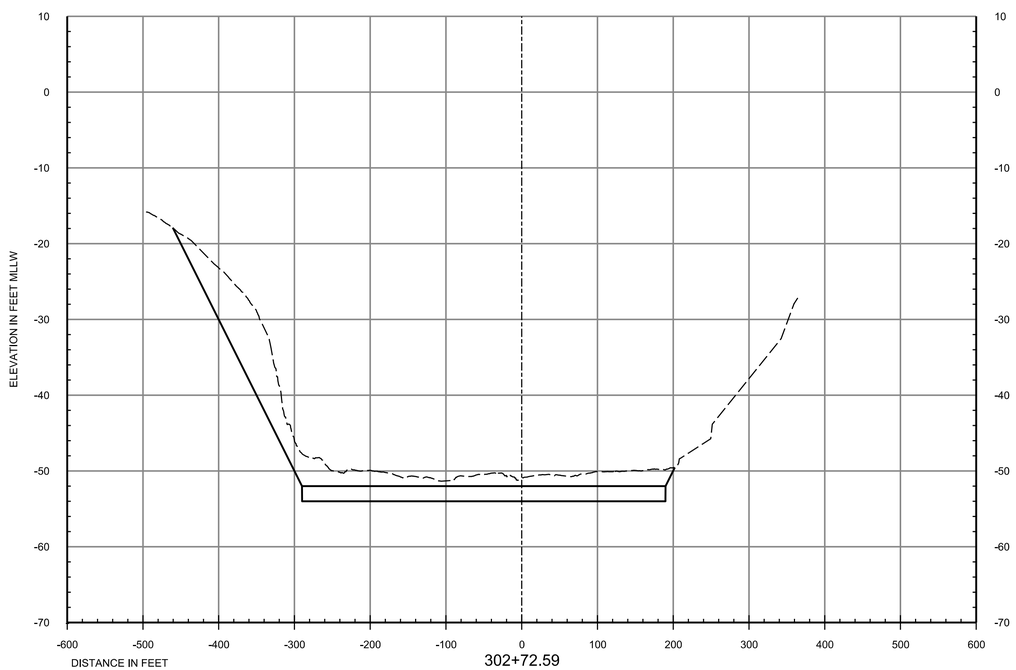
SHEET ID

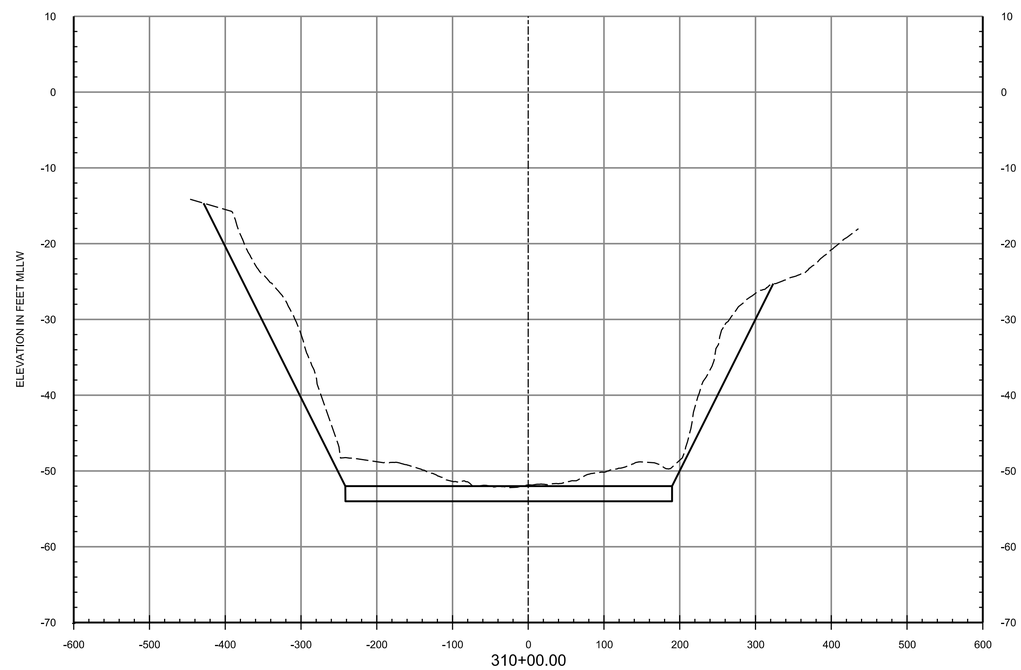
CN303.1

AMENDMENT NO. 0002









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

- - - - - EXISTING GRADE

——— DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

1

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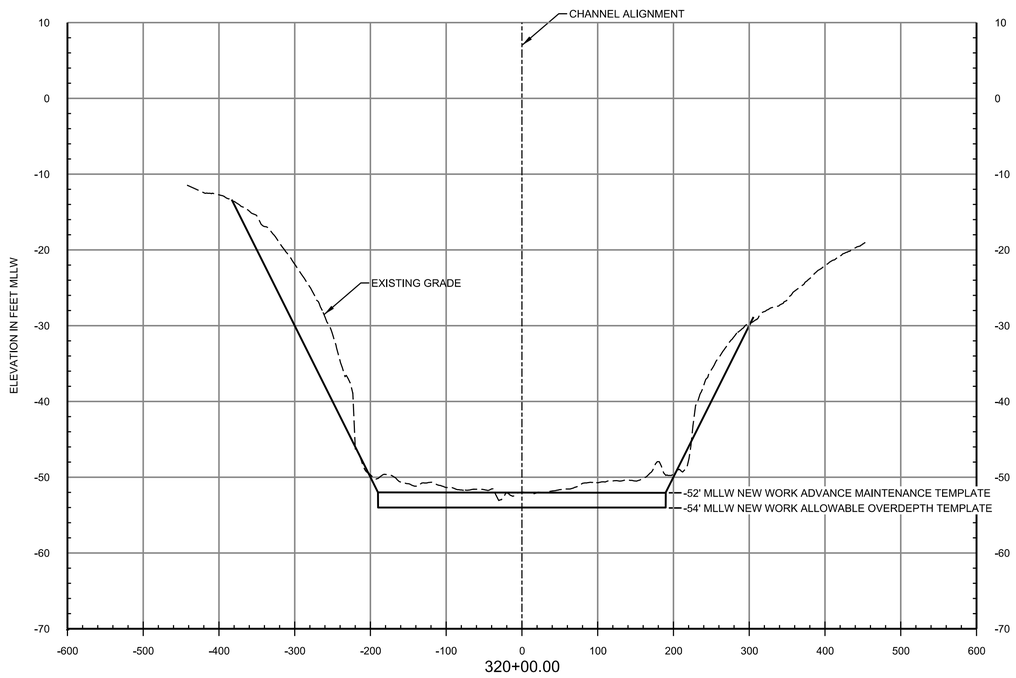
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

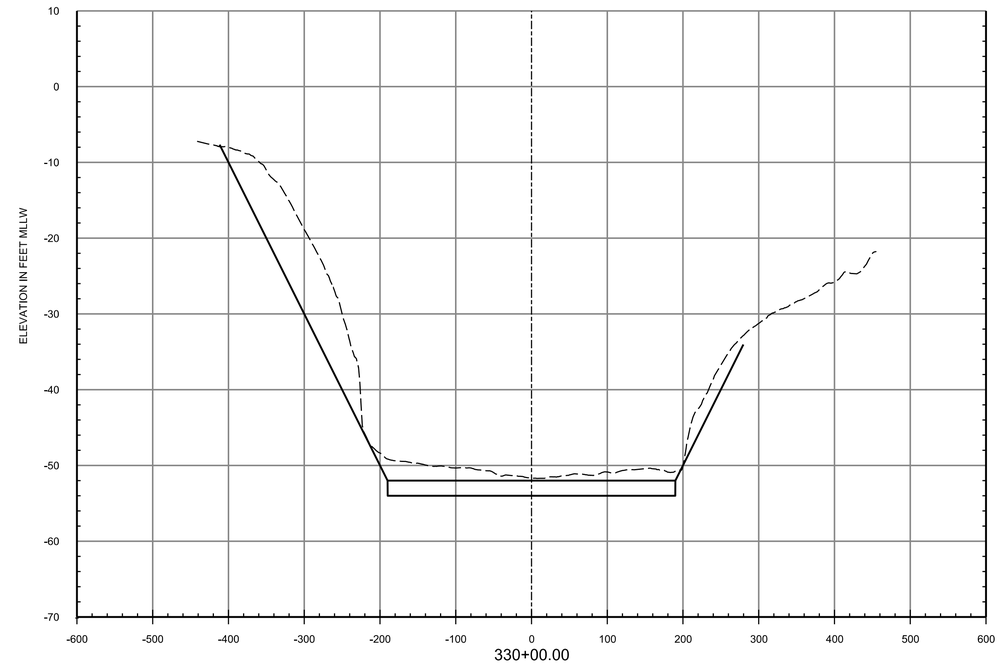
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

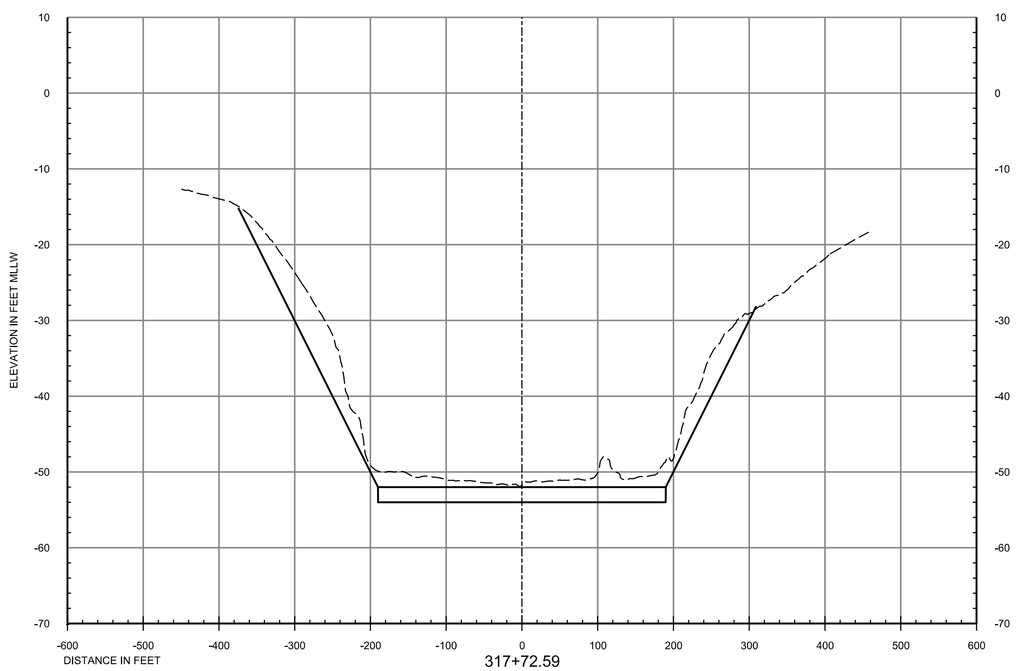
DREDGE CROSS SECTIONS

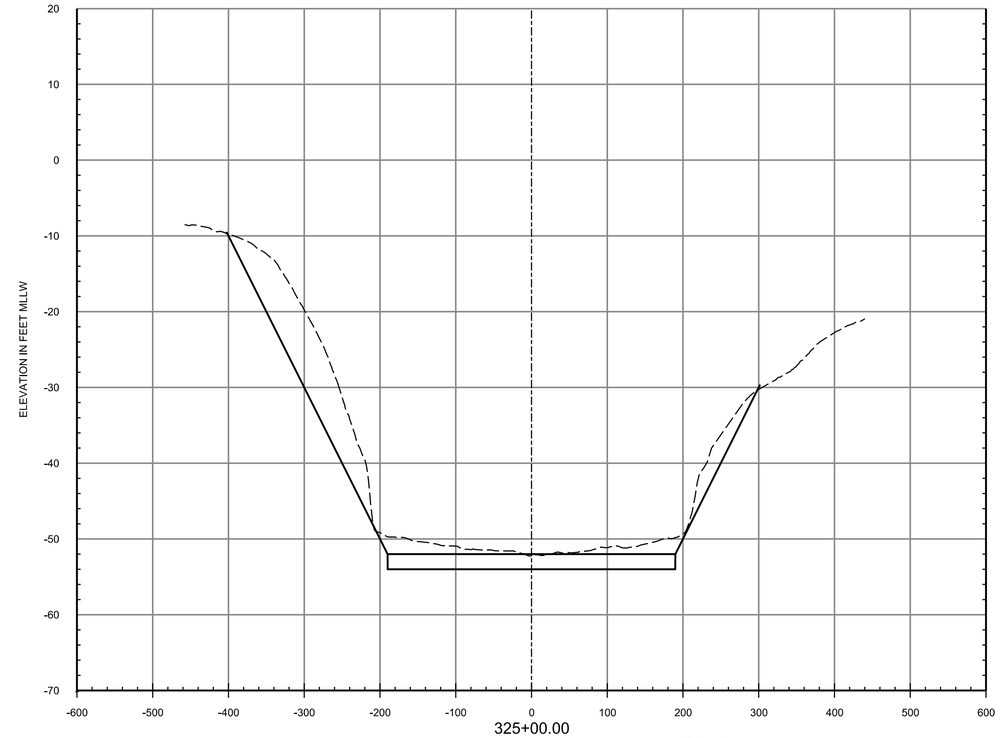
SHEET ID

CN304.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

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CADD CODE: CHCr22011

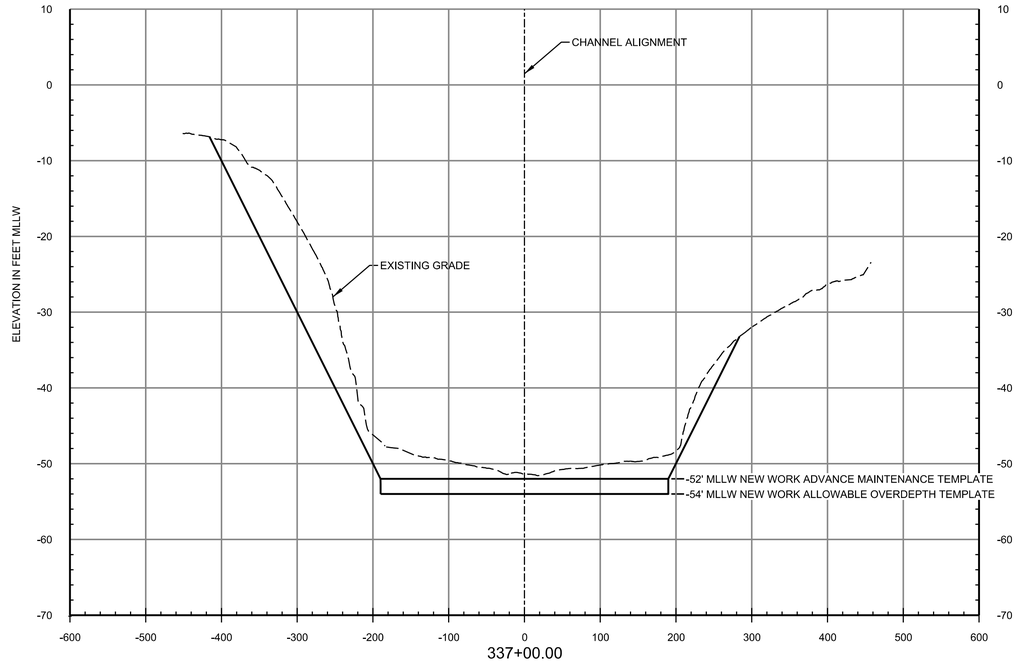
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

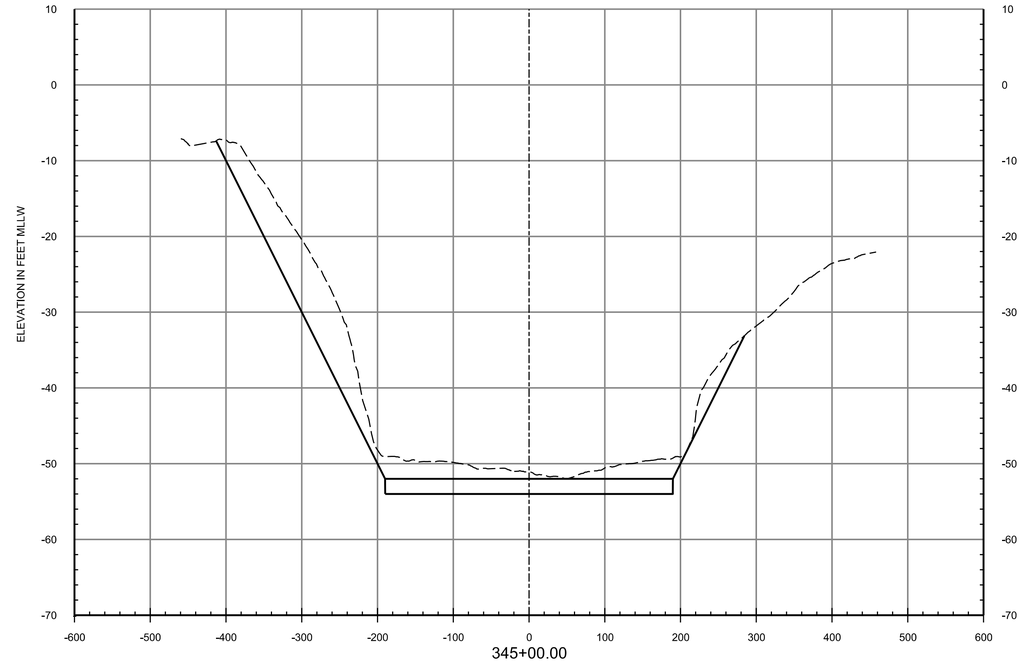
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

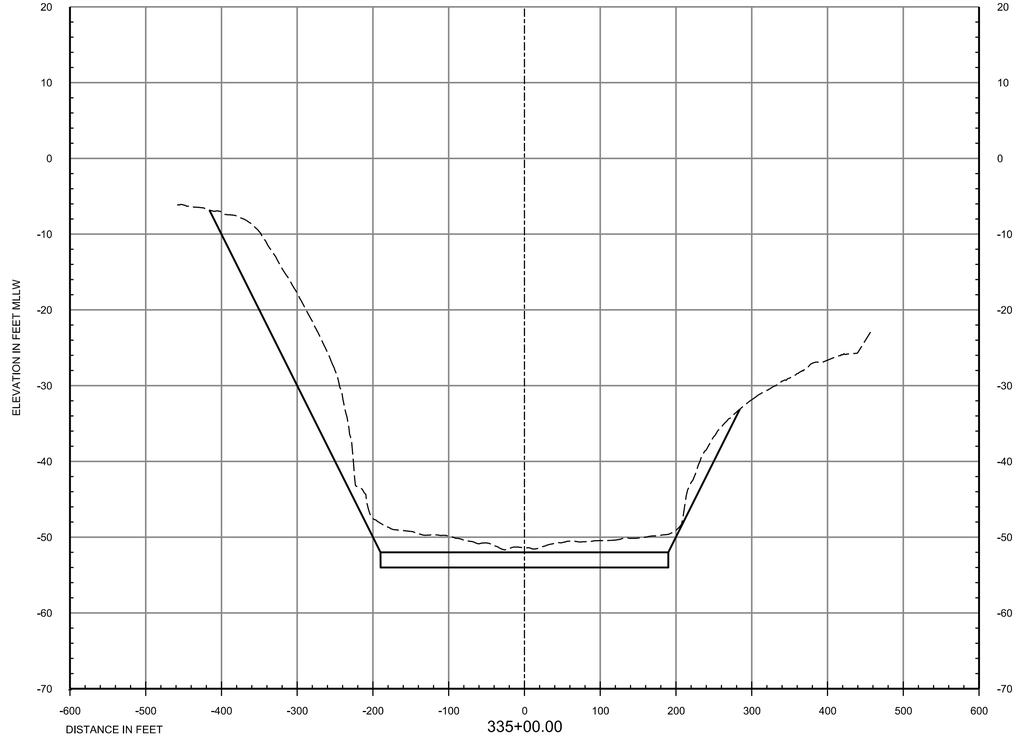
DREDGE CROSS SECTIONS

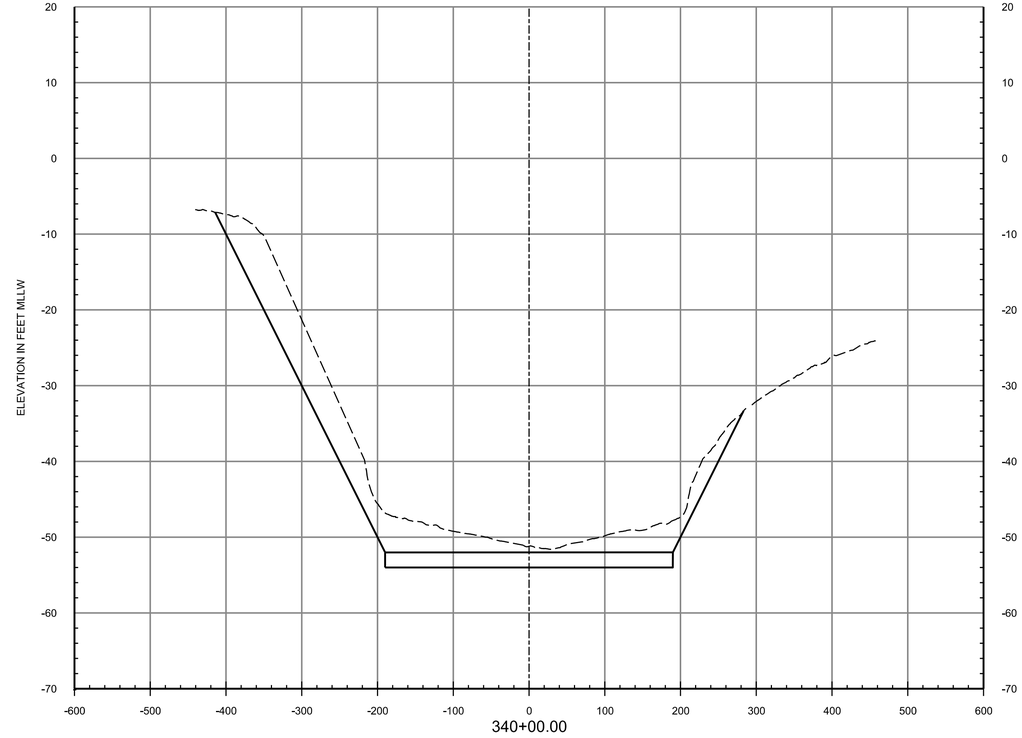
SHEET ID

CN305.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
1	AMENDMENT NO. 0002, REPLACE DRAWING	DEC 2023

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

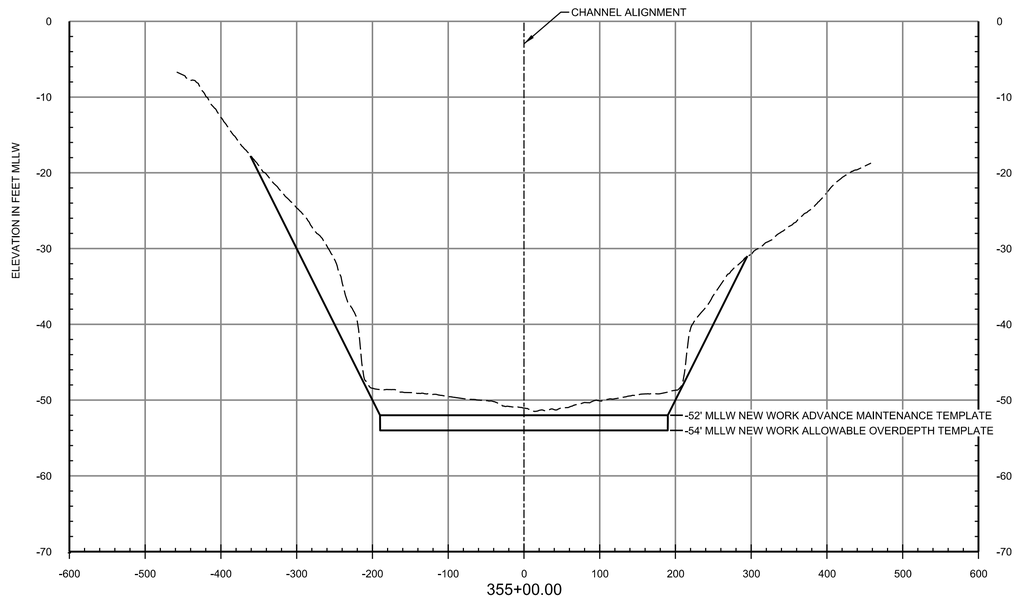
DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WILKINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: W0XXXX-XX-X-XXX
CADD CODE: CHC22011
T.S.O SHEET FILE NAME: CHC22011-CN306.dgn

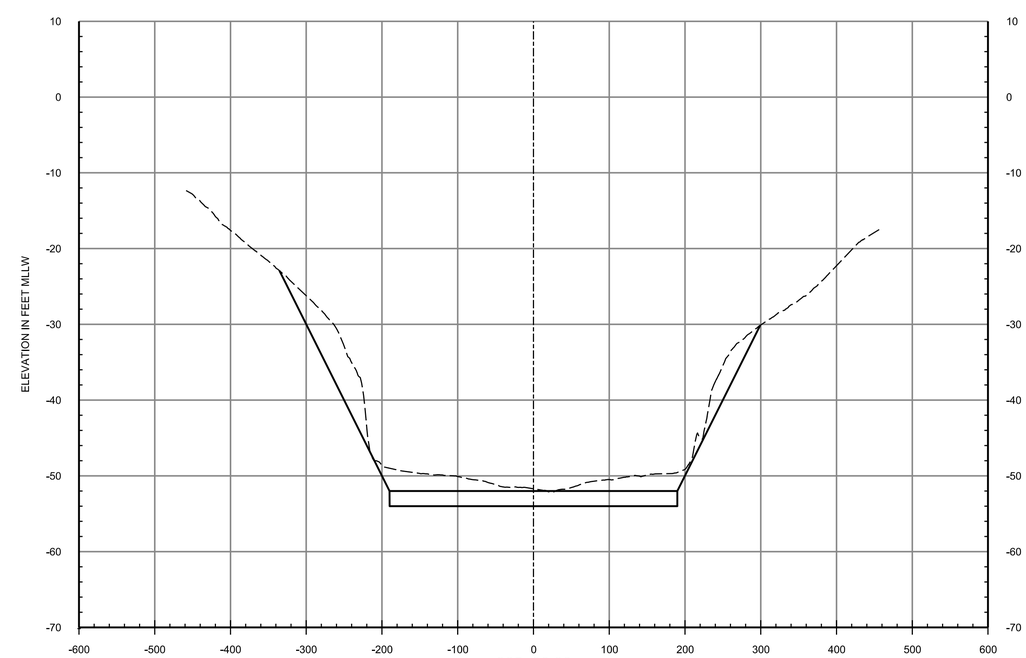
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

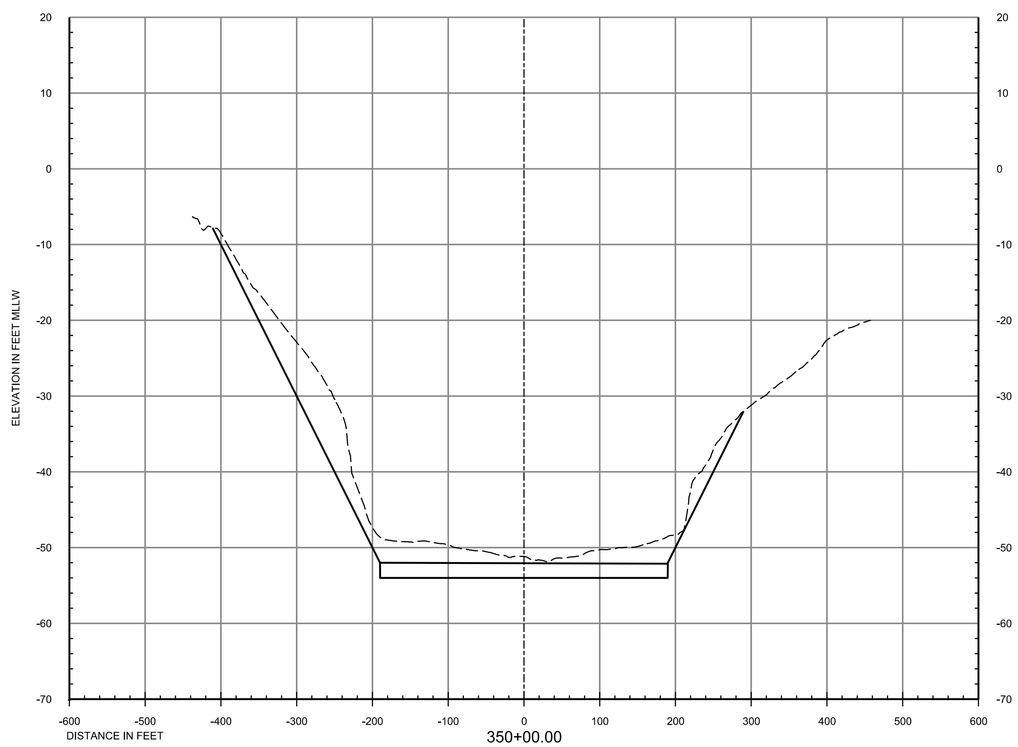
DREDGE CROSS SECTIONS

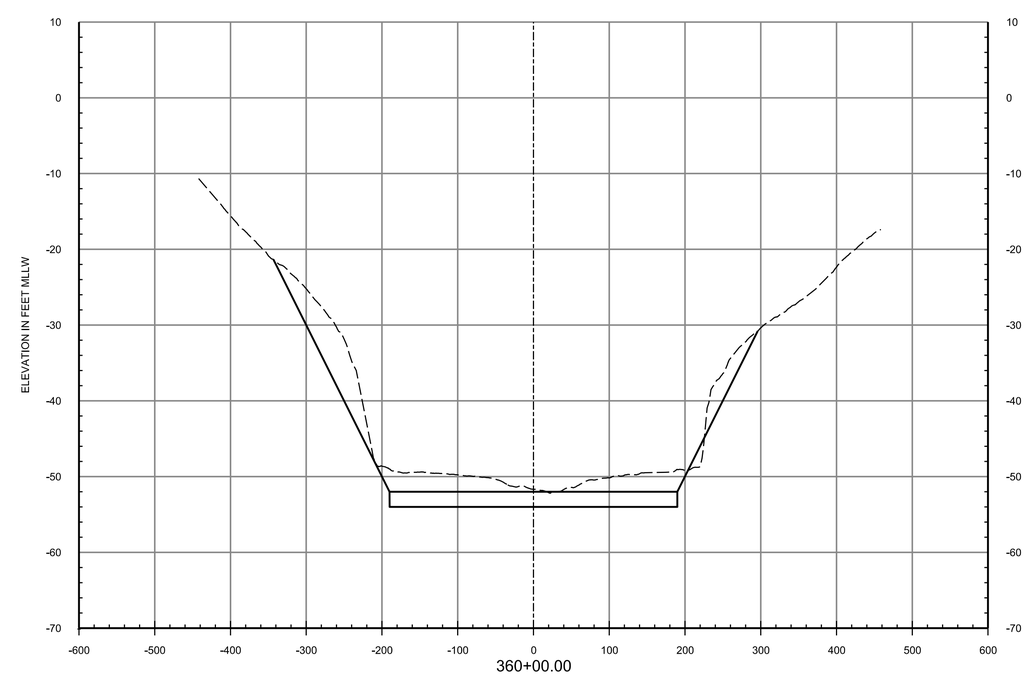
SHEET ID

CN306.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
1	AMENDMENT NO. 0002, REPLACE DRAWING	DEC 2023

ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: WXXXXX-XX-X-XXX
CADD CODE: CHC22011
SHEET FILE NAME: CHC22011-CN307.dgn

DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D

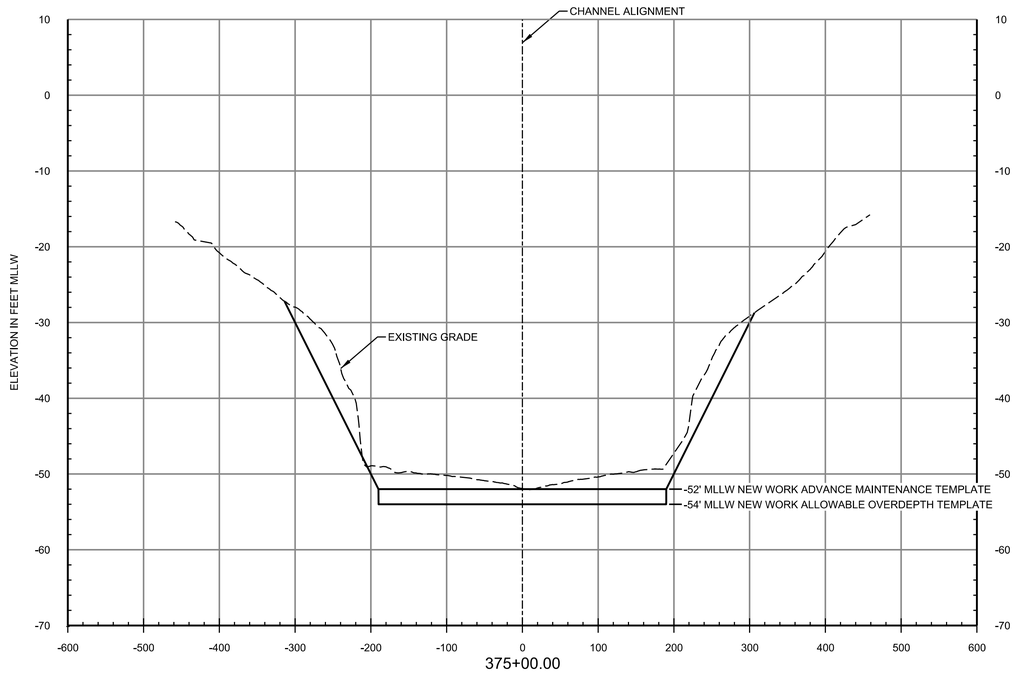
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

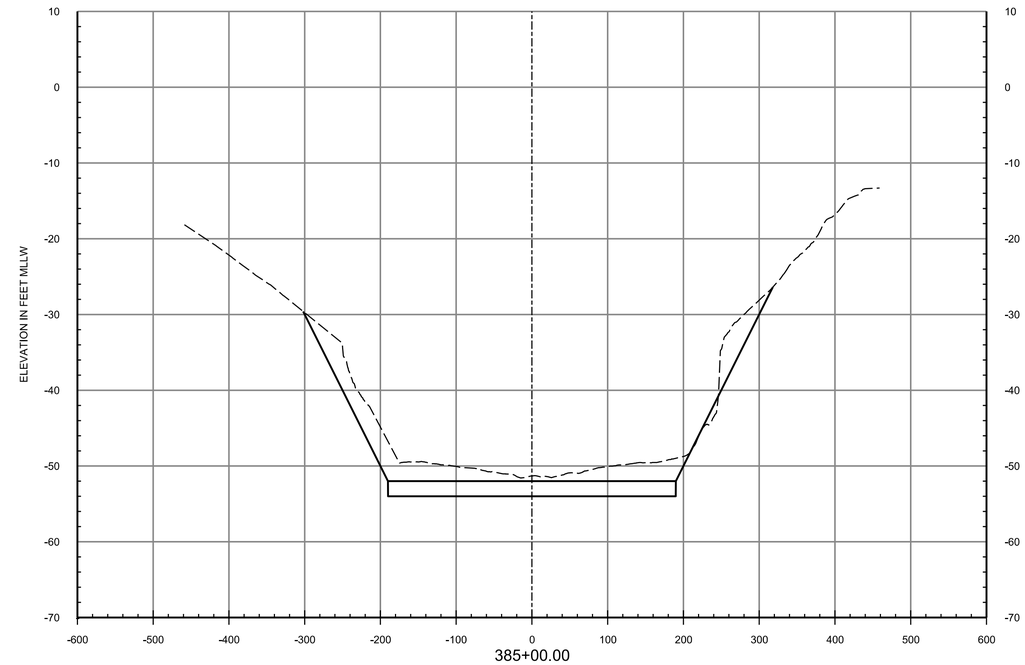
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

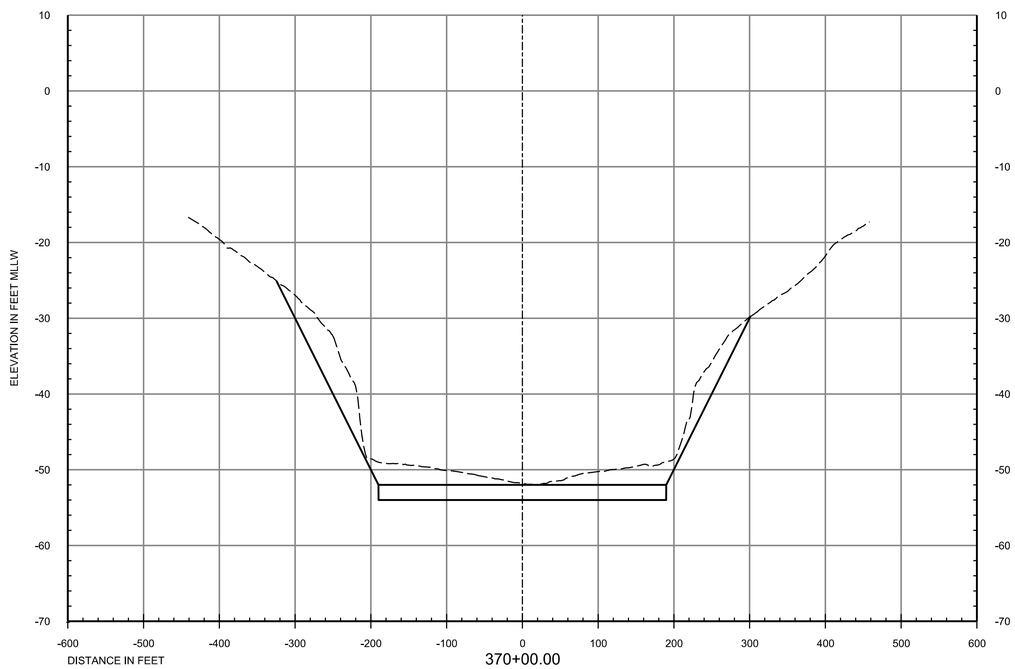
DREDGE CROSS SECTIONS

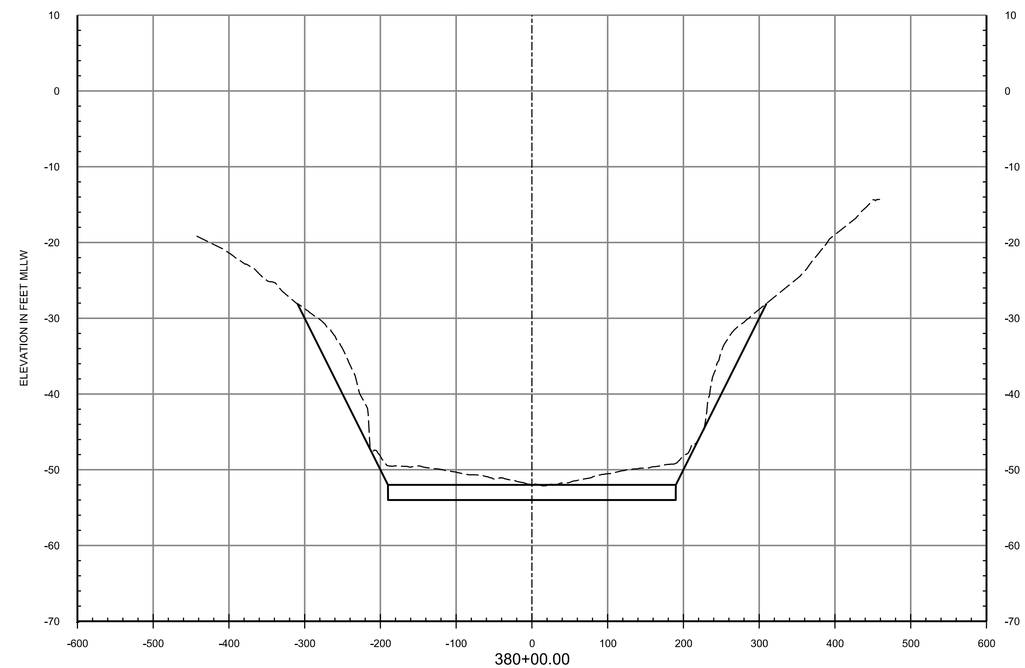
SHEET ID

CN307.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
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U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

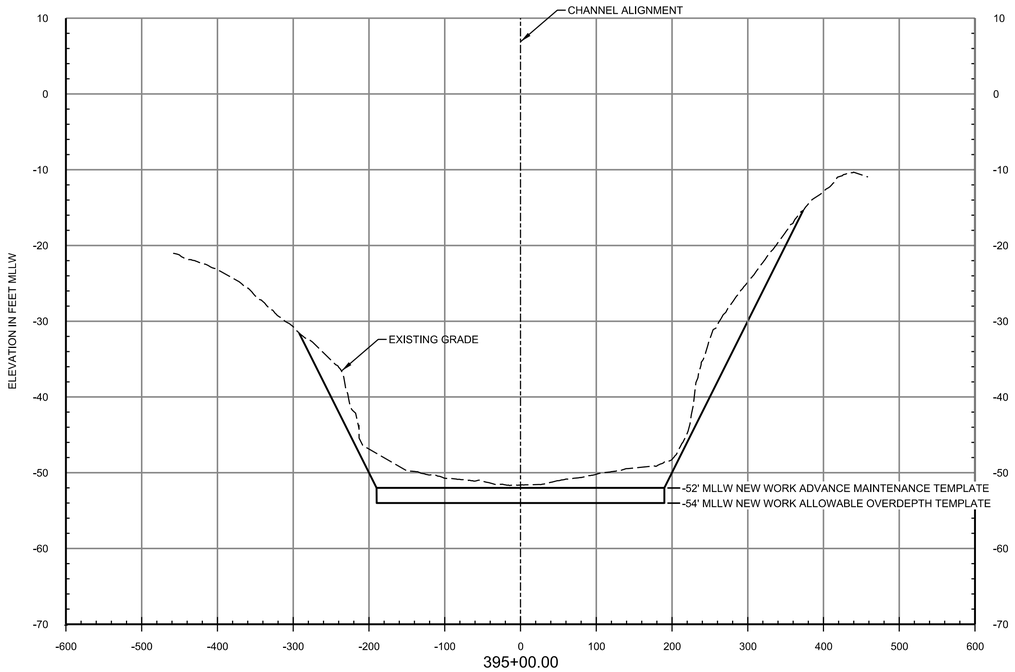
DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: W(XXXX)X-XX-X-XXX
CADD CODE: CHC22011
T.S.O SHEET FILE NAME: CHC22011-CN308.dgn

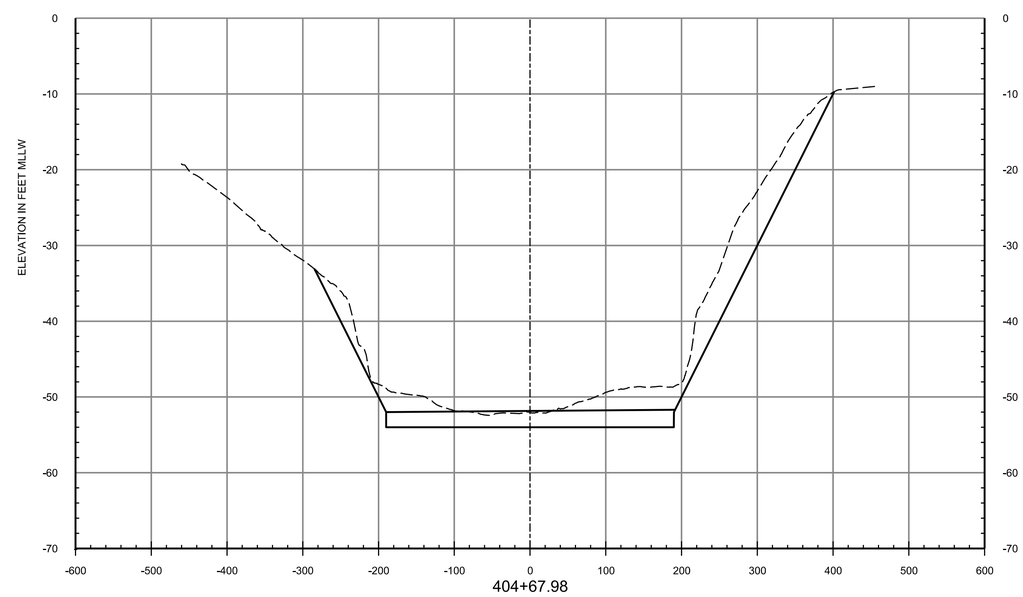
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

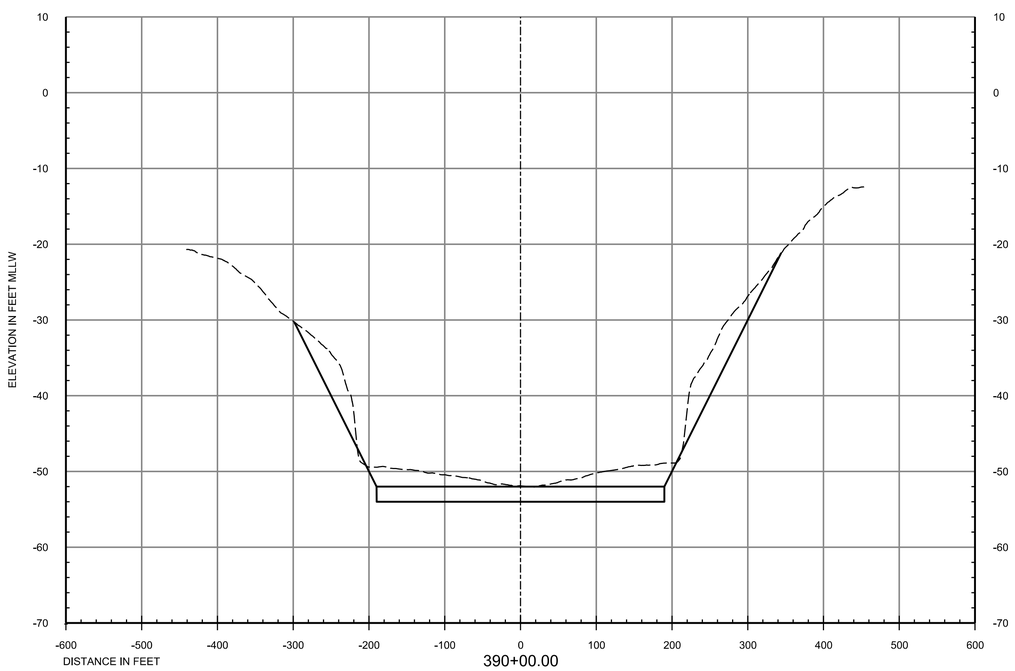
DREDGE CROSS SECTIONS

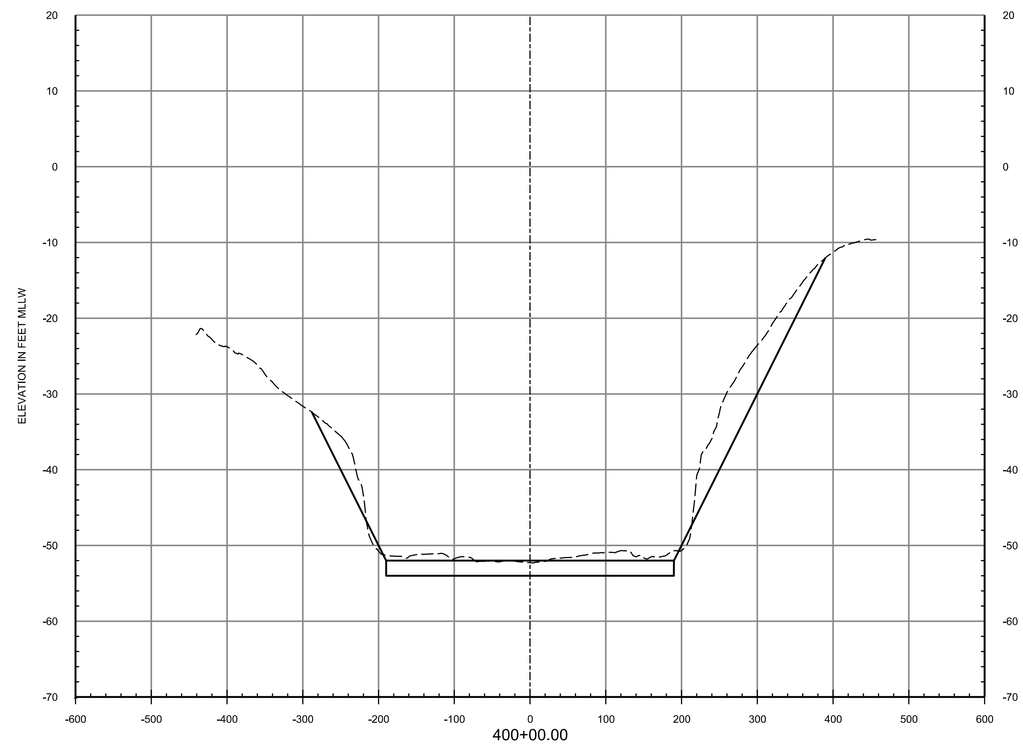
SHEET ID

CN308.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

1

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
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DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: W(XXXX)X-XX-X-XXX
CADD CODE: CHC22011
I.S.O SHEET FILE NAME: CHC22011-CN309.dgn

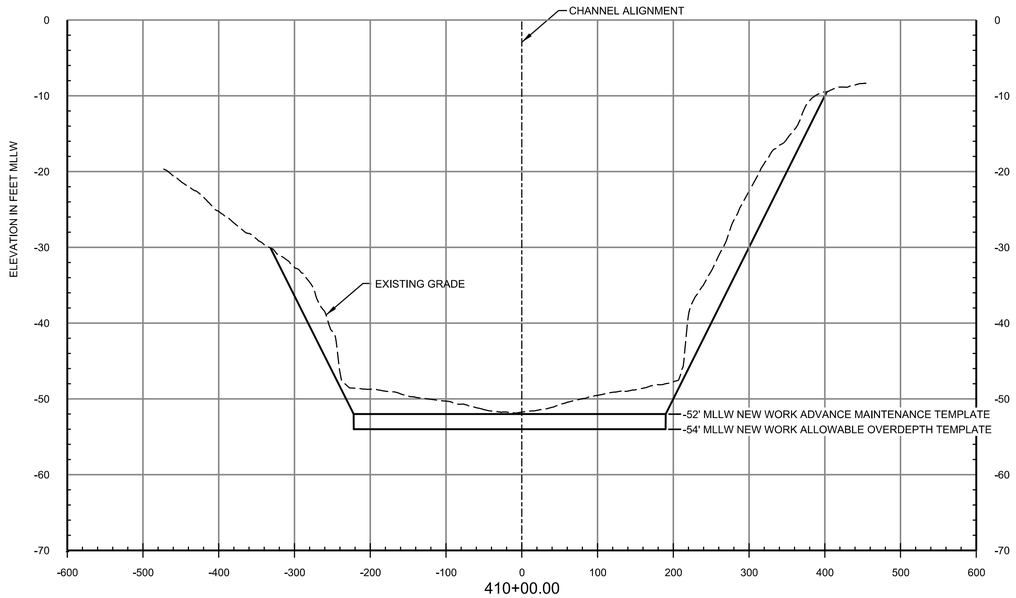
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

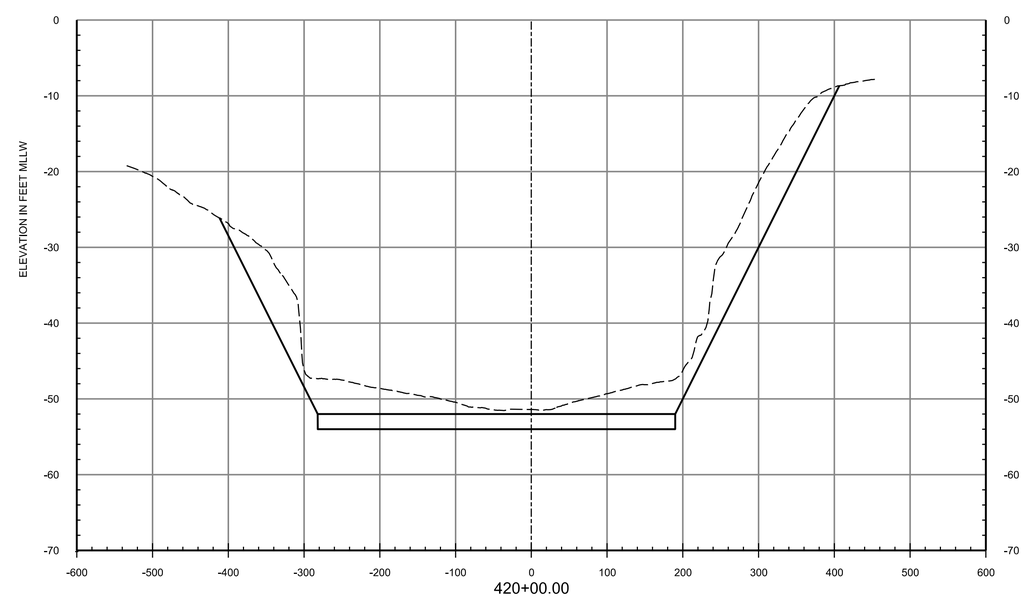
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

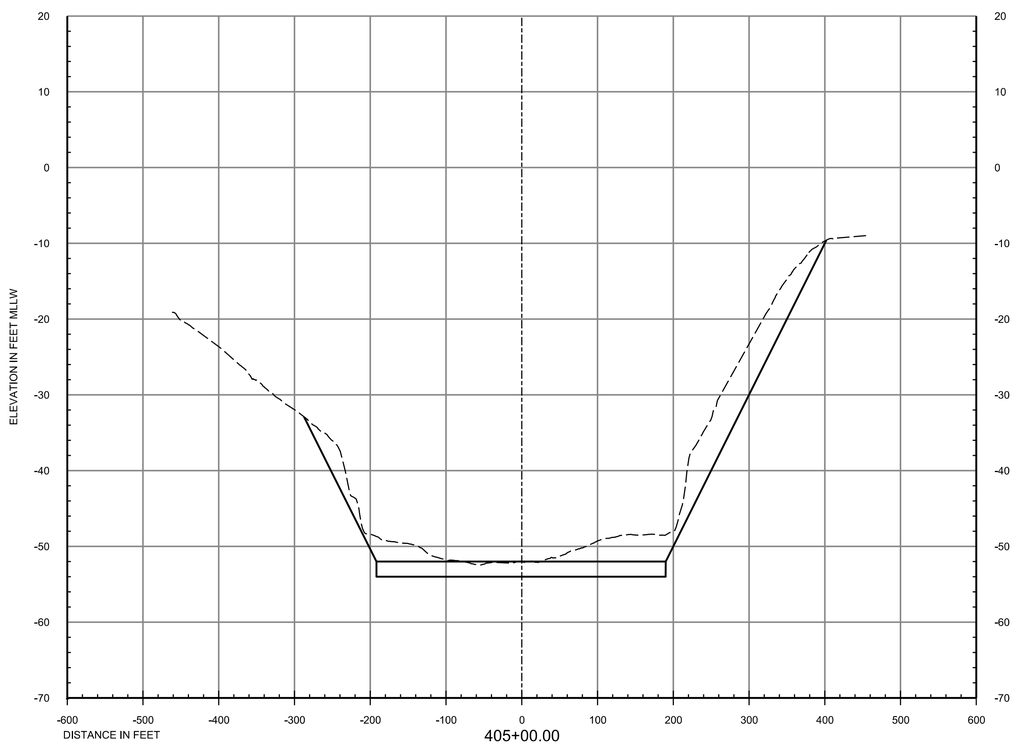
DREDGE CROSS SECTIONS

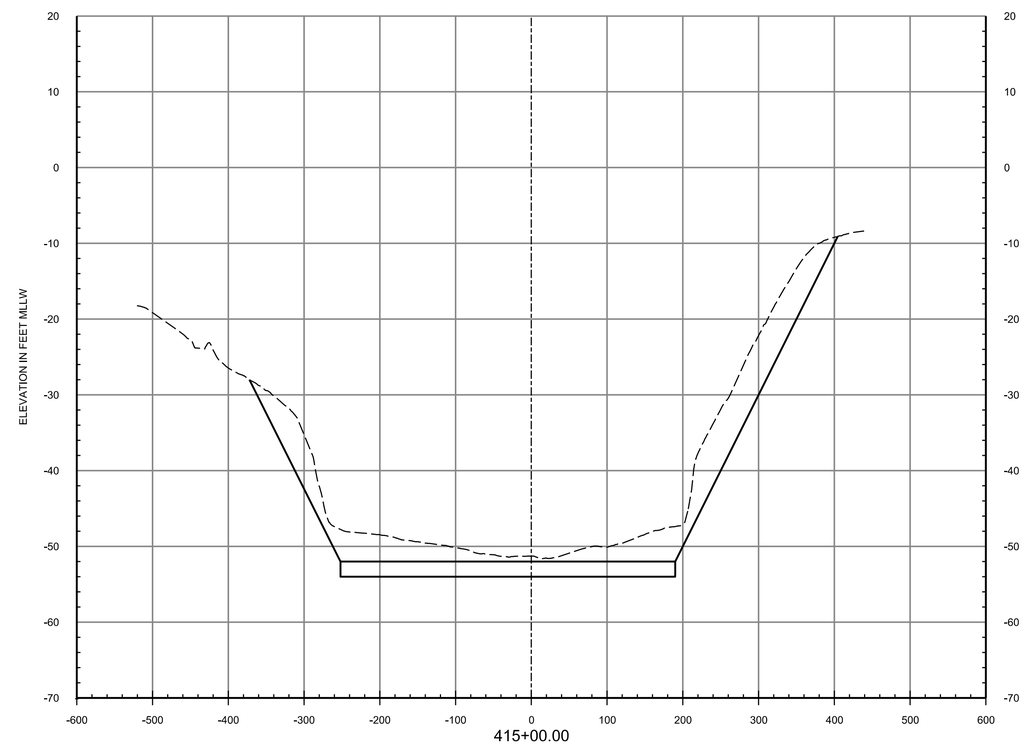
SHEET ID

CN309.1









LEGEND

VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
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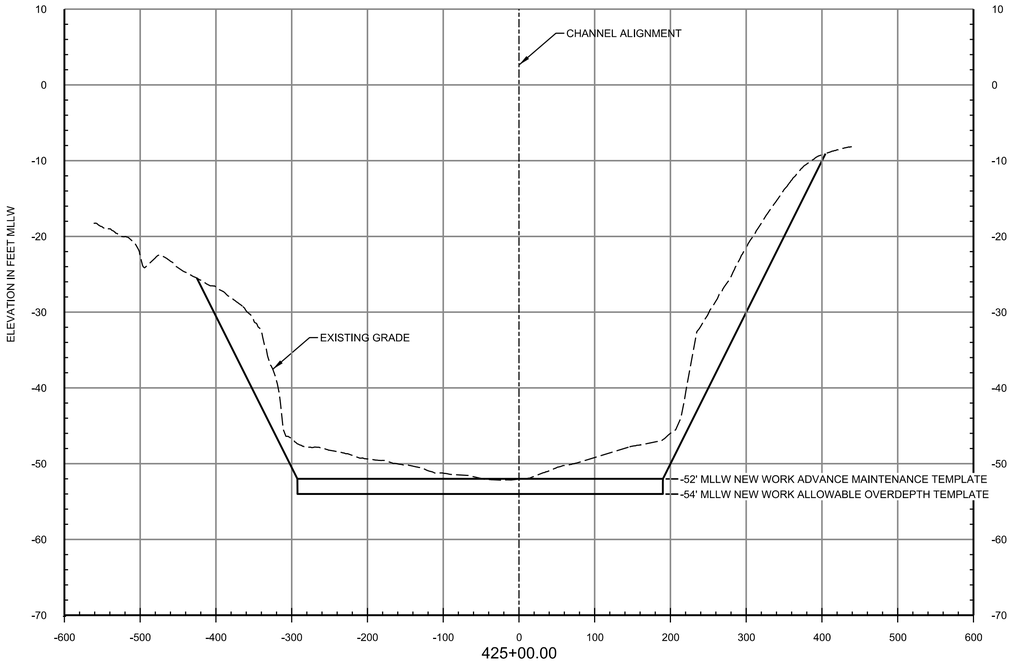
DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: WXXXXX-XX-X-XXX
CADD CODE: CHC22011
I.S.O SHEET FILE NAME: CHC22011-CN310.dgn

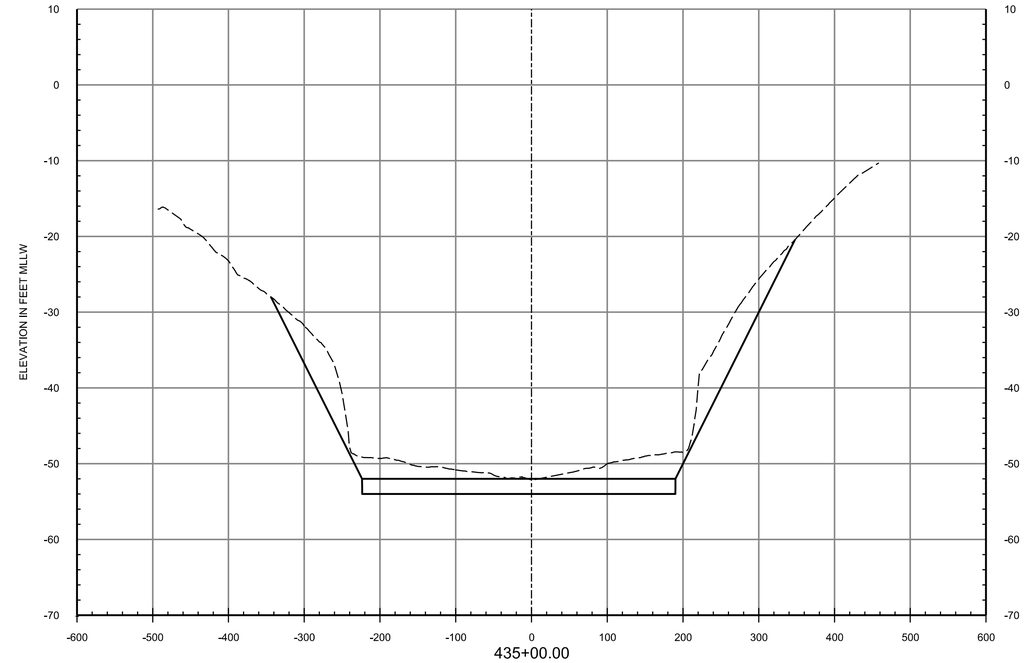
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL. 36602

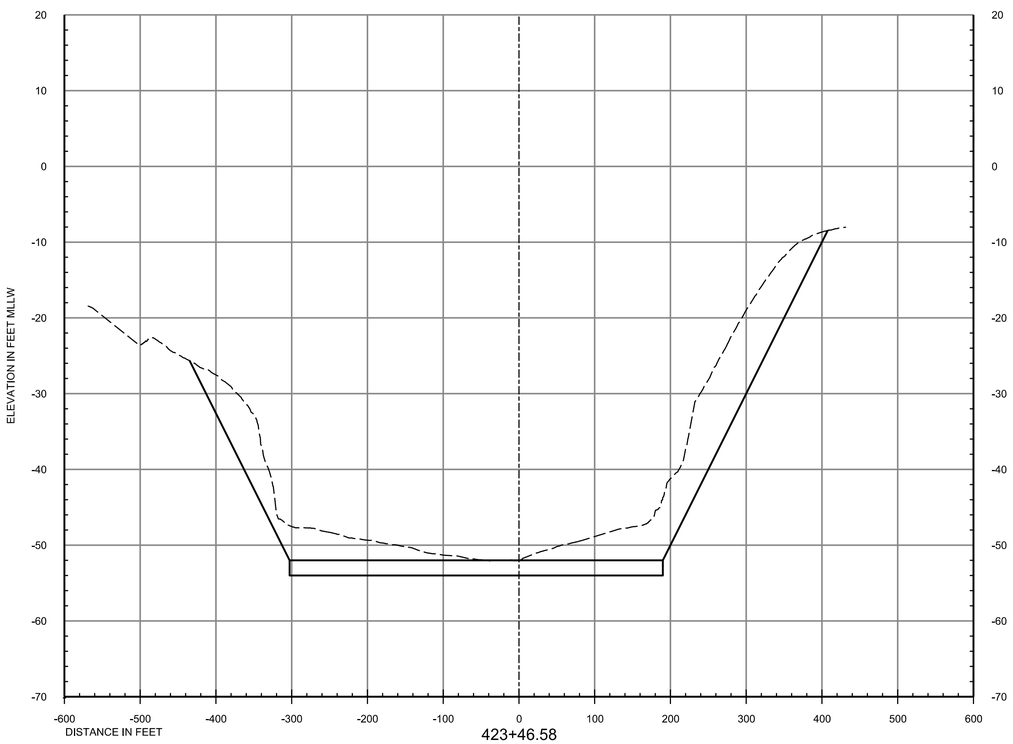
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

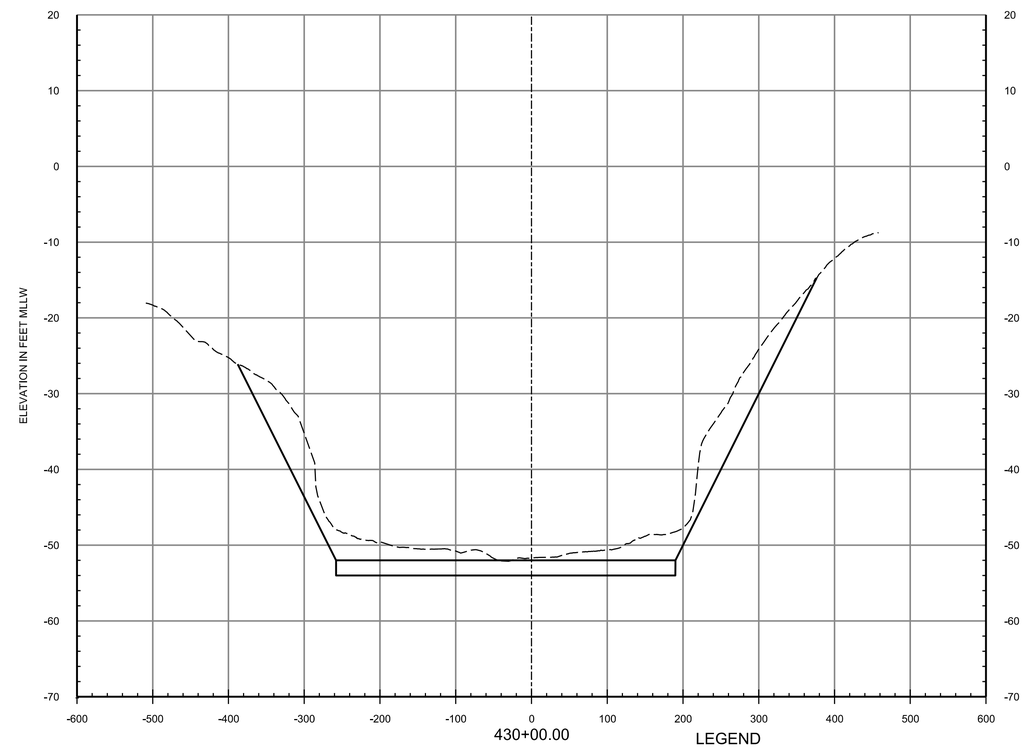
DREDGE CROSS SECTIONS

SHEET ID
CN310.1









LEGEND

VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
1	AMENDMENT NO. 0002, REPLACE DRAWING	DEC 2023

DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: WXXXXX-XX-X-XXX
CADD CODE: CHC22011
I.S.O SHEET FILE NAME: CHC22011-CN311.dgn

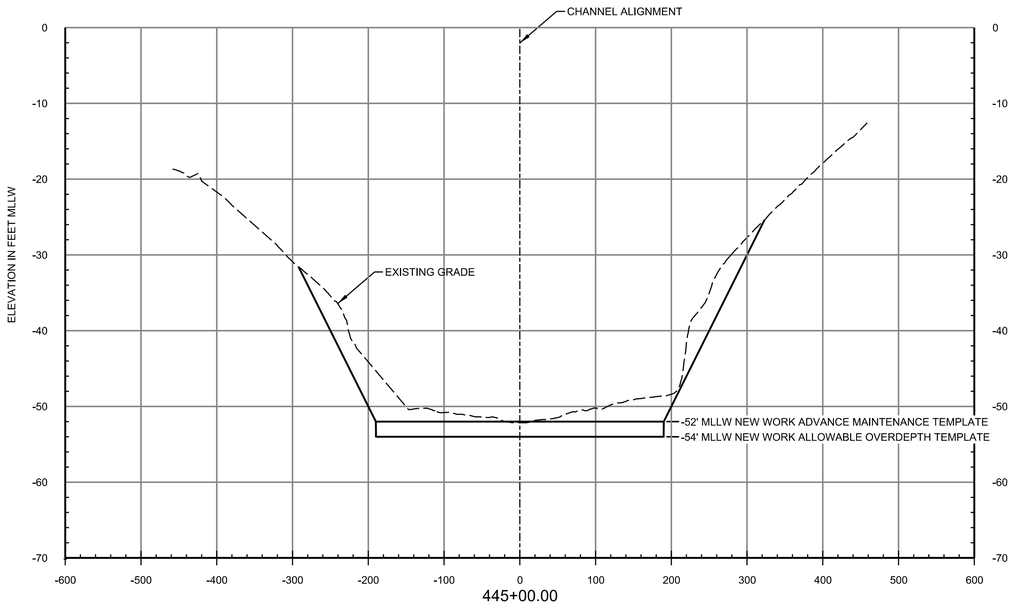
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL. 36602

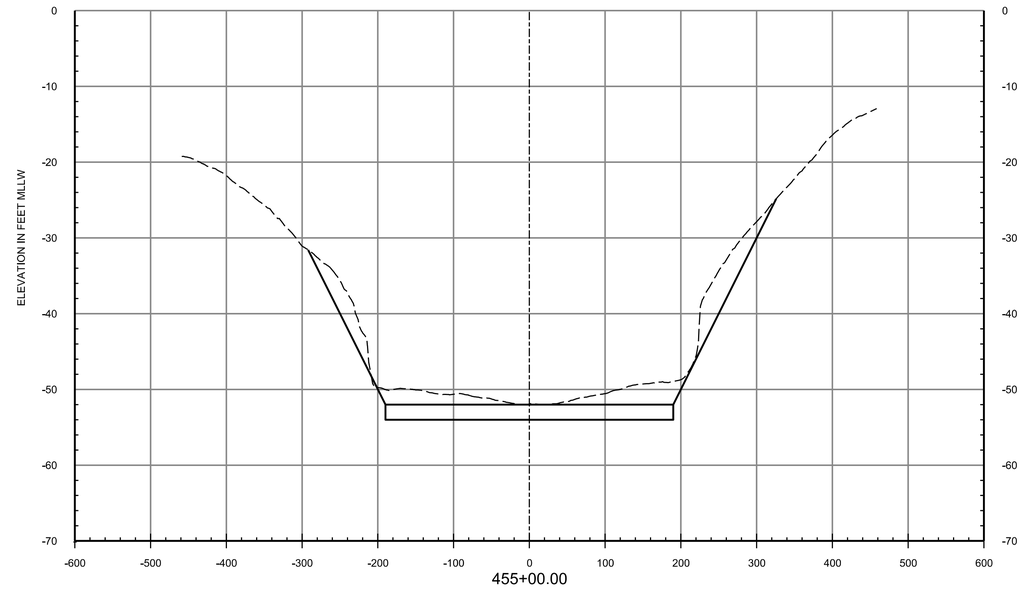
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

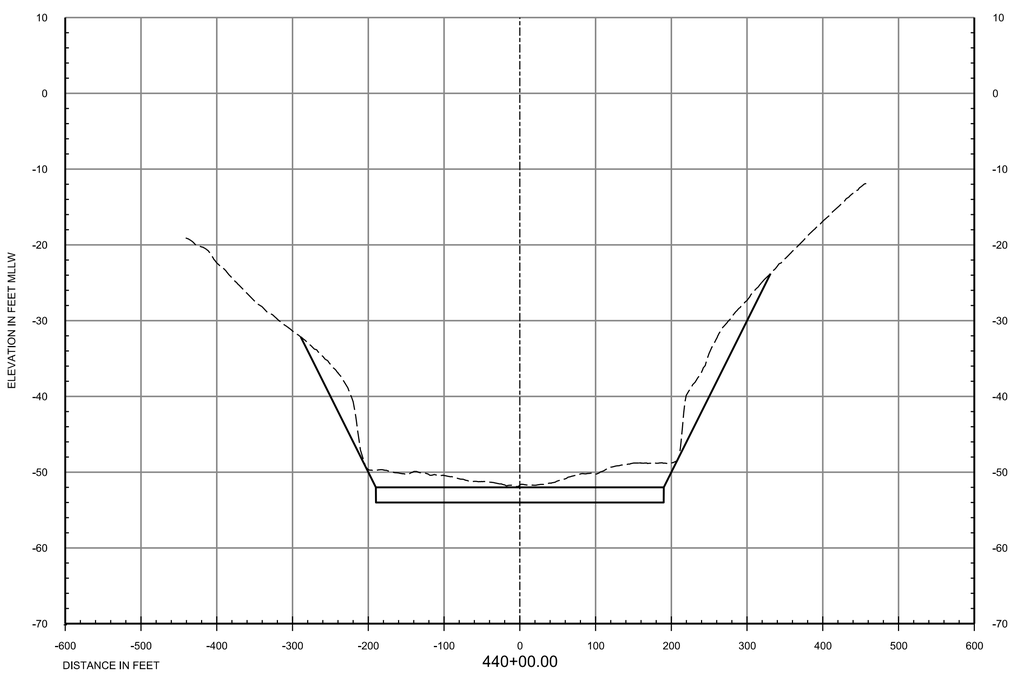
DREDGE CROSS SECTIONS

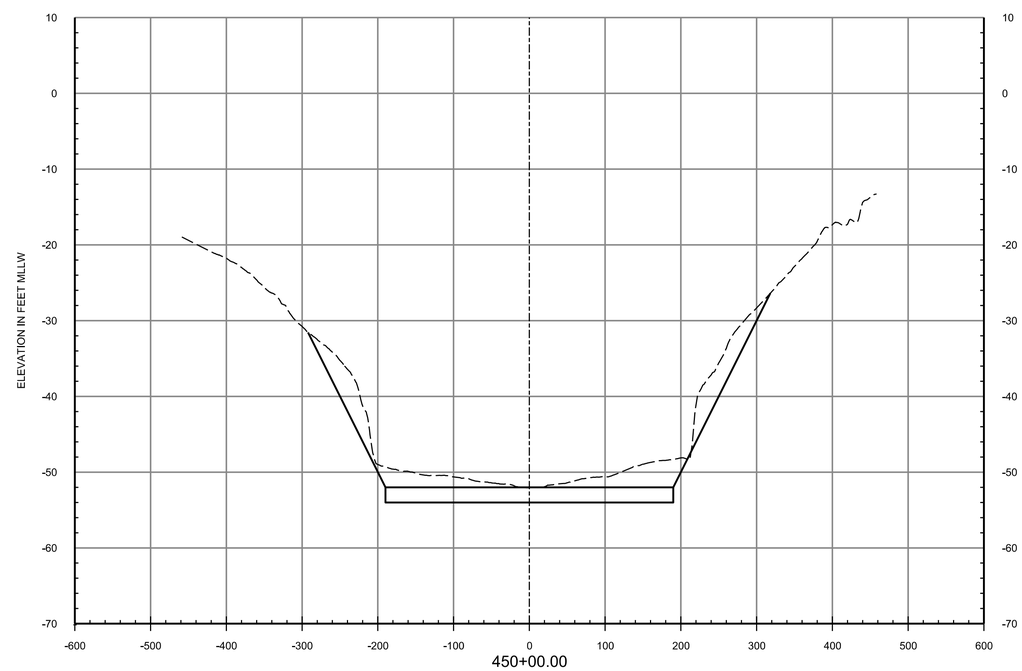
SHEET ID

CN311.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
1	AMENDMENT NO. 0002, REPLACE DRAWING	DEC 2023

DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: W(XXXXX-XX-X-XXX
CADD CODE: CHC22011
T.S.D SHEET FILE NAME: CHC22011-CN312.dgn

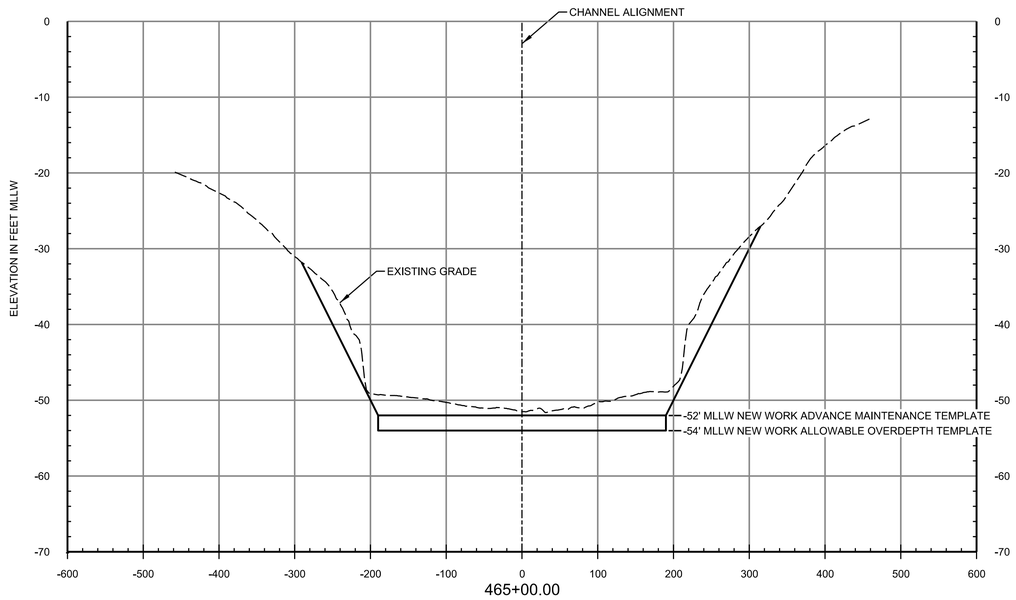
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

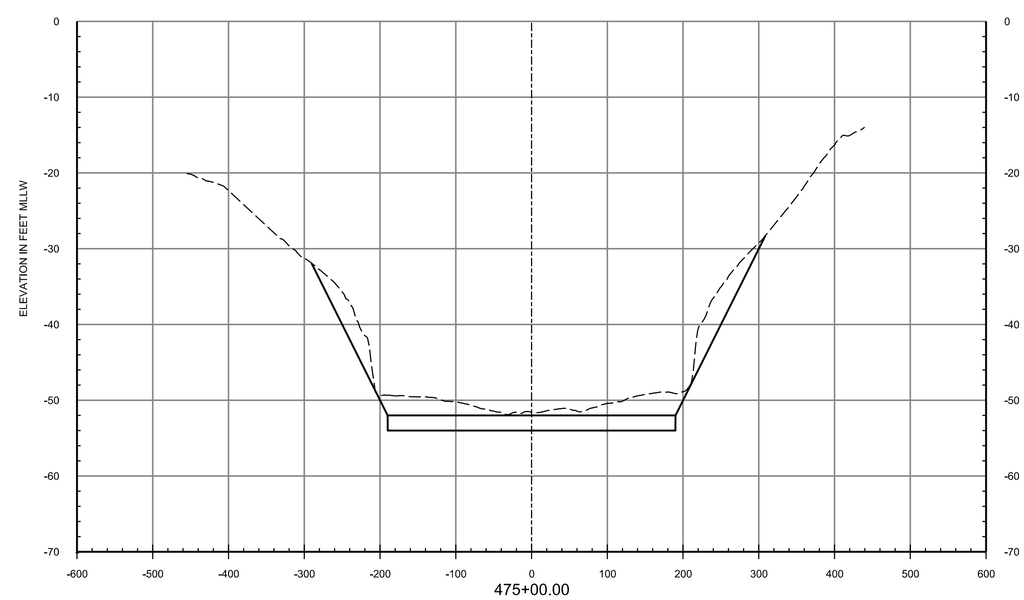
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

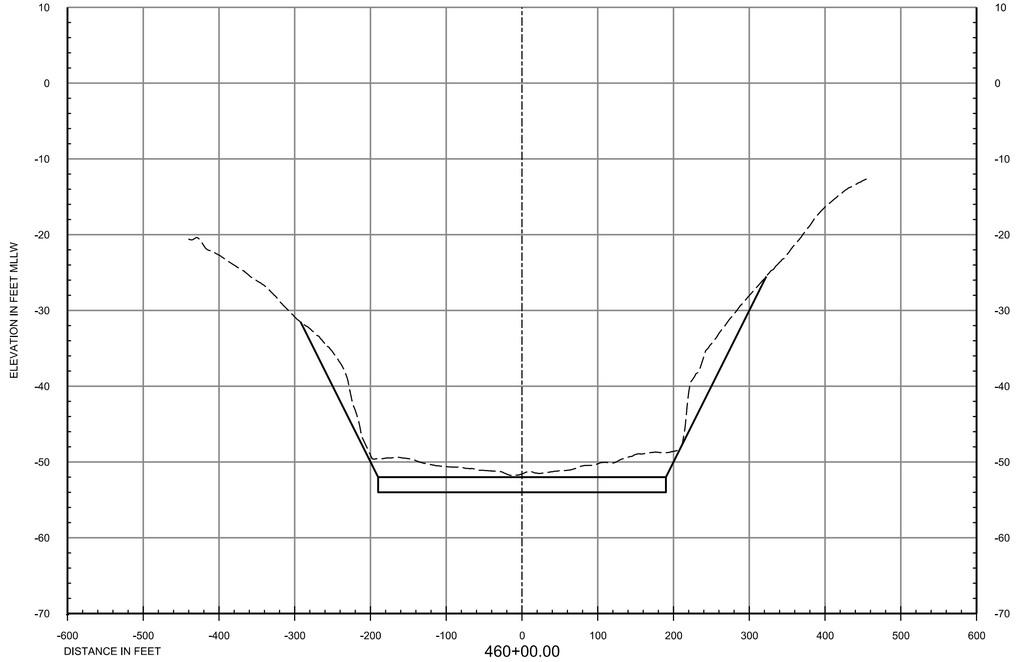
DREDGE CROSS SECTIONS

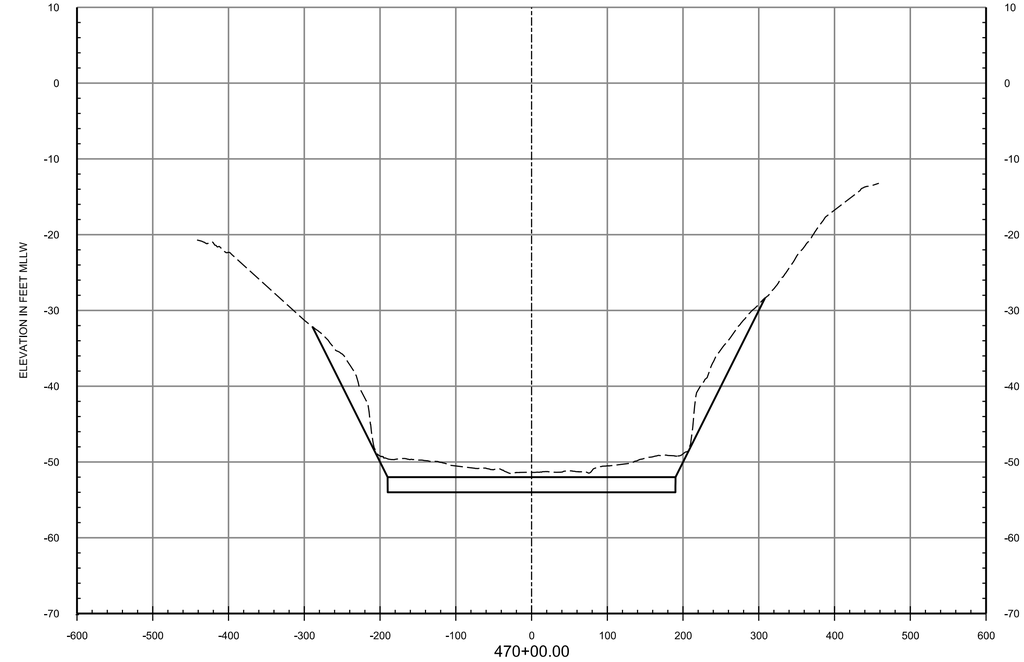
SHEET ID

CN312.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
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DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: W(XXXXX-XX-X-XXX
CADD CODE: CHC22011
T.S.O SHEET FILE NAME: CHC22011-CN313.dgn

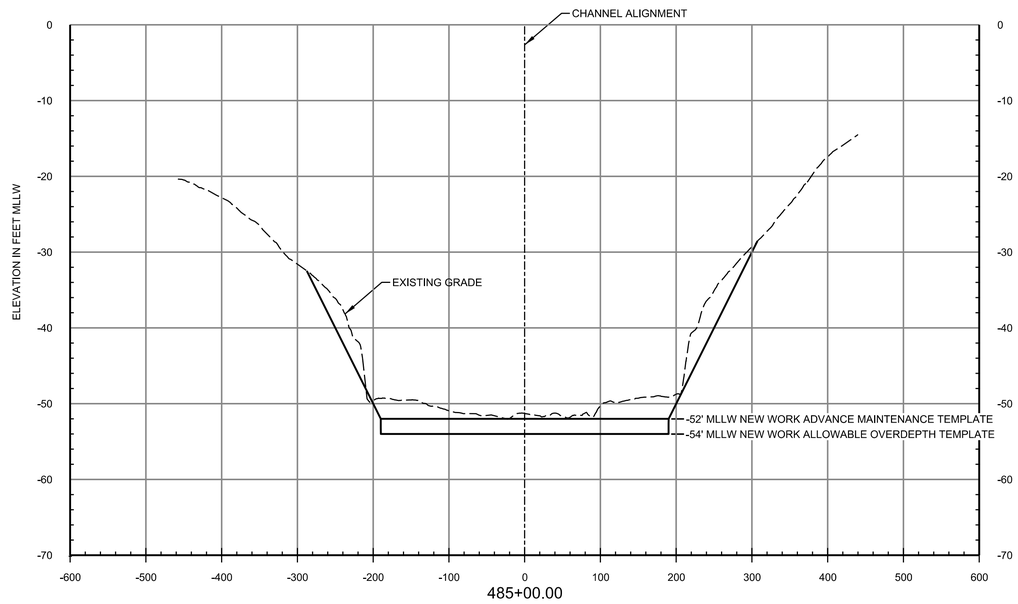
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

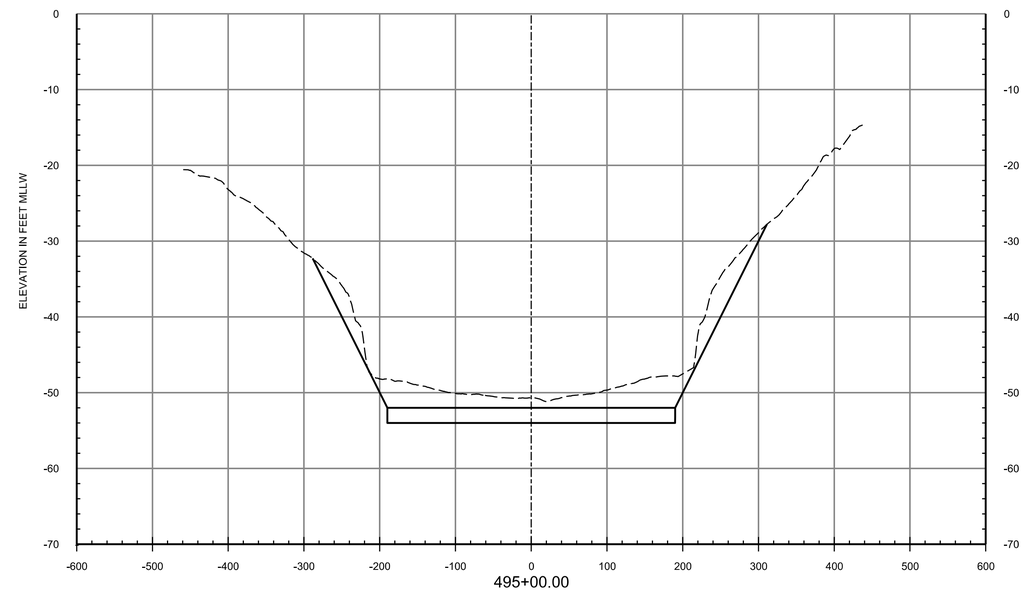
MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

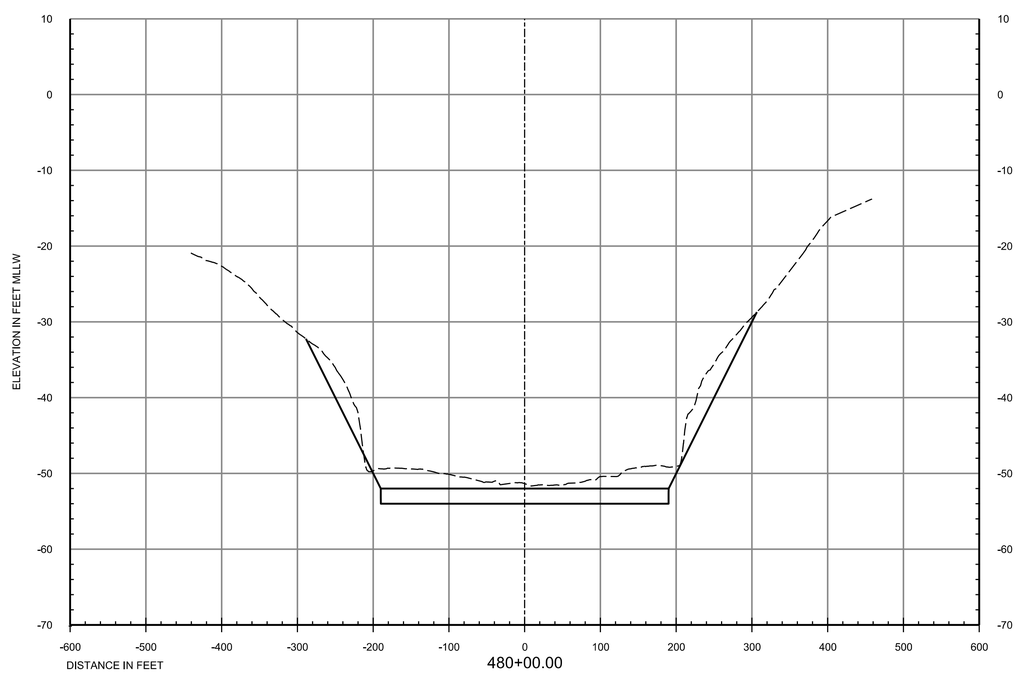
DREDGE CROSS SECTIONS

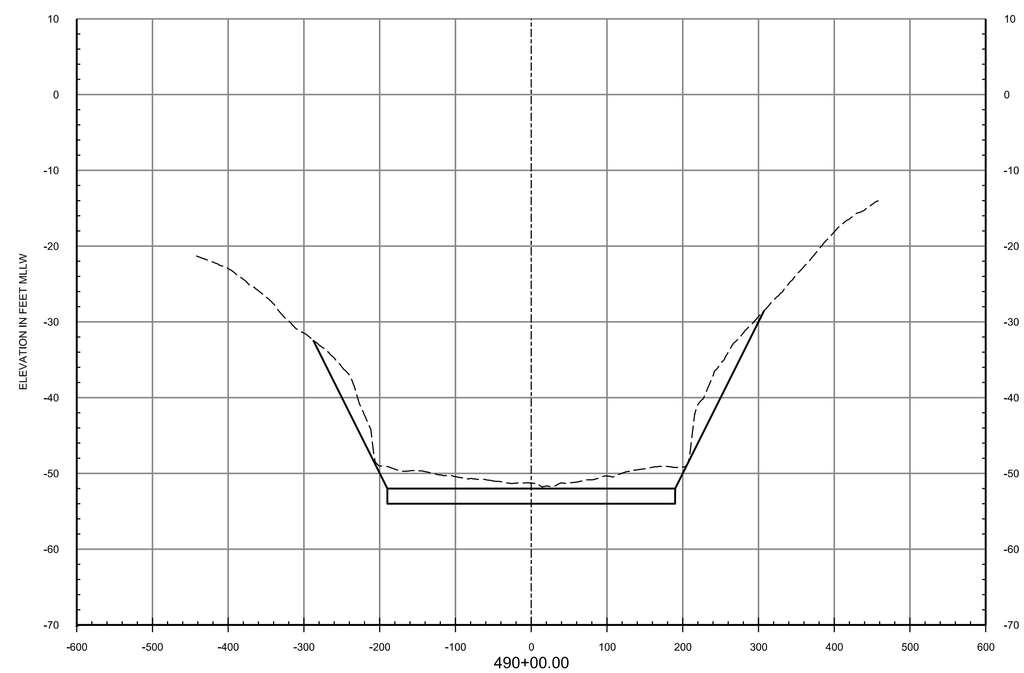
SHEET ID

CN313.1









VERTICAL SCALE 0 10' 20'

HORIZONTAL SCALE 0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
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DESIGNED BY: E. GODSEY
DRAWN BY: J. GIBSON
CHECKED BY: J. BASS
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JUNE 2023
SOLICITATION NO.:
CONTRACT NO.: W0XXXX-XX-X-XXX
CADD CODE: CHC22011
T.S.O SHEET FILE NAME: CHC22011-CN314.dgn

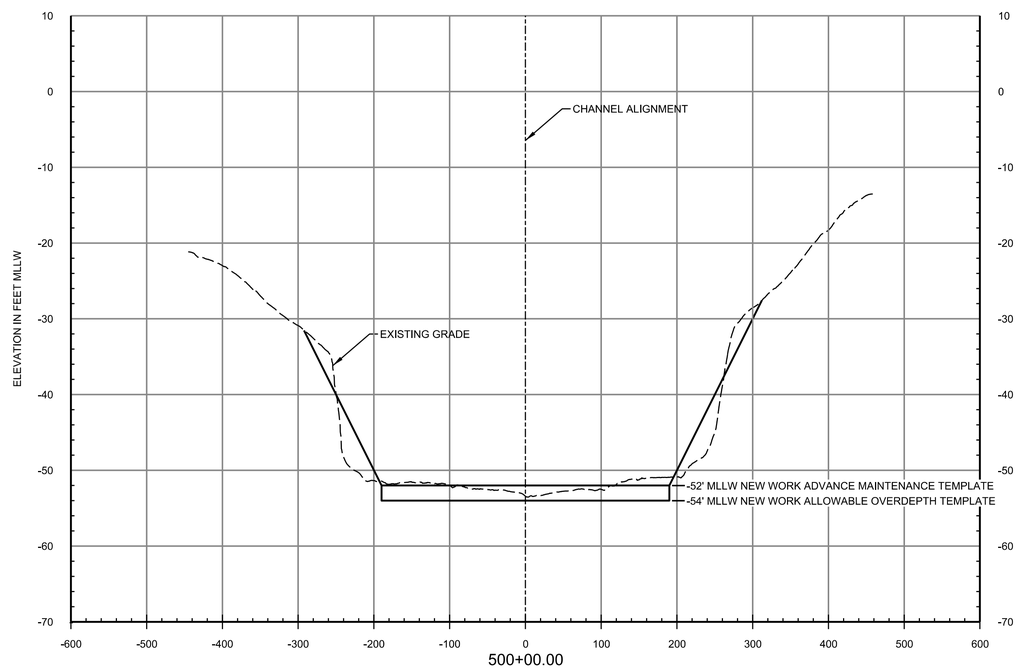
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

DREDGE CROSS SECTIONS

SHEET ID

CN314.1



VERTICAL SCALE
0 10' 20'

HORIZONTAL SCALE
0 100' 200'

LEGEND

EXISTING GRADE

DREDGE TEMPLATE

NOTES:

1. SEE SHEET G-003 FOR GENERAL NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
1	AMENDMENT NO. 0002, REPLACE DRAWING	DEC 2023

DESIGNED BY: J. BASS
DRAWN BY: J. GIBSON
CHECKED BY: E. GODSEY
SUBMITTED BY: M. WIGGINS
SIZE: ANSI D
ISSUE DATE: JULY 2023
SOLICITATION NO.:
CONTRACT NO.: W0XXXX-XX-X-XXX
CADD CODE: CHCZ2011
U.S. ARMY SHEET FILE NAME: CHCZ2011-CN315.dgn

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 ST. JOSEPH STREET
MOBILE, AL 36602

MOBILE, AL
MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING:
PHASE 5

DREDGE CROSS SECTIONS

SHEET ID

CN315.1

THIS PROJECT IS ADVERTISED ON AN UNRESTRICTED BASIS
AS A STAND-ALONE "C" TYPE INVITATION FOR BID (IFB) SOLICITATION

SOLICITATION NO: **W9127823B0004**
CADD NO: **CHC22011**

SPECIFICATIONS

FOR

MOBILE HARBOR, ALABAMA
DEEPENING AND WIDENING - PHASE 5

MOBILE, ALABAMA

THIS IS A CIVIL WORKS PROGRAM PROCUREMENT AND IS NOT FUNDED BY THE DEPARTMENT OF DEFENSE

"GOOD ENGINEERING RESULTS IN A BETTER ENVIRONMENT"

US Army Corps of Engineers
BUILDING STRONG®

U.S. ARMY ENGINEER DISTRICT, MOBILE
109 St. Joseph St
Mobile, Alabama 36602

LEADERS IN CUSTOMER CARE
WE CARE FOR THOSE WE SERVE
MOBILE DISTRICT

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NOTICE TO BIDDERS

SEE NOTE 8. LACK OF REGISTRATION IN THE SAM DATA BASE WILL RENDER BIDDER INELIGIBLE FOR AWARD

BEFORE SIGNING AND MAILING THIS BID, PLEASE TAKE NOTE OF THE FOLLOWING, AS FAILURE TO PERFORM ANY ONE OF THESE ACTIONS MAY CAUSE YOUR BID TO BE REJECTED

THIS CHECKLIST IS DESIGNED FOR YOUR CONVENIENCE TO ASSIST YOU IN COMPLETING YOUR OFFER. ITS COMPLETION DOES NOT GUARANTEE THAT YOUR OFFER WILL BE ACCEPTABLE. A COMPLETE AND ACCEPTBLE OFFER IS SOLELY THE RESPONSIBILTY OF THE CONTRACTOR.)

1. **Amendments:** Have you acknowledged receipt of ALL amendments? If in doubt as to the **number** of amendments issued, call Lesley Thomas, Contract Specialist, at 251-441-6511.

2. **Amended Bid Pages:** If any of the amendments furnished new/revised bid pages, then the new/revised bid pages **must** be used in submitting your bid.

3. **Individual Sureties:** Please note requirements for Individual Sureties in Section 00 70 00.

4. **Performance and Payment Bonds:** Please note requirements for bonds in Section 00 70 00, and FAR Clause 52.228-15.

5. **Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity for Construction:** See Section 00 21 13, FAR Clause 52.222-23

6. **Mistakes in Proposal:** Have you reviewed your offer price for possible errors in calculation or work left out?

7. **Your Proposal Should Include the Following:** The SF 1442 (include TIN, DUNS, AND CAGE numbers in the block with your company's name), Completed Bid Schedule, any requirements from Section 00 21 13, Section 00 45 00 and any technical information required by the solicitation. Also include your Joint Venture (JV) agreement if applicable. Have all members sign the SF 1442 or provide a letter authorizing one person to bind the JV or partnership.

8. Your attention is directed to the following clauses:

a) FAR Clause 52.204-7, Required System Award Management (SAM) registration. Lack of registration in the SAM database will render bidder ineligible for award. Information on how to register and the time it takes is detailed in the clause.

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IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NUMBER CHC22011

7. ISSUED BY CODE CT	8. ADDRESS OFFER TO
U.S. ARMY ENGINEER DISTRICT, MOBILE CONTRACTING DIVISION (CESAM-CT) 109 SAINT JOSEPH STREET MOBILE, AL 36628-0001	SAME AS BLOCK 7

9. FOR INFORMATION CALL :	a. NAME Chanda Strenth / Kyle Rodgers	b. TELEPHONE NO. (*Include area code*) (*NO COLLECT CALLS*) (251) 441-5595 / (251) 690-3356

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (*Title, identifying no., date*):

MOBILE HARBOR, ALABAMA, DEEPENING AND WIDENING – PHASE 5, MOBILE, ALABAMA

* See Section 00 70 00, Paragraph "COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK".

**** For information pertaining to submission of electronic bids and virtual bid opening, see clause 29 in Section 01 00 01.**

11. The contractor shall begin performance within __*__ calendar days and complete it within __*__ calendar days after receiving ☐ award, ☒ notice to proceed. This performance period is ☒ mandatory, ☐ negotiable. (See _____ .)

12a. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (*If "YES," indicate within how many calendar days after award in Item 12b.*)	12b. CALENDAR DAYS
☒YES ☐ NO	10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

a. Sealed offers in original and __**__ copies to perform the work required are due at the place specified in Item 8 by _1400_ (***hour***) local time 5 DECEMBER 2023 (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

b. An offer guarantee ☒ is, ☐ is not required.

c. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

d. Offers providing less than _120_ calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER (*Must be fully completed by offeror*)

14. NAME AND ADDRESS OF OFFEROR (*Include ZIP Code*)	15. TELEPHONE NO. (*Include area code*)
	16. REMITTANCE ADDRESS (*Include only if different than Item 14.*)
CODE FACILITY CODE	

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. (*Insert any number equal to or greater than the minimum requirement stated in Item 13d. Failure to insert any number means the offeror accepts the minimum in Item 13d.)*

AMOUNTS ▶

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS
(*The offeror acknowledges receipt of amendments to the solicitation - give number and date of each*)

AMENDMENT NUMBER										
DATE										

20a. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (*Type or print*)	20b. SIGNATURE	20c. OFFER DATE

AWARD (*To be completed by Government*)

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ▶	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 3204(a) ( ) ☐ 41 U.S.C. 3304(a) ( )

26. ADMINISTERED BY CODE	27. PAYMENT WILL BE MADE BY

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT (*Contractor is required to sign this document and return _____ copies to issuing office.*) Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	☐ 29. AWARD (*Contractor is not required to sign this document.*) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30a. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (*Type or print*)		31a. NAME OF CONTRACTING OFFICER (*Type or print*)	
30b. SIGNATURE	30c. DATE	31b. UNITED STATES OF AMERICA BY	31c. AWARD DATE

PROPOSAL DATA SHEET

Also include the required, completed and signed SF 1442 in addition to this Proposal Data Sheet.

1.	Name of Solicitation:
2.	Offering Firm’s Name As Appears on the SF 1442: Offering Firm’s DUNS number as it appears on the SF 1442:
3.	Mailing Address:
4.	Telephone Number:
5.	Fax Number:
6.	E-mail Address to use for all correspondence:
7.	AUTHORIZED NEGOTIATORS. Far 52.215-11. The Offeror represents that the following person(s) are authorized to negotiate on its behalf with the Government in connection with this solicitation. List name(s), title, and telephone numbers of authorized negotiator(s). Name of Person(s) Authorized to Negotiate: Negotiator’s Address: Negotiator’s Telephone: Negotiator’s E-mail:

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BIDDER'S NAME:_____

BIDDING SCHEDULE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
1.	Mobilization and Demobilization	1	Job	XXX	_____
2.	Channel Dredging	5,050,941	CY	_____	_____
				Total Bid	_____

.

OFFEROR ELECTS TO WAIVE THE PRICE EVALUATION PREFERENCE
FOR HUBZONE SMALL BUSINESS CONCERNS: ( )NO ( )YES

(SEE BIDDING SCHEDULE NOTE NOS. 6 AND 7)

NOTES FOR BIDDING SCHEDULE

NOTE NO. 1. To better facilitate the public bid opening process, all modifications to bids are to be submitted on copies of the latest bid schedules as published in the solicitation or the latest amendment thereto. In lieu of indicating additions/deductions to bid items, all bidders should state their revised prices for each item. The company name should be indicated on the face of the bidding schedule to preclude being misplaced.

NOTE NO. 2. Bidders must insert a price on all numbered items of the bidding schedule by the Government. Failure to do so will disqualify the bid.

NOTE NO. 3. All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and extension, the unit price will be considered to be the bid.

NOTE NO. 4. If a modification to a bid is submitted and provides for a job adjustment to the total estimated cost, the application of the job adjustment to each unit price and/or job price in the bid schedule must be stated or, if it is not stated, the bidder agrees that the job adjustment shall be applied on a pro rata basis to every bid item in the bid schedule.

NOTE NO. 5. CONDITIONS GOVERNING EVALUATION OF BIDS AND AWARD OF CONTRACTS.

Only one contract will be awarded on this Bid Schedule and award will be made to the low bidder on the Total Bid.

NOTE NO. 6. IMPORTANT NOTICE: Due to the suspension of the utilization of the price adjustment for small disadvantaged businesses (FAR Clause 52.219-23) by the Under Secretary of Defense on March 12, 2010, effective until further notice, said FAR Clause is not included in or made a part of this RFP. FAR Clause 52.219-4, relating to a 10% price evaluation preference for HUB ZONE small business concerns, is included in and made a part of this RFP. PLEASE NOTE HOWEVER that paragraph (b) (3) of the preceding clause is inapplicable also due to the referenced suspension of FAR Clause 52.219-23.

Consequently, if you are a small business qualified as a HUB ZONE and as an SDB, you will only receive the HUB ZONE 10% price evaluation preference in the evaluation process of this RFP.

NOTE NO. 7. This procurement is not restricted to Hubzone Small Business Concerns. However, offerors certifying as a Hubzone Small Business Concern must be certified by the SBA on or prior to date set for receipt of offers.

END OF BID SCHEDULE

EXPLANATION OF BID ITEMS

GENERAL: This section comprises an explanation of the bid items identified in the bid schedule for each item of work. The bid schedule and the contract drawings shall be worked together to identify the various items of work to which each bid item will apply. The Contractor shall bid the work under the applicable bid item for the specific areas identified in the bid schedule. All work specified herein shall be accomplished in accordance with the requirements of the technical provisions of the specifications and the contract drawings. Payment described for the various bid items will be full compensation for all labor, materials, and equipment required to complete the work. Compensation for any item of work described in the contract but not listed in the bid schedule shall be included in the payment for the item of work to which it is made subsidiary.

Bid Item No. 1: Mobilization/Demobilization

(a) All costs associated with initial mobilization to the work site within the Upper Bay portion of the Mobile Harbor Shipping Channel in Mobile County, Alabama and final demobilization of all dredge plant, dredge attendant plant, and support equipment will be included in the contract lump sum price for Mobilization and Demobilization, Bid Item No. 1. This shall include any and all costs to (1) construct the necessary features to access and prepare the work site and (2) adapt, modify, reconstruct, and/or reconfigure the dredge plant and/or other equipment to a configuration capable of performing this contract work. No other separate payment shall be made for any such configuration preparations, and payment of this bid item is considered complete compensation for such actions. Sixty percent (60%) of the lump sum price will be paid after completion of the Contractor’s mobilization at the work sites. The remaining forty percent (40%) will be paid after completion of demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraph (a) above do not bear a reasonable relation to the cost of the work in this contract. Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of -

(i) Actual mobilization costs at completion of mobilization;
(ii) Actual demobilization costs at completion of demobilization; and
(iii) The remainder of this item in the final payment under this contract.

The Contracting Officer's determination of the actual costs in paragraph (b) of this clause is not subject to appeal.

Bid Item No. 2: Channel Dredging

Payment for Bid Item No. 2 will include all costs associated with the dredging and disposal of approximately 5,050,941 cubic yards of material. The quantity of material to be dredged includes approximately 836,005 cubic yards of maintenance material and 2,792,252 cubic yards of new work material. An additional 1,422,684 cubic yards of material was added to the quantities to account for projected shoaling in this reach. The quantities reported above

were derived using the survey data from February 2023 (see APPENDIX C for Volume Report) and the projected shoaling. Payment will be made for the volume of material dredged between Stations 267+72.58 and 500+00. For the purpose of acceptance and payment, the work shall be divided into reaches of 1,000 linear feet, or less at partial reaches, unless otherwise directed by the COR. The quantity of material dredged for payment shall be calculated as the difference between the before- and after-dredging surveys of the area within the acceptance prism. The acceptance prism shall be defined as the lines and grades shown on the drawings. Payment will not be made for any volume dredged that exceeds the acceptance prism. Subsidiary features of work including surveying, utility location verification, and turbidity monitoring shall also be included in this bid item. Details of the surveying requirements are provided in Section 35 20 23.00 36 - DREDGING, paragraph DREDGING SURVEYS. Details of the turbidity monitoring are provided in section 01 57 19 - ENVIRONMENTAL PROTECTION, paragraph PROTECTION OF FISH AND WILDLIFE.

-End of Section-

Bid Bond (See Instructions on Page 3)	Date Bond Executed (Must Not Be Later Than Bid Opening Date)	**OMB Control Number: 9000-0045** **Expiration Date: 8/31/2025**

Principal (Legal Name And Business Address)	Type Of Organization ("X" One) ☐ Individual ☐ Partnership ☐ Joint Venture ☐ Corporation ☐ Other (Specify)
	State Of Incorporation

Surety(ies) (Name And Business Address)

Penal Sum Of Bond					Bid Identification	
Percent Of Bid Price	Amount Not To Exceed				Bid Date	Invitation Number
	Million(s)	Thousand(s)	Hundred(s)	Cents	For (Construction, Supplies Or Services)	

Obligation:

We, the Principal and Surety(ies) are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

Conditions:

The Principal has submitted the bid identified above.

Therefore:

The above obligation is void if the Principal - (a) upon acceptance by the Government of the bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), executes the further contractual documents and gives the bond(s) required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by the Principal; or (b) in the event of failure to execute such further contractual documents and give such bonds, pays the Government for any cost of procuring the work which exceeds the amount of the bid.

Each Surety executing this instrument agrees that its obligation is not impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government. Notice to the Surety(ies) of extension(s) is waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

Witness:

The Principal and Surety(ies) executed this bid bond and affixed their seals on the above date.

Principal

Signature(s)	1. (Seal)	2. (Seal)	3. (Seal)	Corporate Seal
Name(s) And Title(s) (Typed)	1.	2.	3.	

Individual Surety(ies)

Signature(s)	1. (Seal)	2. (Seal)
Name(s) (Typed)	1.	2.

Corporate Surety(ies)

Surety A	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety B	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety C	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety D	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		

Surety E	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety F	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety G	Name And Address		State Of Incorporation	Liability Limit ($)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		

Instructions

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.
2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., 20% of the bid price but the amount not to exceed _____ dollars).
4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitations listed therein. The value put into the Liability Limit block is the penal sum (i.e., the face value) of the bond, unless a co-surety arrangement is proposed.

(b) When multiple corporate sureties are involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "Corporate Surety(ies)." In the space designated "Surety(ies)" on the face of the form, insert only the letter identifier corresponding to each of the sureties. Moreover, when co-surety arrangements exist, the parties may allocate their respective limitations of liability under the bond, provided that the sum total of their liability equals 100% of the bond penal sum.

(c) When individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 28) for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.
6. Type the name and title of each person signing this bond in the space provided.
7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

Paperwork Reduction Act Statement - This information collection meets the requirements of 44 USC § 3507, as amended by section 2 of the Paperwork Reduction Act of 1995. You do not need to answer these questions unless we display a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 9000-0045. We estimate that it will take 1 hour to read the instructions, gather the facts, and answer the questions. Send only comments relating to our time estimate, including suggestions for reducing this burden, or any other aspects of this collection of information to: General Services Administration, Regulatory Secretariat Division (M1V1CB), 1800 F Street, NW, Washington, DC 20405.

Affidavit Of Individual Surety (See instructions on page 4)	**OMB Control Number: 9000-0001** **Expiration Date: 3/31/2024**

State Of	County Of	ss.

I, the undersigned, being duly sworn, depose and say that I am: (1) the surety to the attached bond(s); (2) a citizen of the United States; and of full age and legally competent. Where the sureties are acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal. I recognize that statements contained herein concern a matter within the jurisdiction of an agency of the United States and the making of a false, fictitious or fraudulent statement may render the maker subject to prosecution under Title 18, United States Code Sections 1001 and 494. This affidavit is made to induce the United States of America to accept me as surety on the attached bond.

1. Name (First, Middle, Last) (Type or Print)	2A. Home Address (Number, Street, City, State, ZIP Code)	
3. Type And Duration Of Occupation		
	2B. Telephone Number	2C. Email Address
4A. Name And Address Of Employer (Number, Street, City, State, ZIP Code) (If self-employed, so state)	5A. Name And Address Of Individual Surety Broker Used (Number, Street, City, State, ZIP Code)	
	5B. Surety Broker Email Address	
4B. Employer Email Address	5C. Home Telephone Number	5D. Business Telephone Number
6A. Name And Address Of Financial Institution Submitting The Pledge Of Securities On Behalf Of Individual Surety (Number, Street, City, State, ZIP Code)	6B. Financial Institution Email Address	6C. Routing Transit Number (RTN)
	6D. Contact Person Name	6E. Contact Person Telephone Number
	6F. Contact Person Email Address	

7. The Following Is A True Representation Of The Assets I Have Pledged To The United States In Support Of The Attached Bond. (List The Committee On Uniform Securities Identification Procedures (CUSIP) Number And Par (Face) Amount Of Each Security).

8. Identify All Liens, Judgements, Or Any Other Encumbrances Involving Subject Assets.

9. Identify All Bonds, Including Bid Guarantees, For Which The Subject Assets Have Been Pledged Within Three Years Prior To The Date Of Execution Of This Affidavit.

Documentation Of The Pledged Asset Must Be Attached.

10. Signature	11. Bond And Contract To Which This Affidavit Relates (where appropriate)

12. Subscribed And Sworn To Before Me As Follows:			
a. Date Oath Administered Month Day Year	b. City And State (or other jurisdiction)		Official Seal
c. Name And Title Of Official Administering Oath (type or print)	d. Signature	e. My Commission Expires	

Instructions

1. Individual sureties on bonds executed in connection with Government contracts must complete and submit this form with the bond. (See Federal Acquisition Regulation (FAR) 28.203, 53.228(e).) The surety must have the completed form notarized.

2. No corporation, partnership, or other unincorporated association or firm, as such, is acceptable as an individual surety (i.e. must be a natural person). Likewise, members of a partnership are not acceptable as sureties on bonds that a partnership or an association, or any co-partner or member thereof, is the principal obligor. An individual surety will not include any financial interest in assets connected with the principal on the bond that this affidavit supports.

3. United States citizenship is a requirement for individual sureties for contracts and bonds when the contract is awarded in the United States. However, when the Contracting Officer is located in an outlying area or a foreign country, the individual surety is only required to be a permanent resident of the area or country in which the contracting officer is located.

4. All signatures of the affidavit submitted must be originals. Affidavits bearing reproduced signatures are not acceptable. An authorized person must sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of a firm, partnership, or joint venture, or an officer of the corporation involved.

Paperwork Reduction Act Statement

This information collection meets the requirements of 44 USC § 3507, as amended by section 2 of the Paperwork Reduction Act of 1995. You do not need to answer these questions unless we display a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 9000-0001. We estimate that it will take 0.3 hours to read the instructions, gather the facts, and answer the questions. Send only comments relating to our time estimate, including suggestions for reducing this burden, or any other aspects of this collection of information to: U.S. General Services Administration, Regulatory Secretariat Division (M1V1CB), 1800 F Street, NW, Washington, DC 20405.

Approved by OM
0348-0046

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

1. Type of Federal Action:

☐ a. contract
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of Federal Action:

☐ a. bid/offer/application
b. initial award
c. post-award

3. Report Type:

☐ a. initial filing
b. material change

For Material Change Only:
year _____ quarter _____
date of last report _____

4. Name and Address of Reporting Entity:

☐ Prime ☐ Subawardee
Tier _____, *if known*:

Congressional District, *if known:*

5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:

Congressional District, *if known*:

6. Federal Department/Agency:

7. Federal Program Name/Description:

CFDA Number, *if applicable*: _____

8. Federal Action Number, *if known*:

9. Award Amount, *if known*:

$

10. a. Name and Address of Lobbying Entity
(*if individual, last name, first name, MI):*

b. Individuals Performing Services *(including address if different from No. 10a)*
(last name, first name, MI):

(attach Continuation Sheet(s) SF-LLL-A, *if necessary*)

11. Amount of Payment *(check all that apply)*:

$ _____ ☐ actual ☐ planned

12. Form of Payment *(check all that apply)*:

☐ a. cash
☐ b. in-kind; specify: nature _____
value _____

13. Type of Payment *(check all that apply)*:

☐ a. retainer
☐ b. one-time fee
☐ c. commission
☐ d. contingent fee
☐ e. deferred
☐ f. other; specify: _____

14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employee(s), or Member(s) contacted, for Payment indicated in Item 11:

(attach Continuation Sheet(s) SF-LLL-A, *if necessary*)

15. Continuation Sheet(s) SF-LLL-A attached: ☐ Yes ☐ No

16. Information requested through this form is authorized by title 31 U.S.C section 1352. This disclosure of lobbyig activities is a materia representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352 . This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Signature: _____

Print Name: _____

Title: _____

Telephone No.: _____ **Date:** _____

Federal Use Only:

Authorized for Local Reproduction
Standard Form - LLL

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting 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 a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks “Subawardee”, then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., “RFP-DE-90-001.”

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individuals(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.

12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.

13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.

    Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

Approved by OM
0348-0046

DISCLOSURE OF LOBBYING ACTIVITIES
CONTINUATION SHEET

Reporting Entity: _____ Page _____ of _____ _____

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Section 00 21 13
Instructions to Bidders

CLAUSES INCORPORATED BY REFERENCE

52.204-22	Alternative Line Item Proposal	JAN 2017
52.214-3	Amendments To Invitations For Bids	DEC 2016
52.214-4	False Statements In Bids	APR 1984
52.214-5	Submission Of Bids	DEC 2016
52.214-6	Explanation To Prospective Bidders	APR 1984
52.214-7	Late Submissions, Modifications, and Withdrawals of Bids	NOV 1999
52.214-18	Preparation of Bids-Construction	APR 1984
52.214-19	Contract Award-Sealed Bidding-Construction	AUG 1996
52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.222-5	Construction Wage Rate Requirements--Secondary Site of the Work	MAY 2014
52.225-12	Notice of Buy American Requirement - Construction Materials Under Trade Agreements	MAY 2014
252.204-7008	Compliance With Safeguarding Covered Defense Information Controls	OCT 2016
252.204-7019	Notice of NIST SP 800-171 DoD Assessment Requirements	MAR 2022
252.215-7008	Only One Offer	DEC 2022
252.215-7010	Requirements for Certified Cost or Pricing Data and Data Other Than Certified Cost or Pricing Data	JAN 2023
252.215-7013	Supplies and Services Provided by Nontraditional Defense Contractors	JAN 2023
252.236-7008	Contract Prices-Bidding Schedules	DEC 1991

CLAUSES INCORPORATED BY FULL TEXT

52.216-1 TYPE OF CONTRACT (APR 1984) 2
52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999) 2
52.228-1 BID GUARANTEE (SEP 1996) 3
52.233-2 SERVICE OF PROTEST (SEP 2006) 3
52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998) 3
52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (NOV 2020) 4

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a **firm fixed price (FFP)** contract resulting from this solicitation.

(End of provision)

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
Mobile County, AL – 25.9%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is the Mobile Bay and River Channels located north of Gaillard Island, Mobile County, Alabama.

(End of provision)

52.228-1 BID GUARANTEE (SEP 1996)

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.-

(c) The amount of the bid guarantee shall be **twenty (20%)** percent of the bid price or **$3,000,000.00**, whichever is less.-

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.-

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of provision)

52.233-2 SERVICE OF PROTEST (SEP 2006)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from **U.S. Army Corps of Engineers, Mobile District, Contracting Division, P.O. Box 2288 Mobile AL 36628-0001.**

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

https://www.acquisition.gov

(End of provision)

52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (NOV 2020)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of any provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

Section 00 45 00
Representations and Certifications

CLAUSES INCORPORATED BY REFERENCE

52.201-1	Acquisition 360: Voluntary Survey	SEP 2023
52.203-2	Certificate Of Independent Price Determination	APR 1985
52.203-11	Certification And Disclosure Regarding Payments To Influence Certain Federal Transactions	SEP 2007
52.203-18	Prohibition on Contracting With Entities That Require Certain Internal Confidentiality Agreements or Statements--Representation	JAN 2017
52.204-16	Commercial and Government Entity Code Reporting	AUG 2020
52.209-7	Information Regarding Responsibility Matters	OCT 2018
52.209-13	Violation of Arms Control Treaties or Agreements -- Certification	NOV 2021
52.219-2	Equal Low Bids	OCT 1995
52.225-25	Prohibition on Contracting with Entities Engaging in Certain Activities or Transactions Relating to Iran-- Representation and Certifications.	JUN 2020
252.203-7005	Representation Relating to Compensation of Former DoD Officials	SEP 2022
252.204-7016	Covered Defense Telecommunications Equipment or Services -- Representation	DEC 2019
252.204-7017	Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services -- Representation	MAY 2021
252.219-7000	Advancing Small Business Growth	JUN 2023
252.225-7055	Representation Regarding Business Operations with the Maduro Regime	MAY 2022
252.225-7057	Preaward Disclosure of Employment of Individuals Who Work in the People's Republic of China	AUG 2022
252.225-7059	Prohibition on Certain Procurements from the Xinjiang Uyghur Autonomous Region - Representation	JUN 2023
252.225-7973 (Dev)	Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems - Representation (DEVIATION 2020-O0015)	MAY 2020

CLAUSES INCORPORATED BY FULL TEXT

52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (OCT 2014) 3
52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (MAR 2023) 3
52.204-17 OWNERSHIP OR CONTROL OF OFFEROR (AUG 2020) 7
52.204-20 PREDECESSOR OF OFFEROR (AUG 2020) 8
52.204-24 REPRESENTATION REGARDING CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (NOV 2021) 9
52.204-26 COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES - REPRESENTATION (OCT 2020) 11
52.209-2 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS--REPRESENTATION (NOV 2015) 12
52.209-11 REPRESENTATION BY CORPORATIONS REGARDING DELINQUENT TAX LIABILITY OR A FELONY CONVICTION UNDER ANY FEDERAL LAW (FEB 2016) 12
52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (SEP 2023) - ALTERNATE I (SEPT 2015) 13
52.223-22 PUBLIC DISCLOSURE OF GREENHOUSE GAS EMISSIONS AND REDUCTION GOALS--REPRESENTATION (DEC 2016) 16

52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (OCT 2014)

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (c)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it (___) is a women-owned business concern.

(End of provision)

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (MAR 2023)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is **237990**.

(2) The small business size standard is **$37,000,000**.

(3) The small business size standard for a concern that submits an offer, other than on a construction or service acquisition, but proposes to furnish an end item that it did not itself manufacture, process, or produce is 500 employees, or 150 employees for information technology value-added resellers under NAICS code 541519, if the acquisition--

(i) Is set aside for small business and has a value above the simplified acquisition threshold;

(ii) Uses the HUBZone price evaluation preference regardless of dollar value, unless the offeror waives the price evaluation preference; or

(iii) Is an 8(a), HUBZone, service-disabled veteran-owned, economically disadvantaged women-owned, or women-owned small business set-aside or sole-source award regardless of dollar value.

(b)(1) If the provision at FAR 52.204-7, System for Award Management, is included in this solicitation, paragraph (e) of this provision applies.

(2) If the provision at FAR 52.204-7, System for Award Management, is not included in this solicitation, and the Offeror has an active registration in the System for Award Management (SAM), the Offeror may choose to use paragraph (e) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The Offeror shall indicate which option applies by checking one of the following boxes:

__ (i) Paragraph (e) applies.

__ (ii) Paragraph (e) does not apply and the Offeror has completed the individual representations and certifications in the solicitation.

(c) (1) The following representations or certifications in SAM are applicable to this solicitation as indicated:

(i) 52.203-2, Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless—

(A) The acquisition is to be made under the simplified acquisition procedures in Part 13;

(B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or

(C) The solicitation is for utility services for which rates are set by law or regulation.

(ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed $150,000.

(iii) 52.203-18, Prohibition on Contracting with Entities that Require Certain Internal Confidentiality Agreements or Statements--Representation. This provision applies to all solicitations.

(iv) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the provision at 52.204-7, System for Award Management.

(v) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that—

(A) Are not set aside for small business concerns;

(B) Exceed the simplified acquisition threshold; and

(C) Are for contracts that will be performed in the United States or its outlying areas.

(vi) 52.204-26, Covered Telecommunications Equipment or Services--Representation. This provision applies to all solicitations.

(vii) 52.209-2, Prohibition on Contracting with Inverted Domestic Corporations--Representation.

(viii) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.

(ix) 52.209-11, Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law. This provision applies to all solicitations.

(x) 52.214-14, Place of Performance--Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.

(xi) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.

(xii) 52.219-1, Small Business Program Representations (Basic, Alternates I, and II). This provision applies to solicitations when the contract is for supplies to be delivered or services to be performed in the United States or its outlying areas, or when the contracting officer has applied part 19 in accordance with 19.000(b)(1)(ii).

(A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.

(B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.

(C) The provision with its Alternate II applies to solicitations that will result in a multiple-award contract with more than one NAICS code assigned.

(xiii) 52.219-2, Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract is for supplies to be delivered or services to be performed in the United States or its outlying areas, or when the contracting officer has applied part 19 in accordance with 19.000(b)(1)(ii).

(xiv) 52.222-22, Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at 52.222-26, Equal Opportunity.

(xv) 52.222-25, Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at 52.222-26, Equal Opportunity.

(xvi) 52.222-38, Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial products or commercial services.

(xvii) 52.223-1, Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA-designated items; or include the clause at 52.223-2, Affirmative Procurement of Biobased Products Under Service and Construction Contracts.

(xviii) 52.223-4, Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA- designated items.

(xix) 52.223-22, Public Disclosure of Greenhouse Gas Emissions and Reduction Goals--Representation. This provision applies to solicitations that include the clause at 52.204-7.)

(xx) 52.225-2, Buy American Certificate. This provision applies to solicitations containing the clause at 52.225-1.

(xxi) 52.225-4, Buy American-Free Trade Agreements-Israeli Trade Act Certificate. (Basic, Alternates II and III.) This provision applies to solicitations containing the clause at 52.225-3.

(A) If the acquisition value is less than $50,000, the basic provision applies.

(B) If the acquisition value is $50,000 or more but is less than $92,319, the provision with its Alternate II applies.

(C) If the acquisition value is $92,319 or more but is less than $100,000, the provision with its Alternate III applies.

(xxii) 52.225-6, Trade Agreements Certificate. This provision applies to solicitations containing the clause at 52.225-5.

(xxiii) 52.225-20, Prohibition on Conducting Restricted Business Operations in Sudan--Certification. This provision applies to all solicitations.

(xxiv) 52.225-25, Prohibition on Contracting with Entities Engaging in Certain Activities or Transactions Relating to Iran—Representation and Certification. This provision applies to all solicitations.

(xxv) 52.226-2, Historically Black College or University and Minority Institution Representation. This provision applies to solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions.

(2) The following representations or certifications are applicable as indicated by the Contracting Officer:

[Contracting Officer check as appropriate.]

(i) 52.204-17, Ownership or Control of Offeror.

(ii) 52.204-20, Predecessor of Offeror.

(iii) 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products.

(iv) 52.222-48, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment--Certification.

(v) 52.222-52 Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services--Certification.

(vi) 52.223-9, with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Alternate I only).

(vii) 52.227-6, Royalty Information.

(A) Basic.

(B) Alternate I.

(viii) 52.227-15, Representation of Limited Rights Data and Restricted Computer Software.

(d)(1) The following representations or certifications in the SAM database are applicable to this solicitation as indicated:

(i) 252.204-7016, Covered Defense Telecommunications Equipment or Services--Representation. Applies to all solicitations.

(ii) 252.216-7008, Economic Price Adjustment--Wage Rates or Material Prices Controlled by a Foreign Government. Applies to solicitations for fixed-price supply and service contracts when the contract is to be performed wholly or in part in a foreign country, and a foreign government controls wage rates or material prices and may during contract performance impose a mandatory change in wages or prices of materials.

(iii) 252.225-7042, Authorization to Perform. Applies to all solicitations when performance will be wholly or in part in a foreign country.

(iv) 252.225-7049, Prohibition on Acquisition of Certain Foreign Commercial Satellite Services--Representations. Applies to solicitations for the acquisition of commercial satellite services.

(v) 252.225-7050, Disclosure of Ownership or Control by the Government of a Country that is a State Sponsor of Terrorism. Applies to all solicitations expected to result in contracts of $150,000 or more.

(vi) 252.229-7012, Tax Exemptions (Italy)--Representation. Applies to solicitations when contract performance will be in Italy.

(vii) 252.229-7013, Tax Exemptions (Spain)--Representation. Applies to solicitations when contract performance will be in Spain.

(viii) 252.247-7022, Representation of Extent of Transportation by Sea. Applies to all solicitations except those for direct purchase of ocean transportation services or those with an anticipated value at or below the simplified acquisition threshold.

(2) The following representations or certifications in SAM are applicable to this solicitation as indicated by the Contracting Officer: [Contracting Officer check as appropriate.]

____ (i) 252.209-7002, Disclosure of Ownership or Control by a Foreign Government.

____ (ii) 252.225-7000, Buy American--Balance of Payments Program Certificate.

____ (iii) 252.225-7020, Trade Agreements Certificate.

____ Use with Alternate I.

____ (iv) 252.225-7031, Secondary Arab Boycott of Israel.

____ (v) 252.225-7035, Buy American--Free Trade Agreements--Balance of Payments Program Certificate.

____ Use with Alternate I.

____ Use with Alternate II.

____ Use with Alternate III.

____ Use with Alternate IV.

____ Use with Alternate V.

____ (vi) 252.226-7002, Representation for Demonstration Project for Contractors Employing Persons with Disabilities.

____ (vii) 252.232-7015, Performance-Based Payments--Representation.

(e) The Offeror has completed the annual representations and certifications electronically via the SAM website at https://www.acquisition.gov/. After reviewing the SAM database information, the Offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in FAR 52.204-8(c) and paragraph (d) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer, and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [Offeror to insert changes, identifying change by provision number, title, date_____]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR/DFARS provision No.	Title	Date	Change

Any changes provided by the Offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications located in the SAM database.

(End of provision)

52.204-17 OWNERSHIP OR CONTROL OF OFFEROR (AUG 2020)

(a) Definitions. As used in this provision--

Commercial and Government Entity (CAGE) code means—

(1) An identifier assigned to entities located in the United States or its outlying areas by the Defense Logistics Agency (DLA) Commercial and Government Entity (CAGE) Branch to identify a commercial or government entity by unique location; or

(2) An identifier assigned by a member of the North Atlantic Treaty Organization (NATO) or by the NATO Support and Procurement Agency (NSPA) to entities located outside the United States and its outlying areas that the DLA Commercial and Government Entity (CAGE) Branch records and maintains in the CAGE master file. This type of code is known as a NATO CAGE (NCAGE) code.

Highest-level owner means the entity that owns or controls an immediate owner of the offeror, or that owns or controls one or more entities that control an immediate owner of the offeror. No entity owns or exercises control of the highest level owner.

Immediate owner means an entity, other than the offeror, that has direct control of the offeror. Indicators of control include, but are not limited to, one or more of the following: Ownership or interlocking management, identity of interests among family members, shared facilities and equipment, and the common use of employees.

(b) The Offeror represents that it [___] has or [___] does not have an immediate owner. If the Offeror has more than one immediate owner (such as a joint venture), then the Offeror shall respond to paragraph (c) and if applicable, paragraph (d) of this provision for each participant in the joint venture.

(c) If the Offeror indicates ``has'' in paragraph (b) of this provision, enter the following information:

Immediate owner CAGE code:

___

Immediate owner legal name: ___

(Do not use a ``doing business as'' name)

Is the immediate owner owned or controlled by another entity?:
[___] Yes or [___] No.

(d) If the Offeror indicates ``yes'' in paragraph (c) of this provision, indicating that the immediate owner is owned or controlled by another entity, then enter the following information:

Highest-level owner CAGE code:

___

Highest-level owner legal name:

___

(Do not use a ``doing business as'' name)

(End of provision)

52.204-20 PREDECESSOR OF OFFEROR (AUG 2020)

(a) Definitions. As used in this provision--

Commercial and Government Entity (CAGE) code means--

(1) An identifier assigned to entities located in the United States or its outlying areas by the Defense Logistics Agency (DLA) Commercial and Government Entity (CAGE) Branch to identify a commercial or government entity by unique location; or

(2) An identifier assigned by a member of the North Atlantic Treaty Organization (NATO) or by the NATO Support and Procurement Agency (NSPA) to entities located outside the United States and its outlying areas that the DLA Commercial and Government Entity (CAGE) Branch records and maintains in the CAGE master file. This type of code is known as a NATO CAGE (NCAGE) code.

Predecessor means an entity that is replaced by a successor and includes any predecessors of the predecessor.

Successor means an entity that has replaced a predecessor by acquiring the assets and carrying out the affairs of the predecessor under a new name (often through acquisition or merger). The term “successor” does not include new offices/divisions of the same company or a company that only changes its name. The extent of the responsibility of the successor for the liabilities of the predecessor may vary, depending on State law and specific circumstances.

(b) The Offeror represents that it [____] is or [____] is not a successor to a predecessor that held a Federal contract or grant within the last three years.

(c) If the Offeror has indicated “is” in paragraph (b) of this provision, enter the following information for all predecessors that held a Federal contract or grant within the last three years (if more than one predecessor, list in reverse chronological order):

Predecessor CAGE code: ____ (or mark “Unknown”).

Predecessor legal name: ____.

(Do not use a “doing business as” name).

(End of provision)

52.204-24 REPRESENTATION REGARDING CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (NOV 2021)

The Offeror shall not complete the representation at paragraph (d)(1) of this provision if the Offeror has represented that it "does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument" in paragraph (c)(1) in the provision at 52.204-26, Covered Telecommunications Equipment or Services--Representation, or in paragraph (v)(2)(i) of the provision at 52.212-3, Offeror Representations and Certifications-Commercial Products and Commercial Services. The Offeror shall not complete the representation in paragraph (d)(2) of this provision if the Offeror has represented that it "does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services" in paragraph (c)(2) of the provision at 52.204-26, or in paragraph (v)(2)(ii) of the provision at 52.212-3.

(a) Definitions. As used in this provision-

Backhaul, covered telecommunications equipment or services, critical technology, interconnection arrangements, reasonable inquiry, roaming, and substantial or essential component have the meanings provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) Prohibition.

(1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. Nothing in the prohibition shall be construed to--

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract. Nothing in the prohibition shall be construed to--

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or
(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(c) Procedures. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered telecommunications equipment or services."

(d) Representations. The Offeror represents that--

(1) It [___] will, [___] will not provide covered telecommunications equipment or services to the Government in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation. The Offeror shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Offeror responds "will" in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offeror represents that--

It [___] does, [___] does not use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services. The Offeror shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Offeror responds "does" in paragraph (d)(2) of this section.

(e) Disclosures.

(1) Disclosure for the representation in paragraph (d)(1) of this provision. If the Offeror has responded "will" in the representation in paragraph (d)(1) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment--

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipment manufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(ii) For covered services--

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(2) Disclosure for the representation in paragraph (d)(2) of this provision. If the Offeror has responded "does" in the representation in paragraph (d)(2) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment--

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(ii) For covered services--

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the PSC of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(End of provision)

52.204-26 COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES - REPRESENTATION (OCT 2020)

(a) Definitions. As used in this provision, “covered telecommunications equipment or services” and "reasonable inquiry" have the meaning provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) Procedures. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for “covered telecommunications equipment or services”.

(c) Representations.

(1) The Offeror represents that it [___] does, [___] does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument.

(2) After conducting a reasonable inquiry for purposes of this representation, the offeror represents that it [___] does, [___] does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services.

(End of provision)

52.209-2 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS--REPRESENTATION (NOV 2015)

(a) Definitions. Inverted domestic corporation and subsidiary have the meaning given in the clause of this contract entitled Prohibition on Contracting with Inverted Domestic Corporations (52.209-10).

(b) Government agencies are not permitted to use appropriated (or otherwise made available) funds for contracts with either an inverted domestic corporation, or a subsidiary of an inverted domestic corporation, unless the exception at 9.108-2(b) applies or the requirement is waived in accordance with the procedures at 9.108-4.

(c) Representation. The Offeror represents that--

(1) It [___] is, [___] is not an inverted domestic corporation; and

(2) It [___] is, [___] is not a subsidiary of an inverted domestic corporation.

(End of provision)

52.209-11 REPRESENTATION BY CORPORATIONS REGARDING DELINQUENT TAX LIABILITY OR A FELONY CONVICTION UNDER ANY FEDERAL LAW (FEB 2016)

(a) As required by sections 744 and 745 of Division E of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235), and similar provisions, if contained in subsequent appropriations acts, the Government will not enter into a contract with any corporation that--

(1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless an agency has considered suspension or debarment of the corporation and made a determination that suspension or debarment is not necessary to protect the interests of the Government; or

(2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless an agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

(b) The Offeror represents that--

(1) It is [ ] is not [ ] a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and

(2) It is [ ] is not [ ] a corporation that was convicted of a felony criminal violation under a Federal law within the preceding 24 months.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (SEP 2023) - ALTERNATE I (SEPT 2015)

(a) Definitions. As used in this provision--
Economically disadvantaged women-owned small business (EDWOSB) concern means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States and who are economically disadvantaged in accordance with 13 CFR part 127, and the concern is certified by SBA or an approved third-party certifier in accordance with 13 CFR 127.300. It automatically qualifies as a women-owned small business concern eligible under the WOSB Program.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern--

(1) Means a concern, including its affiliates, that is independently owned and operated, not dominant in its field of operation, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (b) of this provision.

(2) Affiliates, as used in this definition, means business concerns, one of whom directly or indirectly controls or has the power to control the others, or a third party or parties control or have the power to control the others. In determining whether affiliation exists, consideration is given to all appropriate factors including common ownership, common management, and contractual relationships. SBA determines affiliation based on the factors set forth at 13 CFR 121.103.

Small disadvantaged business concern, consistent with 13 CFR 124.1001, means a small business concern under the size standard applicable to the acquisition, that--

(1) Is at least 51 percent unconditionally and directly owned (as defined at 13 CFR 124.105) by--

(i) One or more socially disadvantaged (as defined at 13 CFR 124.103) and economically disadvantaged (as defined at 13 CFR 124.104) individuals who are citizens of the United States, and

(ii) Each individual claiming economic disadvantage has a net worth not exceeding the threshold at 13 CFR 124.104(c)(2) after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(2) The management and daily business operations of which are controlled (as defined at 13 CFR 124.106) by individuals who meet the criteria in paragraphs (1)(i) and (ii) of this definition.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--
(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

Women-owned small business (WOSB) concern eligible under the WOSB Program (in accordance with 13 CFR part 127) means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States, and the concern is certified by SBA or an approved third-party certifier in accordance with 13 CFR 127.300.

(b)(1) The North American Industry Classification System (NAICS) code for this acquisition is **237990**.

(2) The small business size standard is **$37,000,000**.

(3) The small business size standard for a concern that submits an offer, other than on a construction or service acquisition, but proposes to furnish an end item that it did not itself manufacture, process, or produce (i.e., nonmanufacturer), is 500 employees, or 150 employees for information technology value-added resellers under NAICS code 541519, if the acquisition--

(i) Is set aside for small business and has a value above the simplified acquisition threshold;

(ii) Uses the HUBZone price evaluation preference regardless of dollar value, unless the offeror waives the price evaluation preference; or

(iii) Is an 8(a), HUBZone, service-disabled veteran-owned, economically disadvantaged women-owned, or women-owned small business set-aside or sole-source award regardless of dollar value.

(c) Representations.

(1) The offeror represents as part of its offer that--

(i) It [___] is, [___] is not a small business concern; or

(ii) It [___] is, [___] is not a small business joint venture that complies with the requirements of 13 CFR 121.103(h) and 13 CFR 125.8(a) and (b). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

(2) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it [___] is, [___] is not, a small disadvantaged business concern as defined in 13 CFR 124.1001.

(3) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it [___] is, [___] is not a women-owned small business concern.

(4) Women-owned small business (WOSB) joint venture eligible under the WOSB Program. The offeror represents as part of its offer that it [____] is, [____] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

(5) Economically disadvantaged women-owned small business (EDWOSB) joint venture. The offeror represents as part of its offer that it [___] is, [___] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it [___] is, [___] is not a veteran-owned small business concern.

(7) [Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(6) of this provision.] The offeror represents as part of its offer that--

(i) It [___] is, [___] is not a service-disabled veteran-owned small business concern; or

(ii) It [___] is, [___] is not a service-disabled veteran-owned joint venture that complies with the requirements of 13 CFR 125.18(b)(1) and (2). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .] Each service-disabled veteran-owned small business concern participating in the joint venture shall provide representation of its service-disabled veteran-owned small business concern status.

(8) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It [____] is, [____] is not a HUBZone small business concern listed, on the date of this representation, as having been certified by SBA as a HUBZone small business concern in the Dynamic Small Business Search and SAM, and will attempt to maintain an employment rate of HUBZone residents of 35 percent of its employees during performance of a HUBZone contract (see 13 CFR 126.200(e)(1)); and

(ii) It [___] is, [___] is not a HUBZone joint venture that complies with the requirements of 13 CFR 126.616(a) through (c). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .] Each HUBZone small business concern participating in the HUBZone joint venture shall provide representation of its HUBZone status.

(9) [Complete if offeror represented itself as disadvantaged in paragraph (c)(2) of this provision.] The offeror shall check the category in which its ownership falls:

____ Black American.

____ Hispanic American.

____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

____ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, Republic of Palau, Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

____ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

____ Individual/concern, other than one of the preceding.

(d) Notice. Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a business concern that is small, HUBZone small, small disadvantaged, service-disabled veteran-owned small, economically disadvantaged women-owned small, or women-owned small eligible under the WOSB Program in order to obtain a contract to be awarded under the preference programs established pursuant to section 8, 9, 15, 31, and 36 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall—

(1) Be punished by imposition of fine, imprisonment, or both;

(2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.223-22 PUBLIC DISCLOSURE OF GREENHOUSE GAS EMISSIONS AND REDUCTION GOALS--REPRESENTATION (DEC 2016)

(a) This representation shall be completed if the Offeror received $7.5 million or more in Federal contract awards in the prior Federal fiscal year. The representation is optional if the Offeror received less than $7.5 million in Federal contract awards in the prior Federal fiscal year.

(b) Representation. [Offeror is to check applicable blocks in paragraphs (b)(1) and (2).]

(1) The Offeror (itself or through its immediate owner or highest-level owner) [___] does, [___] does not publicly disclose greenhouse gas emissions, i.e., make available on a publicly accessible Web site the results of a greenhouse gas inventory, performed in accordance with an accounting standard with publicly available and consistently applied criteria, such as the Greenhouse Gas Protocol Corporate Standard.

(2) The Offeror (itself or through its immediate owner or highest-level owner) [___] does, [___] does not publicly disclose a quantitative greenhouse gas emissions reduction goal, i.e., make available on a publicly available Web site a target to reduce absolute emissions or emissions intensity by a specific quantity or percentage.

(3) A publicly accessible Web site includes the Offeror's own Web site or a recognized, third-party greenhouse gas emissions reporting program.

(c) If the Offeror checked ``does" in paragraphs (b)(1) or (b)(2) of this provision, respectively, the Offeror shall provide the publicly accessible Web site(s) where greenhouse gas emissions and/or reduction goals are reported: ___ .

(End of provision)

Section 00 70 00
Conditions of the Contract

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUN 2020
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	MAY 2014
52.203-6	Restrictions On Subcontractor Sales To The Government	JUN 2020
52.203-7	Anti-Kickback Procedures	JUN 2020
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	MAY 2014
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	MAY 2014
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 2020
52.203-13	Contractor Code of Business Ethics and Conduct	NOV 2021
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights	JUN 2020
52.203-19	Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements	JAN 2017
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-7 Alt I	System for Award Management-- Alternate I	OCT 2018
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUN 2020
52.204-13	System for Award Management Maintenance	OCT 2018
52.204-18	Commercial and Government Entity Code Maintenance	AUG 2020
52.204-19	Incorporation by Reference of Representations and Certifications.	DEC 2014
52.204-21	Basic Safeguarding of Covered Contractor Information Systems	NOV 2021
52.204-23	Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities	NOV 2021
52.204-25	Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment	NOV 2021
52.204-27	Prohibition on a ByteDance Covered Application	JUN 2023
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	NOV 2021
52.209-9	Updates of Publicly Available Information Regarding Responsibility Matters	OCT 2018
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations	NOV 2015
52.210-1	Market Research	NOV 2021
52.211-13	Time Extensions	SEP 2000
52.211-18	Variation in Estimated Quantity	APR 1984
52.214-26	Audit and Records--Sealed Bidding	JUN 2020
52.214-27 (Dev)	Price Reduction for Defective Certified Cost or Pricing Data - Modifications - Sealed Bidding (DEVIATION 2022-O0001)	OCT 2021

52.214-28 (Dev)	Subcontractor Certified Cost Or Pricing Data--Modifications--Sealed Bidding (DEVIATION 2022-O0001)	OCT 2021
52.219-4	Notice of Price Evaluation Preference for HUBZone Small Business Concerns	OCT 2022
52.219-8	Utilization of Small Business Concerns	SEP 2023
52.219-9 Alt I	Small Business Subcontracting Plan (SEP 2023) Alternate I	NOV 2016
52.219-16	Liquidated Damages-Subcontracting Plan	SEP 2021
52.222-1	Notice To The Government Of Labor Disputes	FEB 1997
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards - Overtime Compensation	MAY 2018
52.222-6	Construction Wage Rate Requirements	AUG 2018
52.222-7	Withholding of Funds	MAY 2014
52.222-8	Payrolls and Basic Records	JUL 2021
52.222-9	Apprentices and Trainees	JUL 2005
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	MAY 2014
52.222-12	Contract Termination-Debarment	MAY 2014
52.222-13	Compliance With Construction Wage Rate Requirements and Related Regulations	MAY 2014
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	MAY 2014
52.222-21	Prohibition Of Segregated Facilities	APR 2015
52.222-26	Equal Opportunity	SEP 2016
52.222-27	Affirmative Action Compliance Requirements for Construction	APR 2015
52.222-35	Equal Opportunity for Veterans	JUN 2020
52.222-36	Equal Opportunity for Workers with Disabilities	JUN 2020
52.222-37	Employment Reports on Veterans	JUN 2020
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	NOV 2021
52.222-54	Employment Eligibility Verification	MAY 2022
52.222-55	Minimum Wages for Contractor Workers Under Executive Order 14026	JAN 2022
52.222-62	Paid Sick Leave Under Executive Order 13706	JAN 2022
52.223-6	Drug-Free Workplace	MAY 2001
52.223-17	Affirmative Procurement of EPA-Designated Items in Service and Construction Contracts	AUG 2018
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	JUN 2020
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2021
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1	Authorization and Consent	JUN 2020
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	JUN 2020
52.228-2	Additional Bond Security	OCT 1997

52.228-5	Insurance - Work On A Government Installation	JAN 1997
52.228-11 (Dev)	Individual Surety--Pledge of Assets (DEVIATION 2020-O0016)	FEB 2021
52.228-12	Prospective Subcontractor Requests for Bonds	DEC 2022
52.228-15 (Dev)	Performance and Payment Bonds-Construction. (Deviation 2020-O0016)	JUN 2020
52.229-3	Federal, State And Local Taxes	FEB 2013
52.232-5	Payments under Fixed-Price Construction Contracts	MAY 2014
52.232-17	Interest	MAY 2014
52.232-23	Assignment Of Claims	MAY 2014
52.232-27	Prompt Payment for Construction Contracts	JAN 2017
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	OCT 2018
52.232-39	Unenforceability of Unauthorized Obligations	JUN 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	MAR 2023
52.233-1 Alt I	Disputes (May 2014) - Alternate I	DEC 1991
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-2	Differing Site Conditions	APR 1984
52.236-3	Site Investigation and Conditions Affecting the Work	APR 1984
52.236-5	Material and Workmanship	APR 1984
52.236-6	Superintendence by the Contractor	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.236-8	Other Contracts	APR 1984
52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements	APR 1984
52.236-10	Operations and Storage Areas	APR 1984
52.236-11	Use and Possession Prior to Completion	APR 1984
52.236-12	Cleaning Up	APR 1984
52.236-13	Accident Prevention	NOV 1991
52.236-15	Schedules for Construction Contracts	APR 1984
52.236-16	Quantity Surveys	APR 1984
52.236-21	Specifications and Drawings for Construction	FEB 1997
52.236-26	Preconstruction Conference	FEB 1995
52.242-5	Payments to Small Business Subcontractors	JAN 2017
52.242-13	Bankruptcy	JUL 1995
52.242-14	Suspension of Work	APR 1984
52.243-4	Changes	JUN 2007
52.244-6	Subcontracts for Commercial Products and Commercial Services	SEP 2023
52.246-12	Inspection of Construction	AUG 1996
52.248-3	Value Engineering-Construction	OCT 2020
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) (Apr 2012) - Alternate I	SEP 1996
52.249-10	Default (Fixed-Price Construction)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011

252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	JAN 2023
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	DEC 2022
252.203-7003	Agency Office of the Inspector General	AUG 2019
252.203-7004	Display of Hotline Posters	JAN 2023
252.204-7000	Disclosure Of Information	OCT 2016
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7006	Billing Instructions--Cost Vouchers	MAY 2023
252.204-7012	Safeguarding Covered Defense Information and Cyber Incident Reporting	JAN 2023
252.204-7015	Notice of Authorized Disclosure of Information for Litigation Support	JAN 2023
252.204-7018	Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services	JAN 2023
252.204-7020	NIST SP 800-171 DoD Assessment Requirements	JAN 2023
252.204-7021	Contractor Compliance with the Cybersecurity Maturity Model Certification Level Requirement	JAN 2023
252.205-7000	Provision Of Information To Cooperative Agreement Holders	JUN 2023
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Country that is a State Sponsor of Terrorism	MAY 2019
252.219-7003	Small Business Subcontracting Plan (DOD Contracts)	DEC 2019
252.223-7004	Drug Free Work Force	SEP 1988
252.223-7008	Prohibition of Hexavalent Chromium	JAN 2023
252.225-7012	Preference For Certain Domestic Commodities	APR 2022
252.225-7048	Export-Controlled Items	JUN 2013
252.225-7052	Restriction on the Acquisition of Certain Magnets, Tantalum, and Tungsten.	JAN 2023
252.225-7056	Prohibition Regarding Business Operations with the Maduro Regime	JAN 2023
252.225-7058	Postaward Disclosure of Employment of Individuals Who Work in the People's Republic of China	JAN 2023
252.225-7060	Prohibition on Certain Procurements from the Xinjiang Uyghur Autonomous Region	JUN 2023
252.225-7972 (Dev)	Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems (DEVIATION 2020-O0015)	MAY 2020
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	DEC 2018
252.232-7010	Levies on Contract Payments	DEC 2006
252.236-7000	Modification Proposals-Price Breakdown	DEC 1991
252.236-7002	Obstruction of Navigable Waterways	DEC 1991
252.242-7004	Material Management And Accounting System	MAY 2011
252.242-7006	Accounting System Administration	FEB 2012
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	DEC 2022
252.244-7000	Subcontracts for Commercial Products or Commercial Services	JAN 2023
252.247-7023	Transportation of Supplies by Sea	JAN 2023

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52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within **twenty (20)** calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than **365** days after the notice to proceed.

*The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of **$6,625.00** for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEVIATION 2021-O0008) (FEB 2023)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) Definition. "Similarly situated entity," as used in this clause, means a first-tier subcontractor, including an independent contractor, that—

(1) Has the same small business program status as that which qualified the prime contractor for the award (e.g., for a small business set-aside contract, any small business concern, without regard to its socioeconomic status); and

(2) Is considered small for the size standard under the North American Industry Classification System (NAICS) code the prime contractor assigned to the subcontract.

(c) Applicability. This clause applies only to—

(1) Contracts that have been set aside for any of the small business concerns identified in 19.000(a)(3);

(2) Part or parts of a multiple-award contract that have been set aside for any of the small business concerns identified in 19.000(a)(3);

(3) Contracts that have been awarded on a sole-source basis in accordance with subparts 19.8, 19.13, 19.14, and 19.15;

(4) Orders expected to exceed the simplified acquisition threshold and that are—

(i) Set aside for small business concerns under multiple-award contracts, as described in 8.405-5 and 16.505(b)(2)(i)(F); or

(ii) Issued directly to small business concerns under multiple-award contracts as described in 19.504(c)(1)(ii);

(5) Orders, regardless of dollar value, that are—

(i) Set aside in accordance with subparts 19.8, 19.13, 19.14, or 19.15 under multiple-award contracts, as described in 8.405-5 and 16.505(b)(2)(i)(F); or

(ii) Issued directly to concerns that qualify for the programs described in subparts 19.8, 19.13, 19.14, or 19.15 under multiple-award contracts, as described in 19.504(c)(1)(ii); and

(6) Contracts using the HUBZone price evaluation preference to award to a HUBZone small business concern unless the concern waived the evaluation preference.

(d) Independent contractors. An independent contractor shall be considered a subcontractor.

(e) Limitations on subcontracting. By submission of an offer and execution of a contract, the Contractor agrees that in performance of a contract assigned a North American Industry Classification System (NAICS) code for—

(1) Services (except construction), it will not pay more than 50 percent of the amount paid by the Government for contract performance, excluding certain other direct costs and certain work performed outside the United States (see paragraph (e)(1)(i)), to subcontractors that are not similarly situated entities. Any work that a similarly situated entity further subcontracts will count towards the prime contractor's 50 percent subcontract amount that cannot be exceeded. When a contract includes both services and supplies, the 50 percent limitation shall apply only to the service portion of the contract. The following services may be excluded from the 50 percent limitation:

(i) Other direct costs, to the extent they are not the principal purpose of the acquisition and small business concerns do not provide the service. Examples include airline travel, work performed by a transportation or disposal entity under a contract assigned the environmental remediation NAICS code 562910), cloud computing services, or mass media purchases.

(ii) Work performed outside the United States on awards made pursuant to the Foreign Assistance Act of 1961, or work performed outside the United States required to be performed by a local contractor.

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), it will not pay more than 50 percent of the amount paid by the Government for contract performance, excluding the cost of materials, to subcontractors that are not similarly situated entities. Any work that a similarly situated entity further subcontracts will count towards the prime contractor's 50 percent subcontract amount that cannot be exceeded. When a contract includes both supplies and services, the 50 percent limitation shall apply only to the supply portion of the contract;

(3) General construction, it will not pay more than 85 percent of the amount paid by the Government for contract performance, excluding the cost of materials, to subcontractors that are not similarly situated entities. Any work that a similarly situated entity further subcontracts will count towards the prime contractor's 85 percent subcontract amount that cannot be exceeded; or

(4) Construction by special trade contractors, it will not pay more than 75 percent of the amount paid by the Government for contract performance, excluding the cost of materials, to subcontractors that are not similarly situated entities. Any work that a similarly situated entity further subcontracts will count towards the prime contractor's 75 percent subcontract amount that cannot be exceeded.

(f) The Contractor shall comply with the limitations on subcontracting as follows:

(1) For contracts, in accordance with paragraphs (c)(1), (2), (3) and (6) of this clause –

[Contracting Officer check as appropriate.]

_X__ By the end of the base term of the contract and then by the end of each subsequent option period; or

____ By the end of the performance period for each order issued under the contract.

(2) For orders, in accordance with paragraphs (c)(4) and (5) of this clause, by the end of the performance period for the order.

(g) A joint venture agrees that, in the performance of the contract, the applicable percentage specified in paragraph (e) of this clause will be performed by the aggregate of the joint venture participants.

(1) In a joint venture comprised of a small business protege and its mentor approved by the Small Business Administration, the small business protege shall perform at least 40 percent of the work performed by the joint venture. Work performed by the small business protege in the joint venture must be more than administrative functions.

(2) In an 8(a) joint venture, the 8(a) participant(s) shall perform at least 40 percent of the work performed by the joint venture. Work performed by the 8(a) participants in the joint venture must be more than administrative functions.

(End of clause)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (SEP 2023)

(a) Definitions. As used in this clause--

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern--

(1) Means a concern, including its affiliates, that is independently owned and operated, not dominant in its field of operation, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (d) of this clause.

(2) Affiliates, as used in this definition, means business concerns, one of whom directly or indirectly controls or has the power to control the others, or a third party or parties control or have the power to control the others. In determining whether affiliation exists, consideration is given to all appropriate factors including common ownership, common management, and contractual relationships. SBA determines affiliation based on the factors set forth at 13 CFR 121.103.

(b) If the Contractor represented that it was any of the small business concerns identified in 19.000(a)(3) prior to award of this contract, the Contractor shall rerepresent its size and socioeconomic status according to paragraph (f) of this clause or, if applicable, paragraph (h) of this clause, upon occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.
(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts--

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) If the Contractor represented that it was any of the small business concerns identified in 19.000(a)(3) prior to award of this contract, the Contractor shall rerepresent its size and socioeconomic status according to paragraph (f) of this clause or, if applicable, paragraph (h) of this clause, when the Contracting Officer explicitly requires it for an order issued under a multiple-award contract.

(d) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code(s) assigned to this contract. The small business size standard corresponding to this NAICS code(s) can be found at https://www.sba.gov/document/support--table-size-standards.

(e) The small business size standard for a Contractor providing an end item that it does not manufacture, process, or produce itself, for a contract other than a construction or service contract, is 500 employees, or 150 employees for information technology value-added resellers under NAICS code 541519, if the acquisition--

(1) Was set aside for small business and has a value above the simplified acquisition threshold;

(2) Used the HUBZone price evaluation preference regardless of dollar value, unless the Contractor waived the price evaluation preference; or

(3) Was an 8(a), HUBZone, service-disabled veteran-owned, economically disadvantaged women-owned, or women-owned small business set-aside or sole-source award regardless of dollar value.

(f) Except as provided in paragraph (h) of this clause, the Contractor shall make the representation(s) required by paragraph (b) and (c) of this clause by validating or updating all its representations in the Representations and Certifications section of the System for Award Management (SAM) and its other data in SAM, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause, or with its offer for an order (see paragraph (c) of this clause), that the data have been validated or updated, and provide the date of the validation or update.

(g) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (f) or (h) of this clause.

(h) If the Contractor does not have representations and certifications in SAM, or does not have a representation in SAM for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

(1) The Contractor represents that it [ ] is, [ ] is not a small business concern under NAICS Code 237990 assigned to the resultant contract under solicitation number W9127823B0004.

(2) [Complete only if the Contractor represented itself as a small business concern in paragraph (h)(1) of this clause.] The Contractor represents that it [ ] is, [ ] is not, a small disadvantaged business concern as defined in 13 CFR 124.1001.

(3) [Complete only if the Contractor represented itself as a small business concern in paragraph (h)(1) of this clause.] The Contractor represents that it [ ] is, [ ] is not a women-owned small business concern.

(4) Women-owned small business (WOSB) joint venture eligible under the WOSB Program. The Contractor represents that it [ ] is, [ ] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [The Contractor shall enter the name and unique entity identifier of each party to the joint venture: .]

(5) Economically disadvantaged women-owned small business (EDWOSB) joint venture. The Contractor represents that it [ ] is, [ ] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [The Contractor shall enter the name and unique entity identifier of each party to the joint venture: .]

(6) [Complete only if the Contractor represented itself as a small business concern in paragraph (h)(1) of this clause.] The Contractor represents that it [ ] is, [ ] is not a veteran-owned small business concern.

(7) [Complete only if the Contractor represented itself as a veteran-owned small business concern in paragraph (h)(6) of this clause.] The Contractor represents that it [ ] is, [ ] is not a service-disabled veteran-owned small business concern.

(8) [Complete only if the Contractor represented itself as a small business concern in paragraph (h)(1) of this clause.] The Contractor represents that--

(i) It [ ] is, [ ] is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material changes in ownership and control, principal office, or HUBZone employee percentage have occurred since it was certified in accordance with 13 CFR part 126; and

(ii) It [ ] is, [ ] is not a HUBZone joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (h)(8)(i) of this clause is accurate for each HUBZone small business concern participating in the HUBZone joint venture. [The Contractor shall enter the names of each of the HUBZone small business concerns participating in the HUBZone joint venture: .] Each HUBZone small business concern participating in the HUBZone joint venture shall submit a separate signed copy of the HUBZone representation.

[Contractor to sign and date and insert authorized signer's name and title.]

(End of clause)

52.225-11 BUY AMERICAN--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (DEC 2022)

(a) Definitions. As used in this clause--

Caribbean Basin country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a Caribbean Basin country into a new and different construction material distinct from the materials from which it was transformed.

Commercially available off-the-shelf (COTS) item—

(1) Means any item of supply (including construction material) that is--

(i) A commercial product (as defined in paragraph (1) of the definition of "commercial product" at Federal Acquisition Regulation (FAR) 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4) such as agricultural products and petroleum products.

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material

regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

Critical component means a component that is mined, produced, or manufactured in the United States and deemed critical to the U.S. supply chain. The list of critical components is at FAR 25.105.

Critical item means a domestic construction material or domestic end product that is deemed critical to U.S. supply chain resiliency. The list of critical items is at FAR 25.105.

Designated country means any of the following countries:

(1) A World Trade Organization Government Procurement Agreement (WTO GPA) country (Armenia, Aruba, Australia, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, Ukraine, or United Kingdom);

(2) A Free Trade Agreement (FTA) country (Australia, Bahrain, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Korea (Republic of), Mexico, Morocco, Nicaragua, Oman, Panama, Peru, or Singapore);

(3) A least developed country (Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Laos, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Tanzania, Timor-Leste, Togo, Tuvalu, Uganda, Vanuatu, Yemen, or Zambia); or

(4) A Caribbean Basin country (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bonaire, British Virgin Islands, Curacao, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saba, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Sint Eustatius, Sint Maarten, or Trinidad and Tobago).

Designated country construction material means a construction material that is a WTO GPA country construction material, an FTA country construction material, a least developed country construction material, or a Caribbean Basin country construction material.

Domestic construction material means--

(1) For construction material that does not consist wholly or predominantly of iron or steel or a combination of both-

(i) An unmanufactured construction material mined or produced in the United States; or

(ii) A construction material manufactured in the United States, if--

(A) The cost of its components mined, produced, or manufactured in the United States exceeds 60 percent of the cost of all its components, except that the percentage will be 65 percent for items delivered in calendar years 2024

through 2028 and 75 percent for items delivered starting in calendar year 2029. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic. Components of unknown origin are treated as foreign; or

(B) The construction material is a COTS item; or

(2) For construction material that consists wholly or predominantly of iron or steel or a combination of both, a construction material manufactured in the United States if the cost of foreign iron and steel constitutes less than 5 percent of the cost of all components used in such construction material. The cost of foreign iron and steel includes but is not limited to the cost of foreign iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the construction material and a good faith estimate of the cost of all foreign iron or steel components excluding COTS fasteners. Iron or steel components of unknown origin are treated as foreign. If the construction material contains multiple components, the cost of all the materials used in such construction material is calculated in accordance with the definition of "cost of components".

Fastener means a hardware device that mechanically joins or affixes two or more objects together. Examples of fasteners are nuts, bolts, pins, rivets, nails, clips, and screws.

Foreign construction material means a construction material other than a domestic construction material.

Foreign iron and steel means iron or steel products not produced in the United States. Produced in the United States means that all manufacturing processes of the iron or steel must take place in the United States, from the initial melting stage through the application of coatings, except metallurgical processes involving refinement of steel additives. The origin of the elements of the iron or steel is not relevant to the determination of whether it is domestic or foreign.

Least developed country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

Free Trade Agreement country construction material means a construction material that—

(1) Is wholly the growth, product, or manufacture of a Free Trade Agreement (FTA) country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a FTA country into a new and different construction material distinct from the materials from which it was transformed.

Least developed country construction material means a construction material that—

(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

Predominantly of iron or steel or a combination of both means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components excluding COTS fasteners.

Steel means an alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements.

United States means the 50 States, the District of Columbia, and outlying areas.

WTO GPA country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a WTO GPA country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country into a new and different construction material distinct from the materials from which it was transformed.

(b) Construction materials.

(1) This clause implements 41 U.S.C. chapter 83, Buy American, by providing a preference for domestic construction material. In accordance with 41 U.S.C. 1907, the domestic content test of the Buy American statute is waived for construction material that is a COTS item, except that for construction material that consists wholly or predominantly of iron or steel or a combination of both, the domestic content test is applied only to the iron and steel content of the construction material, excluding COTS fasteners. (See FAR 12.505(a)(2)). In addition, the Contracting Officer has determined that the WTO GPA and Free Trade Agreements (FTAs) apply to this acquisition. Therefore, the Buy American restrictions are waived for designated country construction materials.

(2) The Contractor shall use only domestic or designated country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to information technology that is a commercial product or to the construction materials or components listed by the Government as follows: none.

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable.

(A) For domestic construction material that is not a critical item or does not contain critical components.

(1) The cost of a particular domestic construction material subject to the restrictions of the Buy American statute is unreasonable when the cost of such material exceeds the cost of foreign material by more than 20 percent;

(2) For construction material that is not a COTS item and does not consist wholly or predominantly of iron or steel or a combination of both, if the cost of a particular domestic construction material is determined to be unreasonable or there is no domestic offer received, and the low offer is for foreign construction material that does not exceed 55 percent domestic content, the Contracting Officer will treat the lowest offer of foreign construction material that is manufactured in the United States and exceeds 55 percent domestic content as a domestic offer and determine whether the cost of that offer is unreasonable by applying the evaluation factor listed in paragraph (b)(4)(i)(A)(1) of this clause.

(3) The procedures in paragraph (b)(4)(i)(A)(2) of this clause will no longer apply as of January 1, 2030.

(B) For domestic construction material that is a critical item or contains critical components.

(1) The cost of a particular domestic construction material that is a critical item or contains critical components, subject to the requirements of the Buy American statute, is unreasonable when the cost of such material exceeds the cost of foreign material by more than 20 percent plus the additional preference factor identified for the critical item or construction material containing critical components listed at FAR 25.105.

(2) For construction material that does not consist wholly or predominantly of iron or steel or a combination of both, if the cost of a particular domestic construction material is determined to be unreasonable or there is no domestic offer received, and the low offer is for foreign construction material that does not exceed 55 percent domestic content, the Contracting Officer will treat the lowest offer of foreign construction material that is manufactured in

the United States and exceeds 55 percent domestic content as a domestic offer, and determine whether the cost of that offer is unreasonable by applying the evaluation factor listed in paragraph (b)(4)(i)(B)(1) of this clause.

(3) The procedures in paragraph (b)(4)(i)(B)(2) of this clause will no longer apply as of January 1, 2030.

(ii) The application of the restriction of the Buy American statute to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American statute.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American statute applies, use of foreign construction material is noncompliant with the Buy American statute.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) *
Item 1:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
Item 2:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued)].
[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]
[Include other applicable supporting information.]

(End of clause)

52.228-14 IRREVOCABLE LETTER OF CREDIT (NOV 2014)

(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to 40 U.S.C. chapter 31, subchapter III, Bonds, the later of--

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of--

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d)(1) Only federally insured financial institutions rated investment grade by a commercial rating service shall issue or confirm the ILC.

(2) Unless the financial institution issuing the ILC had letter of credit business of at least $25 million in the past year, ILCs over $5 million must be confirmed by another acceptable financial institution that had letter of credit business of at least $25 million in the past year.

(3) The Offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institutions have the required credit rating as of the date of issuance of the ILC.

(4) The current rating for a financial institution is available through any of the following rating services registered with the U.S. Securities and Exchange Commission (SEC) as a Nationally Recognized Statistical Rating Organization (NRSRO). NRSRO's can be located at the Web site http://www.sec.gov/answers/nrsro.htm maintained by the SEC.

(e) The following format shall be used by the issuing financial institution to create an ILC:

___
[Issuing Financial Institution's Letterhead or Name and Address]

Issue Date _ ___

IRREVOCABLE LETTER OF CREDIT NO. ___

Account party's name ___ _

Account party's address ___ _

For Solicitation No. ___ _(for reference only)

TO: [___ U.S. Government agency]

[___ U.S. Government agency's address]

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States $ ___ . This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [___ issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on ___ , or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written

direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, International Chamber of Commerce Publication No. ___ -- (Insert version in effect at the time of ILC issuance, e.g., ``Publication 600, 2006 edition") and to the extent not inconsistent therewith, to the laws of ___ --[State of confirming financial institution, if any, otherwise State of issuing financial institution].

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

___
[___ Issuing financial institution]

(f) The following format shall be used by the financial institution to confirm an ILC:

___ [Confirming Financial Institution's Letterhead or Name and Address]

(Date) ___

Our Letter of Credit Advice Number ___

Beneficiary: ___ [U.S. Government agency]

Issuing Financial Institution: ___

Issuing Financial Institution's LC No.: ___

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by ___ [name of issuing financial institution] for drawings of up to United States dollars ___ _/U.S. $ ___ and expiring with our close of business on ___ [the expiration date], or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at ___ _.
3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, International Chamber of Commerce Publication No. ___ -- (Insert version in effect at the time of ILC issuance, e.g., ``Publication 600, 2006 edition") and to the extent not inconsistent therewith, to the laws of ___ --[State of confirming financial institution].

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

___
[Confirming financial institution]

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

___
[City, State]

(Date) ___

[Name and address of financial institution]

Pay to the order of ___ [Beneficiary Agency] ___ the sum of United States ___ This draft is drawn under Irrevocable Letter of Credit No. ___

___ [Beneficiary Agency]

By: ___

(End of clause)

52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least **forty (40%)** percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address:

https://www.acquisition.gov/

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (NOV 2020)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any FAR or DFARS clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

252.236-7001 CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the **solicitation.**

(End of clause)

252.236-7004 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DEC 1991)

(a) The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this item.

(1) Sixty (60%) percent of the lump sum price upon completion of the contractor's mobilization at the work site.

(2) The remaining Forty (40%) percent upon completion of demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs (a) (1) and (2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of --

(i) Actual mobilization costs at completion of mobilization;

(ii) Actual demobilization costs at completion of demobilization; and

(iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph (b)(1) of this clause is not subject to appeal.

(End of clause)

SECTION 01 00 00

ADDITIONAL SPECIAL CONTRACT REQUIREMENTS

PART 1 GENERAL

1.1 SUBMITTALS

See the technical sections for approval and detail requirements for submittals. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES and the required technical section:

SD-11 Closeout Submittals

Contractor Prepared As-Built Drawings; G, OP

1.2 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS

(a) The Contractor will be furnished with one CD-ROM containing a reproducible copy of the advertised solicitation, including all contract clauses, drawings, and specifications. Paper copies of the specifications and drawings will be the responsibility of the Contractor. The work shall conform to the technical provisions outlined in the specifications and the contract drawings.

(b) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(c) The Contractor shall check all drawings furnished them immediately upon their receipt and shall promptly notify the Contracting Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

(d) The list of drawings and maps provided in the Index Sheet of the Plans for this solicitation are hereby incorporated by reference into these specifications.

NOTE: Refer to the folio of drawings for the index of drawings in this solicitation.

1.3 PHYSICAL DATA

Data and information furnished or referred to below is for the Contractor's information. The Government will not be responsible for any interpretation or conclusion drawn from the data or information by the Contractor.

(a) General: The indications of physical conditions on the drawings and in the specifications are the result of site investigations and surveys.

(b) Location: The work to be done under these specifications is located within the upper bay portion of the Mobile, Alabama Shipping Channel, located in the southern most reach of the channel from Stations 267+72.58 to 500+00. The in bay placement sites C through F for the project are located in the Mobile Bay, southeast of the channel work, approximately 4 miles to the closest point, and approximately 12 miles from the furthest point.

(c) Contractor's Investigation Responsibility: The Contractor should investigate submerged, surface, and overhead structures in the work areas and other locations which may be necessary to traverse. The exact location, depths, and height of submarine cables, pipes, highlines, etc. (as applicable), are not known and it will be necessary for the Contractor to ascertain interference problems and notify the respective owners in advance of dredging operations. The Contractor shall make all arrangements with the respective owners of the structure to assure satisfactory completion of dredging in the vicinity with a minimum interruption of service, and shall perform operations in such a manner as will avoid damage to these facilities.

(d) Weather Conditions: The sites of the work are exposed to local weather conditions which may cause suspension of the work for short unknown periods of time. During tropical hurricanes which may occur from June to November, the project channels do not afford a safe refuge for floating plants. There are no unusual currents except during floods, when velocities of 2 to 4 miles per hour may be expected; however, the Contractor should investigate all sites of work and determine for themself the requirements of the work. Under ordinary conditions, the Mean Tidal Range is 1.2 feet. The working season extends over the entire year. Tides in Mobile Harbor are affected by extended periods of strong north or south winds.

(e) Transportation Facilities: The work areas are accessible by water via the Gulf Intracoastal Waterway and the Gulf of Mexico. The Contractor shall investigate any limitations imposed by bridges or other structures on water access to the project site. Highway access (Federal, state, and local) is available to the near vicinity of all work areas. Rail and highway transportation is available to Mobile, Alabama. Water transportation is available to the site of the work. The Contractor shall make their own investigation of available roads for transportation, load limits for bridges and roads, and other road conditions affecting the transportation of materials and equipment to the work sites.

(f) Channel Traffic: The traffic using the Mobile, Alabama Shipping Channel is considered to be a combination of heavy and large commercial vessels, and various sized recreational craft, respectively. The type of traffic consists of general container ships, bulk carriers, fuel tankers, tow boats, Navy ships, charter fishing boats, passenger boats, and pleasure craft. CAUTION: When navigation conditions become hazardous due to inclement weather (fog, storm, etc) or other circumstances, the Contractor shall maintain appropriate communication with project traffic. The Contractor shall particularly comply with all U.S. Coast Guard regulations pertaining to proper activation of fog (and any other) signaling devices (sound, light, etc).

(g) Obstruction of Navigation Channels: The Government will not undertake to keep the work areas and navigation channels free from vessels or other obstructions, except to the extent of such regulations, if any,

as may be prescribed by the Secretary of the Army, in accordance with the provisions of Section 7 of the Rivers and Harbors Act approved 8 August 1917. The Contractor will be required to conduct the work in such manner as to obstruct navigation as little as possible, and in case the Contractor's plant so obstructs any navigation channel as to make difficult or endanger the passage of vessels, said plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to afford a practicable passage. Upon the completion of the work the Contractor shall promptly remove their plant, including ranges, buoys, piles, and other marks placed by them under the contract in navigable waters or on shore.

1.4 TIME EXTENSIONS

Notwithstanding any other provisions of this contract, it is mutually understood that the time extensions for changes in the work will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements so delayed and that the remaining contract completion dates for all other portions of the work will not be altered and may further provide for an equitable readjustment of liquidated damages under the new completion schedule. Change orders involving time extensions must be obtained in writing from the Government's Representative.

1.5 CONTRACTOR PREPARED AS-BUILT DRAWINGS

(a) General: In accordance with SPECIAL CONTRACT REQUIREMENT paragraph: CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS, the Government will furnish the Contractor on CD-ROM one electronic set of solicitation drawing files and any amendments for use in preparation of as-built drawings by the Contractor. Copies of the drawings will be the responsibility of the Contractor. The as-built drawings shall be a record of the construction as completed by the Contractor. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the work, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work. In the event the Contractor accomplishes additional work which changes the as-built conditions after submission of the as-built drawings, the Contractor shall furnish revised and/or additional drawings as required to depict as-built conditions. The requirements for these additional drawings will be the same as for the as-built drawings included in the original submittal.

(b) Red line as-built drawings: The Contractor shall have on their staff, personnel to mark up a set of paper copy construction drawings to show the as-built conditions. These as-built marked copies shall be kept current and available on the job site at all times. All changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded, as the events occur, by means of details and notes. The Contractor shall call attention to entries by red lining areas affected. The red line as-built drawings will be jointly inspected for accuracy and completeness by the Contracting Officer's Representative and a responsible representative of the Contractor prior to submittal of each request for payment. The Contracting Officer Representative's approval of the current status of the as-built drawings shall be a prerequisite to the approval of

request for progress payment and request for final payment under the contract. The drawings shall show the following information, but not be limited thereto:

(1) The location and description of any utility lines or other installations of any kind or description known to exist within the construction area that are not already shown on the contract drawings. The location includes dimensions to permanent features.

(2) The location and dimensions of any changes within the construction area.

(3) All changes or modifications which result from the final inspection.

(c) Submittal of as-built drawings for review and approval: The Contractor shall participate in monthly review meetings with the Contracting Officer's Representative to show the progress made the preceding month and make all required changes. At time of final construction inspection, the Contractor shall submit one copy of the red lined as-built drawings to the Contracting Officer's Representative for his review and approval. The as-built drawings shall be certified as to their correctness by the signature of an authorized representative of the Contractor. Upon Government approval of the Contractor's red lined copy of the as-built drawings, the Contractor shall prepare and provide two electronic sets of as-built drawings by incorporating the red line marked up notations on the construction drawings into the electronic set of solicitation drawings and amendments. In addition to the electronic sets of as-built drawings which shall be submitted on a CD-ROM, the Contractor shall also submit a full size set of as-built paper drawings. Submittals are to be to the Contracting Officer's Representative not later than ten (10) calendar days after project completion date.

(d) Final Drawing Format:

(1) The solicitation drawing files and any amendments thereto will be furnished to the Contractor in electronic format. The solicitation drawing files have been prepared using MicroStation. The Contractor shall utilize a file format that is compatible with the latest version of MicroStation to revise/redraft each solicitation drawing and/or amendment drawing to reflect all changes made during construction as indicated by the red line marked up notations on the construction drawings. Revisions/redrafting shall match the font styles, sizes, and formats; line weights/thicknesses and styles/types; and all other drafting elements used on the solicitation drawing/amendments. All elements must be incorporated into each as-built drawing file; the use of reference files shall not be permitted.

(2) All revisions made to the solicitation drawings and/or amendment drawings to reflect changes made during construction shall be flagged and shall have the revision block completed as follows. The entry in the description column of the revision block shall read "AS-BUILT". The date of the revision and one approving initial from a responsible person within the Contractor's Firm shall also be included in the revision block. Above the drawing title block the drawing will be labeled in bold letters "AS-BUILT". The flagged changes and revision block format shall be in accordance with the examples shown in the Mobile District Design Manual located on the Internet at

http://www.sam.usace.army.mil/Missions/MilitaryMissions/Engineering/Engineering-Design-Manual/

The Contractor shall also furnish a revised index of drawings to match the actual design drawings. The drawing title blocks shall be in a uniform format to match the requirements as specified in the Design Manual.

(3) The two electronic sets of as-built drawing files shall be submitted in a format that is compatible with the latest version of MicroStation.

(4) The hard copy reproducible set of as-built drawings shall be submitted unbound on paper. The drawings shall be the full size.

(e) Payment: No separate payment will be made for preparation of the as-built drawings required under this contract. All costs will be considered a subsidiary obligation of the contract.

1.6 ATTENDANT PLANT

(a) Attendant plant shall be composed of such barges, fuel, water, pipe derrick, anchor, etc., floating, submerged, and slip joint discharge pipe, and other attendant or auxiliary plant as may be required for operations under these specifications whether or not these items are specifically mentioned. The auxiliary and attendant plant shall be in good condition and of sufficient size and capability to efficiently serve the dredge.

(b) Radio Telephone: The Contractor shall furnish and maintain the following radios for communication with the Corps of Engineers, United States Coast Guard, and other vessels: Radio(s) must be certified as being operable on the specified frequencies and powers by a licensed radio technician. A copy of the certification must be furnished to the Contracting Officer prior to final acceptance of the dredging plant.

(1) A Marine VHF Radio, FCC type accepted with the following channels: Channel 16 (156.8 MHZ), Channel 13 (156.65 MHZ), Channel 12 (156.6 MHZ), Channel 14 (156.7 MHZ), and Channels 26 and 28 for public correspondence. A separate receiver must be provided on Channel 13 (156.65 MHZ) in compliance with Public Law 92-63.

(2) In addition to the above-mentioned radios, the Contractor shall provide additional space in the inspector’s office as specified in the paragraph entitled “Inspector's Office” for placement of one VHF marine radio. The radio shall be able to receive all VHF marine channels and scan two channels continuously. The radio will be furnished at the expense of the Contractor.

(c) Transport Vessel: The Contractor shall provide one transport vessel, with twin propellers, not less than 40 feet in overall length, with enclosed space for three passengers, to adequately operate in all areas included in the scope of work. This vessel must have an operator on site at all times; be capable of traveling at a speed of 20 knots (23 MPH) or greater in good weather and capable of traveling safely at night and in intense fog; (such vessel shall meet or exceed the appropriate US Coast Guard regulation for a vessel of its size); and the vessel shall have a Certificate of Inspection by the US Coast Guard, or at least from a Marine Surveyor. This vessel shall be for the primary use of the Government Inspector. The use of this vessel for Contractor's crew changes, or any

other use of this vessel by the Contractor shall be secondary to the Government Inspector shift changes. This vessel shall be equipped with the following at a minimum: built-in fuel tanks with correctly operating fuel gauges; marine and company radios; windshield wipers; running and spot lights; and all required survey equipment. The Contractor shall secure satisfactory landing location for this vessel.

1.7 PRECONSTRUCTION CONFERENCE

(a) A preconstruction conference will be arranged by the Government's representative after award of contract and before commencement of work. The Government's representative will notify the Contractor of the time and date set for the meeting. At this conference, the Contractor shall be oriented with respect to Government procedures and line of authority, contractual, administrative, and construction matters. Additionally, a schedule of required submittals will be discussed.

(b) The Contractor shall bring to this conference the submittals listed in Section 01 33 00 Paragraph entitled Preconstruction Submittals in either completed or draft form.

1.8 PROJECT SIGN

The Contractor shall furnish and install a project sign and a safety performance sign at the location designated by the Contracting Officer's Representative within 60 calendar days after notice to proceed. The signs shall be constructed as indicated on the figures bound herein. Size, lettering, color, and paint shall conform to the details shown in Figure 5B "Construction Sign," Figure 5C "Fabrication and Mounting Guidelines," and Figure 5D "Safety Performance Sign," bound herein. All parts of frames and signs shall be given a primer coat of oil paint and a minimum of two finish coats of white semi-gloss paint. The Contractor shall maintain the sign in a "like new" condition throughout the life of the project, repainting and replacing members as necessary to accomplish this requirement. No direct payment will be made for the signs or maintenance of the signs. All project signs shall be removed after construction is physically complete.

1.9 DATUM AND BENCHMARKS

The plane of reference of Mean Lower Low Water (MLLW) as used in these specifications is that determined by the benchmark and tide gage data as on file at the U.S Army, Corps of Engineers, Mobile District Office and the Irvington Site Office. The Contractor can obtain such data from the Project Engineer, Irvington Site Office, telephone (251)957-6019.

1.10 FINAL EXAMINATION AND ACCEPTANCE

(a) As soon as practicable (within 14 calendar days or less if agreed to by the Contracting Officer) after completion of the entire work or any designated section thereof (if the work is divided into sections), as in the opinion of the Contracting Officer, the work in this section will not be subject to damage by further operations under the contract, such work (required dredging prism) will be thoroughly examined at the cost and expense of the Government by sounding or by sweeping, or both, as determined by the Contracting Officer, for determination of ACCEPTABILITY of PERFORMANCE by the Contractor. Should any shoals, lumps, or other lack of contract required dredging prism depth, width, or slope (i.e. lack of acceptable contract performance) be disclosed by this examination, the

Contractor will be required to remove same by dragging or dredging the affected surface until the acceptable condition is corrected. Before-dredging and after-dredging quantity computations will be made using this 1V:5H slope. Acceptance will be based on the required dredging prism only. The contract drawings include typical sections showing the existing channel dimensions, the required O&M dredging prism, the required new work dredging prism, and the allowable overdepth. If the unacceptable shoal (work) area(s) of the channel bottom/slope is soft and the shoal (work) area(s) is small and forms no material obstruction to navigation, the removal of such shoal(s) may be waived at the discretion of the Contracting Officer. If re-dredging is required to correct the unacceptable work, the dredging will be paid at the current unit price for dredging, however, the maximum payment quantity (original and re-dredgings) will not exceed the original computed pay quantity in the required dredging prism (plus any applicable allowable overdepth quantity, as applicable) based on the original before-dredging surveys. The Contractor or their authorized representative will be notified when soundings and/or sweepings are to be made, and will be permitted to accompany the survey party. When the original or unacceptable area(s) is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding or sweeping operations by the Government over an area be necessary by reason of work for the removal of unacceptable shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operations will be charged against the Contractor at the rate of $2,200.00 per day for each day in which the Government (or Government A-E Contractor) plant is engaged in sounding or sweeping and/or is enroute to or from the site or held at or near the said site for such operations. For the purpose of acceptance, the work to be done will be divided into twenty-two 1,000-foot sections and one 1,227.42-foot section, as defined below:

Dredging Reach No.	From Station	To Station
1	267+72.58	280+00
2-23	280+00	500+00

(b) Final acceptance of the whole or part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

(c) After acceptance by the Government, of the whole or part of the work, but before the Contractor has effected demobilization, should any shoals, lumps, or other lack of required contract depth be disclosed by an examination made by the Government, the Contractor may be requested to remove any such shoal by using the on-site dredging plant and process, to be paid at the original contract rate for dredging in this location. This additional dredging is subject to a supplemental agreement under the contract and is only activated by the Contracting Officer (and if funds are available).

(d) Shoaling in the dredging prism, which occurs in the whole or part of the work not yet offered by the Contractor as candidate for acceptance examination by the Government, is the responsibility of the Contractor (notwithstanding other clauses or provisions of this contract). The Contractor should order the accomplishment of all the work of this contract in such a manner that causes the least exposure to such

in-process shoaling.

1.11 PERFORMANCE EVALUATION OF CONTRACTOR

As a minimum, the Contractor's performance will be evaluated upon final acceptance of the work. However, interim evaluation may be prepared at any time during the contract performance when determined to be in the best interest of the Government.

The evaluation will be completed in the Contractor Performance Assessment Reporting System (CPARS), and the Contractor will be rated either exceptional, very good, satisfactory, marginal, or unsatisfactory in the areas of Quality, Schedule, Cost Control, Management, Small Business, Regulatory, and Other Areas. The Contractor will be advised of any unsatisfactory rating, either in an individual element or in the overall rating, prior to completing the evaluation, and all Contractor comments will be made a part of the official records. Performance Evaluation Reports will be available to all DOD Contracting offices for their future use in determining Contractor responsibility, in compliance with DFARS 36.201(c)(1).

-- End of Section --

The use of signs to identify Corps managed or supervised design, construction, and rehabilitation projects - both for military and civil works - is an important part of efforts to keep the public informed of Corps work. For this purpose, a construction project sign package has been adopted. This package consists of two signs: one for project identification and the other to show on-the-job safety performance of the contractor.

These two signs are to be displayed side by side and mounted for reading by passing viewers. Exact placement location will be designated by the contracting officer's representative.

The panel sizes and graphic formats have been standardized for visual consistency throughout all Corps operations.

Panels are fabricated using HDO plywood or aluminum with dimensional lumber uprights and bracing. The sign faces are nonreflective vinyl.

All legends are to be die-cut or computer-cut in the sizes and typefaces specified and applied to the white panel background following the graphic formats shown on pages 16-2 and 16-3. The Communication Red panel on the left side of the construction project sign with Corps Signature (reverse version) is screen-printed onto the white background.

A display of these two signs is shown on the following two pages. Mounting and fabrication details are provided on page 16-4.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Below are two samples of the Construction Project Identification sign showing how this panel is adaptable for use to identify either military (top) or civil works projects (bottom). The graphic format for this 4'x 6' sign panel follows the legend guidelines and layout as specified below. The large 4'x 4' section of the panel on the right is to be white with black legend. The 2'x 4' section of the sign on the left with the full Corps Signature (reverse version) is to be screen-printed Communication Red on the white background The designation of a sponsor in the area indicated is optional with Military or Civil Works construction signs. Signs may list one sponsoring entity. If agreement on a sponsor designation cannot be achieved, the area should be left blank.

This sign is to be placed with the Safety Performance sign shown on the following page. Mounting and fabrication details are provided on page 16-4.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Legend Group 1: One- to two-line description of Corps relationship to project.
Color: White
Typeface: 1.25" Helvetica Regular
Maximum line length: 19"

Legend Group 2: Division or District Name (optional). Placed below 10.5" reverse Signature (6" Castle).
Color: White
Typeface: 1.25" Helvetica Regular

Legend Group 2a: One- to three-line identification of Military or Civil Works sponsor (optional). Place below Corps Signature to cross-align with Group 5a-b.
Color: White
Typeface: 1.25" Helvetica Regular
Maximum line length: 19"

Legend Group 3: One- to three-line project title legend describes the work being done under this contract.
Color: Black
Typeface: 3" Helvetica Bold
Maximum line length: 42"

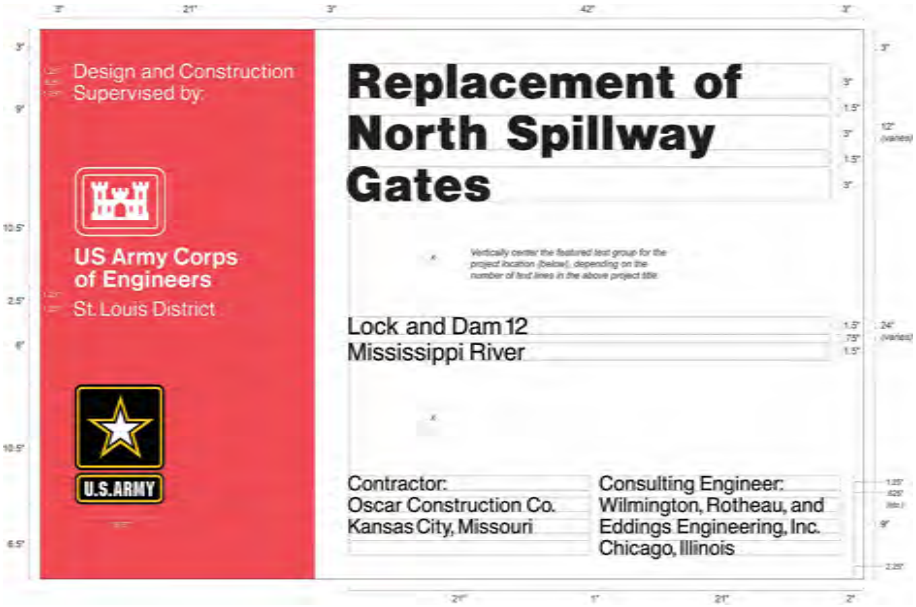
Legend Group 4: One- to two-line identification of project or facility (civil works) or name of sponsoring department (military).
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Cross-align the first line of Legend Group 4 with the first line of the Corps Signature (US Army Corps) as shown.

Legend Groups 5a-b: One- to five-line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state. Use of Legend Group 5 is optional.
Color: Black
Typeface: 1.25" Helvetica Regular
Maximum line length: 21"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.

Modified IAW ECB 2020-1



Sign Type	Legend Size (A)	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-01	various	4'x6'	4"x4"	HDO-3	48"	WH-RD/BK

Each contractor's safety record is to be posted on Corps managed or supervised construction projects and mounted with the Construction Project Identification sign specified on page 16-2.

The graphic format, color, size and typefaces used on the sign are to be reproduced exactly as specified below. The title with First Aid logo in the top section of the sign, and the performance record captions are standard for all signs of this type. Legend groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown.

Safety record numbers are mounted on individual metal plates and are screw-mounted to the background to allow for daily revisions to posted safety performance record.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with 8" (outside diameter) Safety Green first aid logo.
Color: To match Pantone system 347
Typeface: 3" Helvetica Bold
Color: Black

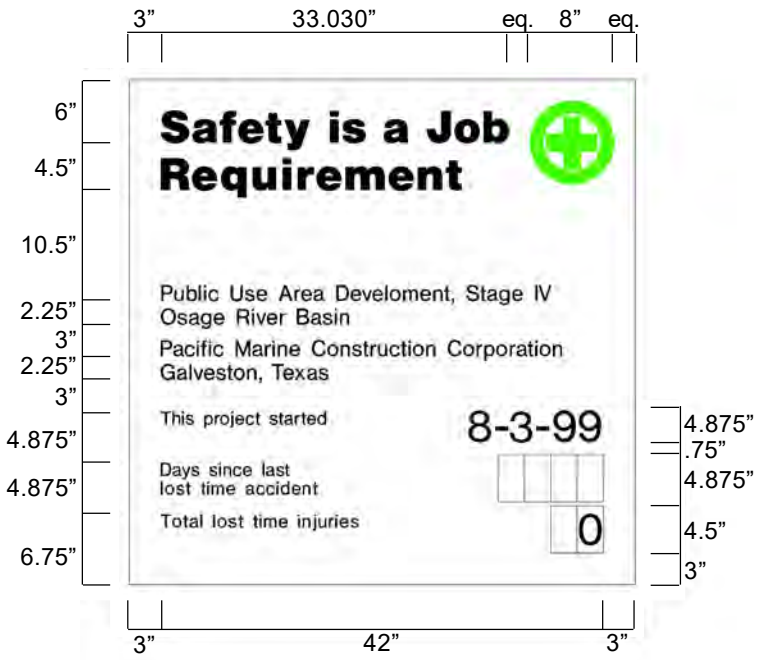
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

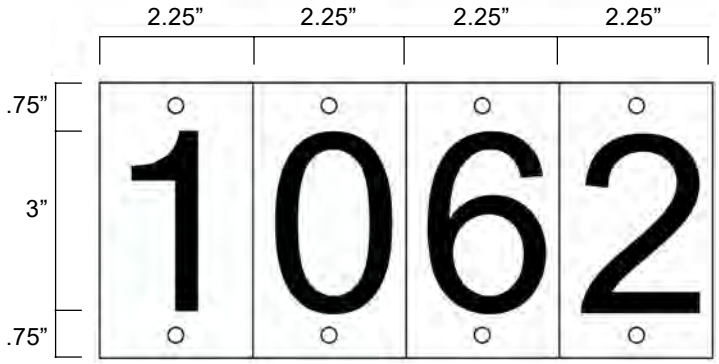
Legend Group 4: Standard safety record captions as shown.
Color: Black
Typeface: 1.25" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background.
Color: Black
Typeface: 3" Helvetica Regular
Plate size: 2.5" x 4.5"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size (A)	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4'x4'	4"x4"	HDO-3	48"	WH/BK-SG



Fabrication and Mounting Guidelines

All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer representative and shall conform to the size, format, and typographic standards shown on pages16-2 and 16-3. Detailed specifications for HDO plywood panel preparation are provided in Appendix B.

Shown below the mounting diagram is a panel layout grid with spaces provided for project information. Photocopy this page and use as a worksheet when preparing sign legend orders.

For additional information on the proper method to prepare sign panel graphics, contact the district Sign Program Manager.

The sign panels are to be fabricated from .75" High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B.

Sign graphics to be prepared on a white nonreflective vinyl film with positionable adhesive backing.

All graphics except for the Communication Red background with Corps Signature on the project sign are to be die-cut or computer-cut nonreflective vinyl, prespaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16-2 and 16-3.

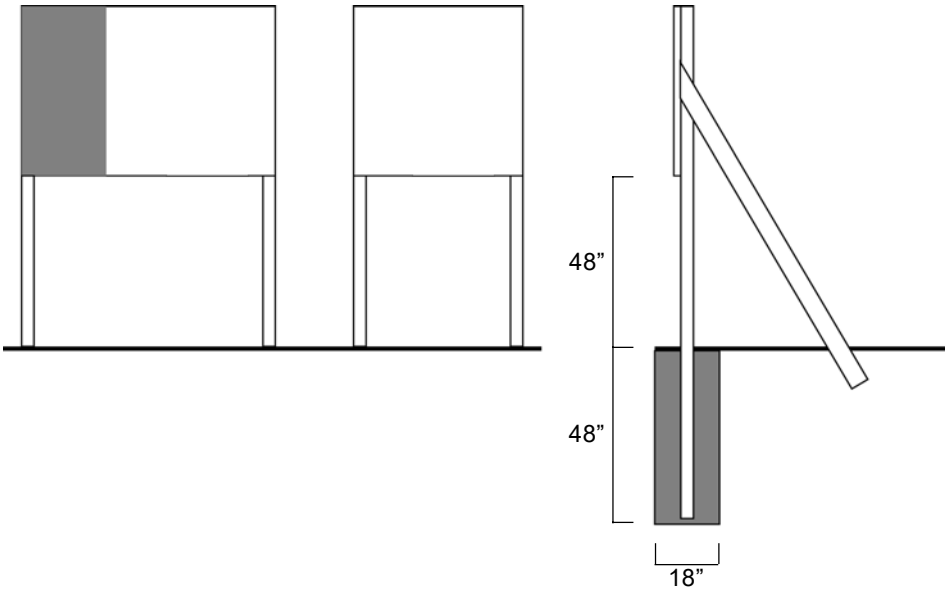
The 2'x 4' Communication Red panel (to match Pantone system 032) with full Corps Signature (reverse version) is to be screen-printed on the white background. Identification of the district or division may be applied under the signature with white cut vinyl letters prepared to Corps standards.

Drill and insert six (6) .375" T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.

Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.

Sign uprights to be structural grade 4" x 4" treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12' long. Drill six (6) .375" mounting holes in uprights to align with T-nuts in sign panel. Countersink (.5") back of hole to accept socket head cap screw (4" x .375").

Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4' hole. Local soil conditions and/or wind loading may require bolting additional 2" x 4" struts on inside face of uprights to reinforce installation as shown.



Construction Project Identification Sign
Legend Group 1: Corps Relationship

1. _____
2. _____

Legend Group 2: Division/District Name

1. _____
2. _____

Legend Group 2a: Military/Civil Works Sponsor

1. _____
2. _____

Legend Group 3: Project Title

1. _____
2. _____
3. _____

Legend Group 4: Facility Name

1. _____
2. _____

Legend Group 5: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Legend Group 5b: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Safety Performance Sign
Legend Group 2: Project Title

1. _____
2. _____

Legend Group 3: Contractor/A&E

1. _____
2. _____

U.S. Department of Labor

Wage and Hour Division
Washington, DC 20010

Response to SF-308 Request for Davis-Bacon Project Wage Determination

Project Wage Decision Number: 2023AL-19334308053877

Superseded Project Wage Decision: AL20220003

State: Alabama

County: Mobile

Construction Type: Heavy

Agency: U.S. Army Corps of Engineers

Contract Number: W91278-23-B-0004

Project Name: Mobile Harbor heavy dredging.

Description of Work (as clarified):

Dredging Construction Projects (Self-Propelled Hopper Dredging Only)

Date of Decision: 09/26/2023
Expires: 03/26/2024

Modification Number: 0

Classification	Hourly Rate	Fringe Benefits
Self-Propelled Hopper Dredge	$16.20	$ 0.00
Self-Propelled Hopper Dredge Drag Tenders	$16.20	$ 0.00

This wage determination is specifically for the project listed above. It cannot be used for any other purpose including contracts and or projects.

Further, in the event the above referenced contract is subject to Executive Order (EO) 14026 and the approved conformed hourly wage rate (not including any fringe benefits) is less than the EO minimum wage, you are required to comply with the minimum wage requirements of EO 14026,

codified at 29 CFR Part 10. Please note that this EO 14026 applies to contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). See https://www.dol.gov/agencies/whd/government-contracts/eo14026 for additional information regarding EO 14026, including coverage and minimum wage requirements.

If you have any questions and or additional comments, please do not hesitate to contact me at thomas.rhontia@dol.gov.

Sincerely,

RhonTia S. Thomas-Johnson

RhonTia Thomas-Johnson
Chief, Branch of Construction Wage Determinations
202-693-0806
Thomas.rhontia@dol.gov

U.S. Department of Labor Wage and Hour Division
Washington, D.C. 20210

Response to SF-308 Request for Davis-Bacon Project Wage Determination

Project Wage Decision Number: 2023AL-19334308053912

Superseded Project Wage Decision: AL20220003

State: Alabama

County: Mobile

Construction Type: Heavy Dredging

Agency: U.S. Army Corps of Engineers

Contract Number: W91278-23-B-0004

Project Name: Mobile Harbor heavy dredging.

Description of Work (as clarified):Pipeline dredging.

Date of Decision: 09/26/2023
Expires: 03/26/2024

Modification Number: 0

Classification	Hourly Rate	Fringe Benefits
Derrick Operator	$16.20	$0.00
Dozer Operator	$16.20	$0.00
Dredge 16” “and Over		
Deckhand	$16.20	$0.00
Dredge Tender Operator	$16.20	$0.00
Fireman	$16.20	$0.00

First Assistant Engineer	$16.20	$0.00
Leverman	$16.20	$0.00
Oiler	$16.20	$0.00
Second Assistant Engineer	$16.20	$0.00
Shoreman	$16.20	$0.00
Third Assistant Engineer	$16.20	$0.00
Truck Driver	$16.20	$0.00
Welder	$16.20	$0.00
Dredge Under 16” “		
Deckhand	$16.20	$0.00
Dredge Tender Operator	$16.20	$0.00
Leverman	$16.20	$0.00
Oiler	$16.20	$0.00
Welder	$16.20	$0.00
Hydraulic Dredging		
First Cook	$16.20	$0.00
Handyman	$16.20	$0.00
Janitor, Cabin Person	$16.20	$0.00
Second Cook	$16.20	$0.00
Marsh Buggy, Dragline, Oiler.	$16.20	$0.00
Marsh Buggy, Dragline, Operator	$16.20	$0.00

Self-Propelled Hopper Dredge, Drag		
Tender	$16.20	$3.45+a

This wage determination is specifically for the project listed above. It cannot be used for any other purpose including contracts and or project.

Further, in the event the above referenced contract is subject to Executive Order (EO) 14026 and the approved conformed hourly wage rate (not including any fringe benefits) is less than the EO minimum wage, you are required to comply with the minimum wage requirements of EO 14026, codified at 29 CFR Part 10. Please note that this EO 14026 applies to contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). See https://www.dol.gov/agencies/whd/government-contracts/eo14026 for additional information regarding EO 14026, including coverage and minimum wage requirements.

If you have any questions and or additional comments, please do not hesitate to contact me at thomas.rhontia@dol.gov.

Approved by:

Timothy Holmes

For
RhonTia Thomas-Johnson
Chief
Branch of Construction Wage Determinations
202-693-0087
Thomas.Rhontia@dol.gov

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SECTION 01 00 01
GENERAL CONTRACT REQUIREMENTS

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1. BOARD OF CONTRACT APPEALS

The agency board of contract appeals having jurisdiction over all appeals from final decisions of the Contracting Officer under the Contract Disputes Act of 1978 is the Armed Services Board of Contract Appeals, Skyline Six, 5109 Leesburg Pike, 7TH Floor, Falls Church, Virginia 22041.

End of Paragraph

2. REQUESTS FOR INFORMATION

Any questions about this solicitation, including technical questions about plans and specifications, shall be submitted via the Bidder Inquiry Portal in ProjNet at https://www.projnet.org. To submit and review inquiry items, prospective vendors will need to use the Bidder Inquiry Key presented below and follow the instructions listed below the key for access. A prospective vendor who submits a comment /question will receive an acknowledgement of their comment/question via email, followed by an answer to the comment/question after it has been processed by our technical team. All timely questions and approved answers will be made available through ProjNet.

Questions shall be submitted no later than **16 NOVEMBER 2023** at 2:00 p.m. Central Time to allow time for a response, and amendment to the solicitation if necessary. On this date and time the portal will be closed.

For technical questions, no other means of communication, e-mail, fax, or telephone will be accepted. Oral exchanges between Offerors or Bidders and the government prior to award of the contract will not be binding. In addition to information available to Offerors or Bidders on the Bidder Inquiry Portal, any information concerning this solicitation will be furnished to all Offerors or Bidders as an amendment to the solicitation if the information is necessary to the submittal of offers or bids.

The Solicitation Number is: W9127823B0004
The Bidder Inquiry Key is: RBGQZY-87Y3E2

Specific Instructions for ProjNet Bid Inquiry Access:
1. From the ProjNet home page linked above, click on **Quick Add** on the upper right side of the screen.
2. Identify the Agency. This should be marked as **USACE**.
3. Key. Enter the **Bidder Inquiry Key** listed above.
4. Email. Enter the email address you would like to use for communication.
5. Click Continue. A page will then open saying that a user account was not found and will ask you to create one using the provided form.
6. Enter your First Name, Last Name, Company, City, State, Phone, Email, Secret Question, Secret Answer, and Time Zone. Make sure to remember your Secret Question and Answer as they will be used from this point on to access the ProjNet system.
7. Click Add User. Once this is completed you are now registered within ProjNet and are currently logged into the system.

Specific Instructions for Future ProjNet Bid Inquiry Access:
1. For future access to ProjNet, you will not be emailed any type of password. You will utilize your Secret Question and Secret Answer to log in.
2. From the ProjNet home page linked above, click on **Quick Add** on the upper right side of the screen.
3. Identify the Agency. This should be marked as **USACE**.

4. Key. Enter the **Bidder Inquiry Key** listed above.
5. Email. Enter the email address you used to register previously in ProjNet.
6. Click Continue. A page will then open asking you to enter the answer to your Secret Question.
7. Enter your Secret Answer and click Login. Once this is completed you are now logged into the system.

Note: Questions/comments should be entered in the system one at a time. Lists of questions uploaded into ProjNet, regardless of the format, will not be answered.

Offerors are requested to review the solicitation and amendments in their entirety, as well as to review the Bidder Inquiry Portal for previous questions and responses, prior to submission of a new inquiry on the Portal.

CAUTION: ANY INQUIRY SUBMITTED AND ANSWERED WITHIN THIS SYSTEM, WILL BE ACCESSIBLE TO VIEW BY ALL INTERESTED OFFERORS OR BIDDERS ON THIS SOLICITATION.

The call center for the ProjNet operates weekdays from 8 AM to 5 PM U.S. Central Time Zone. The telephone number is 1-800-428-HELP.

End of Paragraph

3. DESCRIPTION OF WORK

In general, the work for Phase 5 of the Mobile Harbor, Alabama Project shall consist of deepening and widening portions of the Mobile Bay and River Channels located north of Gaillard Island.

NOTE: The above general outline of features of the work does not in any way limit the responsibility of the Contractor to perform all work and furnish all plant, labor, equipment and materials required by the specifications and the drawings referred to therein. The cost of this work is estimated to be between $25,000,000 and $100,000,000.

End of Paragraph

4. PREAWARD INFORMATION

Each bidder shall furnish either with his bid or within 3 days after a request is made for submittal of preaward data a statement of whether he is now or ever has been engaged in any work similar to that covered by the specifications herein, the dollar value thereof, the year in which such work was performed, and the manner of its execution, and giving such other information as will tend to show the bidder's ability to prosecute the required work. The "such other information" referred to above shall include but is not limited to the following:

a. The name and address of the office or firm under which such similar work was performed. Include names and telephone numbers of personnel within each organization who are familiar with the prospective contractor's performance.

b. A list of key personnel available for the instant project and their qualifications.

c. A copy of bidder's latest financial statement, including the names of banks or other financial institutions with which the bidder conducts business. If the financial statement is more than 60 days old, a certificate should be attached stating that the financial condition is substantially the same, or if not the same, the changes that have taken place. Such statements will be treated as confidential.

d. A list of present commitments, including the dollar value thereof, and name of office under which the work is being performed. Include names and telephone numbers of personnel within each organization who are familiar with the prospective contractor's performance.

e. If the bid exceeds $1,000,000 and the prospective contractor is a large business concern, he must submit a subcontracting plan in compliance with the Contract Clause entitled SMALL BUSINESS SUBCONTRACTING PLAN.

End of Paragraph

5. CONTRACT PRICES - BIDDING SCHEDULE

Payment for the various items listed in the Bidding Schedule shall constitute full compensation for furnishing all plant, labor, equipment, appliances, materials and bonds (performance and payment), and for performing all operations required to complete the work in conformity with the drawings and specifications. All costs for work not specifically mentioned in the Bidding Schedule shall be included in the contract prices for the items listed.

End of Paragraph

6. REQUIRED INSURANCE

The Contractor shall procure and maintain during the entire period of his performance under this contract, the following minimum insurance in accordance with the Contract Clause entitled "Insurance-Work on a Government Installation." Workmen's Compensation and Employers' liability Insurance:

Workmen's Compensation and Occupational Disease Coverage in accordance with statutory limits. Employers' Liability Coverage with a minimum limit of $100,000.

Comprehensive Automobile Liability Insurance:

Bodily injury coverage with minimum limits of $200,000 per person and $500,000 per occurrence. Property Damage Coverage with a minimum limit of $20,000 per occurrence.

Comprehensive General Liability Insurance:

Bodily injury coverage with minimum limits of $500,000 per occurrence.

End of Paragraph

7. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

(a) This clause does not apply to terminations.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region III. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retrospective pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, "Contract Pricing Proposal Cover Sheet."

End of Paragraph

8. U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385- 1-1

This paragraph applies to contracts and purchase orders that require the contractor to comply with EM 385-1-1 (e.g., contracts that include the Accident Prevention clause at FAR 52.236-13 and/or other safety provisions). EM 385-1-1 and its changes are available at http://www.usace.army.mil/Safety-and-Occupational-Health/EM-385-1-1-2008-Being-Revised/. The Contractor shall be responsible for complying with the current edition and all changes posted on the web through the date that is 10 calendar days prior to the date offers are due. If the solicitation is amended to extend the time set for receipt of offers, the 10 calendar days rule stated above shall be applied against the amended date. (For example, if offers are due on 10 April, all changes posted on or before 31 March shall apply to the contract. If the time for receipt of offers is extended from 10 April to 20 April, all changes posted on or before 10 April shall apply to the contract.)

End of Paragraph

9. AFFILIATED BIDDERS

(a) Business concerns are affiliates of each other when, either directly or indirectly, (1) one concern controls or has the power to control the other, or (2) a third party controls or has the power to control both.

(b) Each bidder shall submit with its bid an affidavit stating that it has no affiliates, or containing the following information.

(1) The names and addresses of all affiliates of the bidder.

(2) The names and addresses of all persons and concerns exercising control or ownership of the bidder and any or all of its affiliates, and whether they exercise such control or ownership as common officers, directors, stockholders, holding controlling interest, or otherwise.

Please check when applicable:

_____ The offeror certifies that it has no affiliates.

_____ The offeror certifies that it is affiliated with the concerns designated on an attached affidavit.

End of Paragraph

10. MANUALS AND PUBLICATIONS

Engineering manuals and Concrete Research Division Publications may be obtained from the addresses given below.

Engineering Manuals:

U. S. Army, Corps of Engineers
Publications Depot
2803 -52nd Avenue
Hyattsville, MD 20781-1102

Concrete Research Division Publications:

U.S. Army Engineer Waterways Experiment Station
ATTN: Publications Distribution Unit
P.O. Box 631
Vicksburg, MS 39180

End of Paragraph

11. BULLETIN BOARD

Immediately upon beginning of work under this contract, the Contractor shall provide at the job site a weatherproof glass-covered bulletin board for displaying the fair employment poster, wage rates, and safety

bulletins and posters. Emergency telephone numbers and reporting instructions for ambulance, physician, hospital, fire and police shall be posted. The bulletin board shall be located in a conspicuous place easily accessible to all and legible copies of the aforementioned data shall be displayed until work under the contract is completed. No direct payment will be made for the bulletin board.

End of Paragraph

12. LABOR REPORTS

The Contractor shall promptly furnish and shall cause any subcontractors to furnish in like manner within 7 days after the regular payment date of each weekly payroll to the Contracting Officer, a copy of such payroll together with a statement of compliance with respect to the wages paid each of its employees (which shall not be deemed to apply to persons in classifications higher than laborers and mechanics and those who are the immediate supervisors of such employees) engaged on the work. If the Contractor or any of his subcontractors fail to furnish copies of such payrolls, the Contracting Officer may disapprove all or part of any progress payment estimate for the period covered by such payrolls until they are received by him. The Contractor shall also prepare and furnish such labor reports as may be required by the Department of Labor.

End of Paragraph

13. PROTECTION OF MATERIAL AND WORK

The Contractor shall at all times protect and preserve all materials, supplies and equipment of every description (including property which may be Government-furnished or owned) and all work performed. All reasonable requests of the Contracting Officer to enclose or specially protect such property shall be complied with. If, as determined by the Contracting Officer, material, equipment, supplies, and work performed are not adequately protected by the Contractor such property may be protected by the Government and the cost thereof may be charged to the Contractor or deducted from any payments due him.

End of Paragraph

14. ENGLISH-SPEAKING REPRESENTATIVE

At all times when any performance of the work at any site is being conducted by any employee of the Contractor or his subcontractors, the Contractor shall have a representative present at each site who has the capability of receiving instructions in the English language, fluently speaking the English language and explaining the work operations to persons performing the work in the language that those performing the work are capable of understanding. The Contracting Officer shall have the right to determine whether the proposed representative has sufficient technical and bilingual capabilities, and the Contractor shall immediately replace any individual not acceptable to the Contracting Officer.

End of Paragraph

15. PROHIBITION AGAINST CONTRACTING WITH INDIVIDUALS OR ENTITIES DESIGNATED AS SIGNIFICANT NARCOTICS TRAFFICKERS

Pursuant to Executive Order 12978 entitled "Blocking Assets and Prohibiting Transactions with Significant Narcotic Traffickers" dated October 21, 1995, the offeror certifies that it has not and will not be involved in business transactions with individuals or business entities designated as significant narcotics traffickers under this Executive Order. For a current listing of specially designated nationals and blocked persons, contact the Office of Foreign Assets Control, Department of the Treasury, Washington, DC 22201; telephone 202/622-2420.

End of Paragraph

16. CONTRACTOR PAYMENT REQUEST

A copy of CESAM Form 1151 entitled PROMPT PAYMENT CERTIFICATION AND SUPPORTING DATA FOR CONTRACTOR PROGRESS PAYMENT INVOICE is included hereinafter, with instructions, following the Wage Rates. This form will be used in conjunction with the CONTRACT CLAUSE entitled PAYMENTS UNDER FIXEDPRICE CONSTRUCTION CONTRACTS. The contracting Officer will provide copies of the form to the Contractor upon request. The Contractor shall complete the form, sign the certification and submit it with each progress payment invoice.

End of Paragraph

17. PARTNERING

In order to most effectively accomplish this contract, the Government proposes to form a cohesive partnership with the Contractor and its subcontractors. This partnership would strive to draw on the strengths of each organization in an effort to achieve a quality project done right the first time, within budget and on schedule. This partnership would be bilateral in make-up and participation will be totally voluntary. Any cost associated with implementing this partnership will be agreed to by both parties and will be shared equally with no change in contract price.

End of Paragraph

18. POTABLE WATER

Testing of all potable water storage facilities and dispensing systems with a storage capacity of ten or more gallons, will be conducted by an independent testing laboratory approved by the Contracting officer as follows:

(1) Prior to the commencement of work.
(2) Minimum of monthly, after start of work for the duration of the contract.
(3) After any repairs or modifications are made to the potable water storage or dispensing systems.
(4) After any intake of potable water into the storage system.

All samples shall meet state and local water quality standards for potable water. A copy of all test results will be forwarded to the Contracting Officer within seven working days for his review.

In the event a tested sample fails to meet state and local water quality standards, all dispensing outlets connected to the failing water storage shall be labeled as non-potable and other means of potable water shall be obtained until water quality can be provided to meet the required standards.

To insure potable water maintains water quality standards all portable potable water dispensing units shall be checked daily for cleanliness. All hoses used in the transfer of potable water shall be conspicuously marked and kept in such a manner as to keep them from being contaminated. These hoses shall be used for potable water transfer only.

End of Paragraph

19. PRESERVATION OF HISTORICAL, ARCHEOLOGICAL AND CULTURAL RESOURCES

(a) If known historical, archeological and cultural resources exist within the Contractor's work area, they have been designated on the contract drawings. The Contractor shall install protection for these resources as shown on the drawings and shall be responsible for their preservation during the contract.

(b) If, during construction activities, the Contractor observes items that might have historical or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination can be made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources.

End of Paragraph

20. WORK IN QUARANTINED AREA

The work called for by this contract involves activities in counties quarantined by the Department of Agriculture to prevent the spread of certain plant pests which may be present in the soil. The Contractor agrees that all construction equipment and tools to be moved from such counties shall be thoroughly cleaned of all soil residues at the construction site with water under pressure and that hand tools shall be thoroughly cleaned by brushing or other means to remove all soil. In addition, if this contract involves the identification, shipping, storage, testing, or disposal of soils from such a quarantined area, the Contractor agrees to comply with the provisions of ER 1110-1-5 and attachments, a copy of which will be made available by the Contracting Officer upon request. The Contractor agrees to assure compliance with this obligation by all subcontractors.

End of Paragraph

21. KEY PERSONNEL, SUBCONTRACTORS AND OUTSIDE ASSOCIATES OR CONSULTANTS

Any key in-house personnel, subcontractors and outside associates or consultants required by the Contractor in connection with the services covered by the contract will be limited to individuals or firms that were

specifically identified and agreed to during negotiations. The Contractor shall obtain the Contracting Officer's written consent before making any substitution for these designated key personnel, subcontractors, associates, or consultants.

End of Paragraph

22. ACCOMMODATIONS AND MEALS FOR INSPECTORS

a. The Contractor shall furnish regularly to inspectors on board the dredge or other craft upon which they are employed, a suitable separate room for office purposes. The room shall be fully equipped and maintained to the satisfaction of the Contracting Officer; it shall be properly heated, ventilated, and lighted, and shall have a desk which can be locked, a chair for each inspector, and washing conveniences. The entire cost to the Contractor for furnishing, equipping, and maintaining the foregoing accommodations shall be included in the contract price. If the Contractor fails to meet these requirements, the facilities referred to above will be secured by the Contracting Officer, and the cost thereof will be deducted from payments to the Contractor.

b. If the Contractor maintains on this work an establishment for the subsistence of his own employees, he shall, when required, furnish the inspectors employed on the work, and to all Government agents who may visit the work on official business, meals of a quality satisfactory to the Contracting Officer. The Contractor will be responsible for collecting from all inspectors and other Government agents the following amount per person for each meal: Breakfast - $2.25, Lunch - $3.25 and Dinner - $3.50.

End of Paragraph

23. SEAGOING BARGE ACT

The Seagoing Barge Act (46 U.S. C. 395 et seq.) applies to this project. In the event the low bidder contemplates using plant that requires U.S. Coast Guard certification to comply with this Act, the low bidder shall within 15 calendar days after bid opening submit a copy of said certificate to the Contracting Officer. Failure to produce the certificate within the required time shall subject the bidder to a determination of nonresponsibility.

End of Paragraph

24. DELIVERY, PROSECUTION AND TERMINATION

(a) The dredge and attendant plant shall be delivered by and at the expense of the Contractor to the Mobile District's navigation projects located in Mobile County, Alabama.
(b) The Contractor shall prosecute the work assigned him with faithfulness and energy, and at all times endeavor to meet the schedule of dredging operations as determined by the Contracting Officer.
(c) Upon termination of the lease, the plant will be released to the Contractor.

End of Paragraph

25. SUNDAYS, HOLIDAYS AND NIGHTS

Due to the nature of the work, a twenty-four (24) hour operation will be performed on a seven (7) day week schedule. Work shall be performed on days declared by Congress as holidays for per diem employees that fall within the work described above. Deviation from the work week contracted for will be subject to the approval of the Contracting Officer. -

Operation Day. The dredge, together with the necessary attendant plant and with adequate crew, shall be operated 24 hours per day on an optional shift basis.

End of Paragraph

26. RETAINAGE--SMALL BUSINESS SUBCONTRACTING REPORTING

Reference is made to contract clause(s) 252.219-7003, Small Business Subcontracting Plan (DoD Contracts) and 52.219-16, Liquidated Damages--Small Business Subcontracting Plan. In order to ensure compliance with these clauses, retainage will be withheld from progress payments due the contractor in an amount sufficient to protect the Government's ability to assess Liquidated Damages for failure to submit timely SF 294 and SF 295 reports.

The formula for retainage is as follows:

"Total dollar amount proposed for subcontracting to small business multiplied by percentage of actual progress on the contract, up to a maximum of 10% of the given progress payment, shall be withheld from the next progress payment due after a contractor fails to submit a required report. If one or more reports have been submitted before such failure, formula for determining the amount of retainage will be adjusted by deducting any amounts reported as subcontracted to small business from the total dollar amount proposed to be subcontracted and the difference multiplied by the percent of actual progress, up to a maximum of 10% of the given progress payment."

End of Paragraph

27. JOINT VENTURE BID REQUIREMENTS

When bidding as a Joint Venture, all members of the Joint Venture must sign all contract documents and must complete the Representations and Certifications unless a written agreement by the Joint Venture is furnished with the bid designating one firm with the authority to bind the other member(s) of the Joint Venture. In addition, a copy of the Joint Venture Agreement fully executed by both parties must be submitted with the bid. Failure to comply with the foregoing requirements may render the bid non-responsive. For 8(A) Joint Ventures, the Joint Venture shall also submit evidence that it has notified and discussed the proposed joint venture with its SBA Servicing Agency. Additionally, for 8(A) Set-aside procurements, all prospective Joint Ventures must comply with Title 13 Code of Federal Regulations (CFR) Part 124.513. Award to an 8(A) Joint Venture shall be contingent upon SBA approval of the 8(A) Joint Venture Agreement. For HubZone Set-Aside procurements, and awards to HUBZone small business concerns, a HUBZone Joint Venture must comply with 13 CFR 126.616.

End of Paragraph

28. SMALL BUSINESS SUBCONTRACTING PLAN

(a) This clause does not apply to small business concerns.

(b) Offerors who are large businesses, upon request by the Contracting Officer, shall submit a subcontracting plan in accordance with the contract clause in Section 00 70 00, FAR 52.219-9, Small Business Subcontracting Plan.

(c) Approval of subcontracting plan by the Contracting Officer will be contingent upon providing a plan that includes realistic goals and makes a good faith effort to acquire services and supplies from small businesses

End of Paragraph

29. PROCEDURES FOR SUBMISSION OF BIDS AND VIRTUAL BID OPENING

In accordance with FAR 14.202-8 and FAR Part 4.5, bidders will be required to submit their bids in response to this IFB solicitation by 2:00 pm CST on **05 DECENBER 2023** via electronic means, to include bid bonds. Physical copies of bid bonds will not be required to be submitted unless otherwise requested by the Contracting Officer at a later date. Bidders that are interested in submitting bids will use the U.S. Army Corps of Engineers via Procurement Integrated Enterprise Environment (PIEE) website (https://piee.eb.mil/xhtml/unauth/home/login.xhtml OR- https://wawf.eb.mil -OR- https://piee.eb.mil). Emailed submissions of bids are not permitted and will not be accepted under any circumstances. The Government must receive your bid no later than the time and date specified in Block 13 of SF 1442. The PIEE system notification must show the bid submission prior to the specified time. Any and all amendments to the solicitation shall be acknowledged by signing on each amendment (SF30) and by completing Block 19 of the SF 1442. Offerors shall confirm bid receipt by emailing the Points of Contact listed on the SF1442.

The public bid opening will be held virtually on **05 DECEMBER 2023** at 2:45 pm CST. Interested parties are welcome to participate by joining the teleconference call via WebEx. The details of the teleconference are provided below:

Phone Number: 844-800-2712
Access Code: 1990707194
Security Code: 1111

End of Paragraph

Sheet ____ of ____

PROMPT PAYMENT CERTIFICATION AND SUPPORTING DATA FOR CONTRACTOR PROGRESS PAYMENT INVOICE

Contractor Name and Address	Contract No.	Est. No.	Date	Discount Terms
	Designated Contractor Offical and Address for Payment		Defective Invoice Notification (Name, Title, Telephone)	
Description and Location of Work				

Subcontractor Name	Total Amount Subcontracted	Subcontractor Amount Included This Payment Est	Previous Subcontractor Payments	Subcontractor Earnings Deducted by Contractor (Total to Date)
				$

I hereby certify, to the best of my knowledge and belief, that:

(1) The amounts requested are only for performance in accordance with the specifications, terms and conditions of the contract;

(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code; and

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or
retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

(NAME) (DATE)
(TITLE)

CESAM Form 1151
AUG 90

Information required by PPA Amend 1988.

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SECTION 01 32 01.00 10

PROJECT SCHEDULE: BAR CHART

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittal

PROJECT SCHEDULE AND CURVE; G,OP

PART 2 EXECUTION

2.1 GENERAL REQUIREMENTS

Prepare for approval a Practicable Project Schedule and Curve, as specified herein. Show in the schedule the sequence in which the Contractor proposes to perform the work and dates on which the Contractor contemplates starting and completing all schedule activities. Provide a schedule that is a forward planning as well as a project monitoring tool.

2.2 BASIS FOR PAYMENT

The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

2.3 PROJECT SCHEDULE AND CURVE

The Project Schedule shall be in the form of a chart consisting of a series of bars graphically indicating the sequence proposed to accomplish each work feature or operation. Each bar will represent a work feature, system or series of activities within the construction project. The chart shall be prepared to show the starting and completion dates of all work features on a linear horizontal time scale beginning with date of Notice to Proceed and indicating calendar days to completion. Interdependence of status of activities shall be shown. Horizontal time scale shall allow identification of the first work day each week, which shall be identified. Space between bars shall be allowed for future revisions and notations. The Initial Project Schedule shall be submitted for approval within fifteen (15) calendar days after Notice to Proceed. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail. The initial schedule shall be reviewed by the Government to determine compliance with contract requirements and realistic completion of the project in the period indicated. A revised project schedule shall be submitted based on Government review, if required.

With the Project Schedule, the Contractor shall also submit for approval a progress curve which reflects the intended schedule for completing the work. The progress curve (S-Curve) will be plotted to reflect Cumulative Progress (Percent) based on placement along the y-axis and Time along the x-axis.

2.3.1 SCHEDULE AND PROGRESS CURVE UPDATE

Approved Schedule and Progress Curve will be updated monthly during the entire duration of construction. Not later than four days after the Monthly Progress Meeting the Contractor shall submit the updated Project Schedule and Progress Curve. The updated versions shall include all approved contract revisions, progress of each activity to date of submission, and adjustments. Contractor shall also provide a very brief narrative report as required to indicate any problem areas, anticipated delays, impact on schedule, and corrective action.

2.3.2 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include on-site meetings or other regular intervals mutually agreed to at the preconstruction conference. During this meeting the Contractor will describe, on an activity by activity basis, all proposed revision and adjustments to the project schedule required to reflect the current status of the project. The Contracting Officer will review activity progress, proposed revisions, and adjustments as appropriate.

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES
08/18, CHG 4: 02/21

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Submittal Information

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

1.1.2 Project Type

The Contractor's Quality Control (CQC) System Manager are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.1.3 Submission of Submittals

Schedule and provide submittals requiring Government approval before acquiring the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Examples and descriptions of submittals identified by the Submittal Description (SD) numbers and titles follow:

SD-01 Preconstruction Submittals

Submittals that are required prior to or at the start of construction (work) or the next major phase of the construction on a multiphase contract.

For Government approved division 01 preconstruction submittals that are required prior to or commencing with the start of work shall be submitted within 30 calendar days of contract award unless specified elsewhere in the specifications. For contractor approved division 01 submittals that

are required prior to or commencing with the start of work shall be submitted within 45 calendar days of contract award unless specified elsewhere in the specifications.

Preconstruction Submittals include schedules and a tabular list of locations, features, and other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates Of Insurance

Surety Bonds

List Of Proposed Subcontractors

List Of Proposed Products

Baseline Network Analysis Schedule (NAS)

Submittal Register

Schedule Of Prices Or Earned Value Report

Accident Prevention Plan

Work Plan

Quality Control (QC) plan

Environmental Protection Plan

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report that includes findings of a test required to be performed on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report that includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily logs and checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods, or personnel qualifications.

Confined space entry permits

Text of posted operating instructions

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve the submittal.

1.2.3 Work

As used in this section, on-site and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction. In exception, excludes work to produce SD-01 submittals.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or “S” classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal Register; G

1.4 SUBMITTAL CLASSIFICATION

1.4.1 Government Approved (G)

Government approval is required for extensions of design, critical

materials, variations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Government.

Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, submittals are considered to be "shop drawings."

1.4.2 For Information Only

Submittals not requiring Government approval will be for information only. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are not considered to be "shop drawings."

1.5 PREPARATION

1.5.1 Transmittal Form

Use the ENG Form 4025-R transmittal form for submitting both Government-approved and information-only submittals. Submit in accordance with the instructions on the reverse side of the form. These forms or similar forms are included in the RMS CM software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.2 Submittal Format

1.5.2.1 Format of SD-01 Preconstruction Submittals

When the submittal includes a document that is to be used in the project, or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.2.2 Format of SD-03 Product Data

Present product data submittals for each section as a complete, bound volume. Include a table of contents, listing the page and catalog item numbers for product data.

Indicate, by prominent notation, each product that is being submitted; indicate the specification section number and paragraph number to which it pertains.

1.5.2.2.1 Product Information

Supplement product data with material prepared for the project to satisfy the submittal requirements where product data does not exist. Identify this material as developed specifically for the project, with information and format as required for submission of SD-07 Certificates.

Provide product data in units used in the Contract documents. Where product data are included in preprinted catalogs with another unit, submit the dimensions in contract document units, on a separate sheet.

1.5.2.2.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.2.3 Data Submission

Collect required data submittals for each specific material, product, unit of work, or system into a single submittal that is marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of the construction effort.

Submit the manufacturer's instructions before installation.

1.5.2.3 Format of SD-04 Samples

1.5.2.3.1 Sample Characteristics

Furnish samples in the following sizes, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:

a. Sample of Equipment or Device: Full size.

b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.

f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

g. Sample Panel: 4 by 4 feet.

h. Sample Installation: 100 square feet.

1.5.2.3.2 Sample Incorporation

Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at the time of use.

Recording of Sample Installation: Note and preserve the notation of any area constituting a sample installation, but remove the notation at the final clean-up of the project.

1.5.2.3.3 Comparison Sample

Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.5.2.4 Format of SD-05 Design Data

Provide design data and certificates on 8 1/2 by 11 inch paper. Provide a bound volume for submittals containing numerous pages.

1.5.2.5 Format of SD-06 Test Reports

Provide reports on 8 1/2 by 11 inch paper in a complete bound volume.

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.6 Format of SD-07 Certificates

Provide design data and certificates on 8 1/2 by 11 inch paper. Provide a bound volume for submittals containing numerous pages.

1.5.2.7 Format of SD-08 Manufacturer's Instructions

Present manufacturer's instructions submittals for each section as a complete, bound volume. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry, and technical-society publication references. If supplemental information is needed to clarify the manufacturer's data, submit it as specified for SD-07 Certificates.

Submit the manufacturer's instructions before installation.

1.5.2.7.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC),

submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.8 Format of SD-09 Manufacturer's Field Reports

Provide reports on 8 1/2 by 11 inch paper in a complete bound volume.

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.9 Format of SD-10 Operation and Maintenance Data (O&M)

Comply with the requirements specified in Section 01 78 23 OPERATION AND MAINTENANCE DATA for O&M Data format.

1.5.2.10 Format of SD-11 Closeout Submittals

When the submittal includes a document that is to be used in the project or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.3 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents, and coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature or a scan of a signature.

E-mail electronic submittal documents smaller than 10MB to an e-mail address as directed by the Contracting Officer. Provide electronic documents over 10 MB on an optical disc or through an electronic file sharing system such as the AMRDEC SAFE Web Application located at the following website: https://safe.amrdec.army.mil/safe/.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of SD-01 Preconstruction Submittal Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.6.2 Number of SD-03 Product Data Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.3 Number of SD-04 Samples

a. Submit two samples, or two sets of samples showing the range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in the technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of nonsolid materials.

1.6.4 Number of SD-05 Design Data Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.5 Number of SD-06 Test Report Copies

Submit in compliance with quantity and quality requirements specified for shop drawings, other than field test results that will be submitted with QC reports.

1.6.6 Number of SD-07 Certificate Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.7 Number of SD-08 Manufacturer's Instructions Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.8 Number of SD-09 Manufacturer's Field Report Copies

Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

1.6.9 Number of SD-11 Closeout Submittals Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.7 INFORMATION ONLY SUBMITTALS

Submittals without a "G" designation must be certified by the QC manager and submitted to the Contracting Officer for information-only. Provide information-only submittals to the Contracting Officer a minimum of 14 calendar days prior to the Preparatory Meeting for the associated Definable Feature of Work (DFOW). Approval of the Contracting Officer is

not required on information only submittals. The Contracting Officer will mark "receipt acknowledged" on submittals for information and will return only the transmittal cover sheet to the Contractor. Normally, submittals for information only will not be returned. However, the Government reserves the right to return unsatisfactory submittals and require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.8 PROJECT SUBMITTAL REGISTER

A sample Project Submittal Register showing items of equipment and materials for when submittals are required by the specifications is provided as "Appendix A - Submittal Register."

1.8.1 Submittal Management

Prepare and maintain a submittal register, as the work progresses. Do not change data that is output in columns (c), (d), (e), and (f) as delivered by Government; retain data that is output in columns (a), (g), (h), and (i) as approved. As an attachment, provide a submittal register showing items of equipment and materials for which submittals are required by the specifications. This list may not be all-inclusive and additional submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM). The Government will provide the initial submittal register with the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD Number. and type, e.g., SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in each specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting the project requirements.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns and all dates on which submittals are received by and returned by the Government.

1.8.2 Preconstruction Use of Submittal Register

Submit the submittal register. Include the QC plan and the project schedule. Verify that all submittals required for the project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for the approving authority to receive submittals.

Column (h) Contractor Approval Date: Date that Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.8.3 Contractor Use of Submittal Register

Update the following fields in the Government-furnished submittal register program or equivalent fields in the program used by the Contractor with each submittal throughout the contract.

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) Date submittal transmitted.

Column (q) Date approval was received.

1.8.4 Approving Authority Use of Submittal Register

Update the following fields:

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (l) Date submittal was received.

Column (m) through (p) Dates of review actions.

Column (q) Date of return to Contractor.

1.8.5 Action Codes

1.8.5.1 Contractor Action Codes

DESIGN BID BUILD SUBMITTALS			
Submittal Classifications shown in UFGS Sections	Submittal Classification	Corresponding SpecsIntact Submittal Register Code which is populated in the SI Submittal Register. Software Limitations: (The software shows one character delineation in the SpecsIntact Submittal Register)	RMS – The following Submittal Classifications are populated in RMS when the SpecsIntact Submittal Data File is pulled into RMS)
G	Submittal requires Government Approval	G	GA
BLANK	Submittal is For Information Only (FIO)	BLANK	FIO
S	Submittal is for documentation of Sustainable requirements	S	S/FIO

1.8.6 Delivery of Copies

Submit an updated electronic copy of the submittal register to the Contracting Officer with each invoice request. Provide an updated Submittal Register monthly regardless of whether an invoice is submitted.

1.9 VARIATIONS

Variations from contract requirements require Contracting Officer approval pursuant to contract Clause FAR 52.236-21 Specifications and Drawings for Construction, and will be considered where advantageous to the Government.

1.9.1 Considering Variations

Discussion of variations with the Contracting Officer before submission of a variation submittal will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. For variations that include design changes or some material or product substitutions, the Government may require an evaluation and analysis by a licensed professional engineer hired by the contractor.

Specifically point out variations from contract requirements in a variation submittal. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

1.9.2 Proposing Variations

When proposing variation, deliver a submittal, clearly marked as a "VARIATION" to the Contracting Officer, with documentation illustrating the nature and features of the variation including any necessary technical submittals and why the variation is desirable and beneficial to Government. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

The Contracting Officer will indicate an approval or disapproval of the variation request; and if not approved as submitted, will indicate the Government's reasons therefore. Any work done before such approval is received is performed at the Contractor's risk."

Specifically point out variations from contract requirements in a variation submittal. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

Check the column "variation" of ENG Form 4025 for submittals that include variations proposed by the Contractor. Set forth in writing the reason for any variations and note such variations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

1.9.3 Warranting that Variations are Compatible

When delivering a variation for approval, the Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.9.4 Review Schedule Extension

In addition to the normal submittal review period, a period of 14 calendar days will be allowed for the Government to consider submittals with variations.

1.10 SCHEDULING

Schedule and submit concurrently product data and shop drawings covering component items forming a system or items that are interrelated. Submit pertinent certifications at the same time. No delay damages or time extensions will be allowed for time lost in late submittals..

a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required resubmittals. The review period for each resubmittal is the same as for the initial submittal.

b. Submittals required by the contract documents are listed on the submittal register. If a submittal is listed in the submittal register but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a

brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but that have been omitted from the register or marked "N/A."

c. Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have been fully approved, no further resubmittal is required.

1.11 GOVERNMENT APPROVING AUTHORITY

When the approving authority is the Contracting Officer, the Government will:

a. Note the date on which the submittal was received.

b. Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date submittals. One copy of the submittal will be retained by the Contracting Officer and a copy of the submittal will be returned to the Contractor.

1.11.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize proceeding with the work covered.

b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the work covered provided that the Contractor takes no exception to the corrections.

c. Submittals marked "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the contract requirements or design concept. Resubmit with appropriate changes. Do not proceed with work for this item until the resubmittal is approved.

d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

e. Submittals marked "receipt acknowledged" indicate that submittals have been received by the Government. This applies only to "information-only submittals" as previously defined.

1.12 DISAPPROVED SUBMITTALS

Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, give notice to the Contracting Officer as required under the FAR clause titled CHANGES. The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.13 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only that

Approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained with in each submittal accurately conforms with the requirements of the contract documents.

After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.14 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, provide assurance that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make as that material. The Government reserves the right to disapprove any material or equipment that has previously proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Replace such materials or equipment to meet contract requirements.

1.15 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.16 CERTIFICATION OF SUBMITTAL DATA

Certify the submittal data as follows on Form ENG 4025: "I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

_____NAME OF CONTRACTOR _____ SIGNATURE OF CONTRACTOR

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instruction on the reverse side prior to initiating this form)*	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmital)*	PROJECT TITLE AND LOCATION		

ITEM NO.	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)*	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION *(See instruction No. 6)*	FOR CE USE CODE
				SPEC. PARA. NO.	DRAWING SHEET NO.			
a.	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*	*I.*

REMARKS	I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated. _____ NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section 1 will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmits mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288 for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A -- Approved as submitted.

B -- Approved, except as noted on drawings.

C -- Approved, except as noted on drawings.
Refer to attached sheet resubmission required

D -- Will be returned by separate correspondence.

E -- Disapproved (See attached).

F -- Receipt acknowledge.

FX -- Receipt acknowledged, does not comply
as noted with contract requirements.

G -- Other *(Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Mobile Harbor Deepening and Widening, Phase 5

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 00 00	SD-11 Closeout Submittals															
			Contractor Prepared As-Built	1.5	G	OP												
			Drawings;															
		01 32 01.00 10	SD-01 Preconstruction Submittals															
			PROJECT SCHEDULE AND	2.3	G	OP												
			CURVE;															
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.8	G													
		01 35 26	SD-01 Preconstruction Submittals															
			APP - Construction	1.6.1	G													
			Dive Operations Plan	1.14	G													
			Accident Prevention Plan (APP)	1.6	G	SO												
			SD-06 Test Reports															
			Monthly Exposure Reports	1.4														
			Notifications and Reports	1.11														
			Accident Reports	1.11.2	G	SO												
			LHE Inspection Reports	1.11.3														
			SD-07 Certificates															
			Crane Operators/Riggers	1.5.1.5														
			Standard Lift Plan	1.6.3.2	G	SO												
			Critical Lift Plan	1.6.3.3	G	SO												
			Naval Architecture Analysis	1.6.3.4	G	SO												
			Activity Hazard Analysis (AHA)	1.7														
			Confined Space Entry Permit	1.8.1														
			Hot Work Permit	1.8.1														
			Certificate of Compliance	1.11.4														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Mobile Harbor Deepening and Widening, Phase 5

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 26	License Certificates															
			Radiography Operation Planning		G													
			Work Sheet															
			Portable Gauge Operations		G													
			Planning Worksheet															
		01 45 00.00 10	SD-01 Preconstruction Submittals															
			Contractor Quality Control (CQC)	3.2	G													
			Plan															
			Contractor Quality Control (CQC)	3.2	G													
			Plan															
			SD-06 Test Reports															
			Verification Statement	3.9.2														
		01 57 19	SD-01 Preconstruction Submittals															
			Preconstruction Survey	1.5.1														
			Environmental Protection Plan	1.6	G													
			SD-06 Test Reports															
			Manatee Sighting Reports	3.1.1.1	G	PD												
			SD-11 Closeout Submittals															
			Waste Determination	3.6.2.1	G													
			Documentation															
			Hazardous Waste/Debris	3.6.2.1	G													
			Management															
		35 20 23.00 36	SD-01 Preconstruction Submittals															
			Accident Prevention Plan (App)	1.8.1	G	OP												
			Order of Work Plan	1.3	G	OP												
			Quality Control Plan	3.4.5	G	OP												

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Mobile Harbor Deepening and Widening, Phase 5

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		35 20 23.00 36	Survey Plan	3.4.2	G	OP												
			Deposition Plan	3.2.2	G	OP												
			SD-05 Design Data															
			Before-Dredging Surveys		G	OP												
			After-Dredging Condition Survey		G	OP												
			Before-Placement Condition	3.4.5.2	G	OP												
			Surveys															
			After-Placement Condition	3.4.5.2	G	OP												
			Surveys															
			SD-06 Test Reports															
			Daily Report	1.6	G	OP												
			Dredge Progress Report	1.6	G	OP												
			SD-07 Certificates															
			Manufacturer's guarantee	3.4.4	G	OP												
			SD-11 Closeout Submittals															
			Project Completion Report	3.7	G	OP												
		35 20 23.13	SD-07 Certificates															
			National Dredging Quality	1.4	G	OP												
			Management Program Certification															
		35 20 23.23	SD-07 Certificates															
			National Dredging Quality	1.4	G	OP												
			Management Program Certification															
		35 20 23.33	SD-07 Certificates															
			National Dredging Quality	1.4	G	OP												
			Management Program Certification															

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SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
11/20, CHG 3: 02/22

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.3	(2020) Tower Cranes
ASME B30.5	(2021) Mobile and Locomotive Cranes
ASME B30.7	(2021) Winches
ASME B30.8	(2020) Floating Cranes and Floating Derricks
ASME B30.9	(2018) Slings
ASME B30.20	(2018) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.23	(2022) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings
ASME B30.26	(2015; R 2020) Rigging Hardware

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.22	(2007; R 2017) Safety Requirements for Rope-Guided and Non-Guided Workers’ Hoists
ASSP A10.34	(2021) Protection of the Public on or Adjacent to Construction Sites
ASSP A10.44	(2020) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSP Z244.1	(2016) The Control of Hazardous Energy Lockout, Tagout and Alternative Methods
ASSP Z359.0	(2018) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSP Z359.1	(2020) The Fall Protection Code
ASSP Z359.2	(2017) Minimum Requirements for a Comprehensive Managed Fall Protection

	Program
ASSP Z359.3	(2019) Safety Requirements for Lanyards and Positioning Lanyards
ASSP Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSP Z359.6	(2016) Specifications and Design Requirements for Active Fall Protection Systems
ASSP Z359.7	(2019) Qualification and Verification Testing of Fall Protection Products
ASSP Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSP Z359.12	(2019) Connecting Components for Personal Fall Arrest Systems
ASSP Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSP Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSP Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems
ASSP Z359.16	(2016) Safety Requirements for Climbing Ladder Fall Arrest Systems
ASSP Z359.18	(2017) Safety Requirements for Anchorage Connectors for Active Fall Protection Systems

ASTM INTERNATIONAL (ASTM)

ASTM F855	(2019) Standard Specifications for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048	(2016) Guide for Protective Grounding of Power Lines
IEEE C2	(2023) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2022; ERTA 1 2021) Standard for Portable Fire Extinguishers

NFPA 51B	(2019; TIA 20-1) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2023) National Electrical Code
NFPA 70E	(2021) Standard for Electrical Safety in the Workplace
NFPA 241	(2022) Standard for Safeguarding Construction, Alteration, and Demolition Operations

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA-222	(2018H; Add 1 2019) Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures
TIA-1019	(2012; R 2016) Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	The Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.333	Selection and Use of Work Practices
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1915.89	Control of Hazardous Energy (Lockout/Tags-Plus)
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.16	Rules of Construction
29 CFR 1926.450	Scaffolds
29 CFR 1926.500	Fall Protection
29 CFR 1926.552	Material Hoists, Personal Hoists, and Elevators

29 CFR 1926.553	Base-Mounted Drum Hoists
29 CFR 1926.1400	Cranes and Derricks in Construction
CPL 02-01-056	(2014) Inspection Procedures for Accessing Communication Towers by Hoist
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA’s Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person requirements, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSP Z359.0, who has been designated in writing by the employer to be

responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.6 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in EM 385-1-1 Appendix Q, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented including experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.7 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the training material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.8 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.9 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.10 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

1.2.11 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a

physician. Medical treatment does not include first aid treatment even when provided by a physician or registered personnel.

1.2.12 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.13 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.14 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.2.15 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the definition requirements of EM 385-1-1 Appendix Q, and ASSP Z359.2 standard, having a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.2.16 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

a. Death, regardless of the time between the injury and death, or the length of the illness;

b. Days away from work (any time lost after day of injury/illness onset);

c. Restricted work;

d. Transfer to another job;

e. Medical treatment beyond first aid;

f. Loss of consciousness; or

g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a) through (f) above

1.2.17 Government Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

1.2.18 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document an LHE mishap using the Crane High Hazard working group mishap reporting form.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

APP - Construction; G

Dive Operations Plan; G

Accident Prevention Plan (APP); G, SO

SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports; G, SO

LHE Inspection Reports

SD-07 Certificates

Crane Operators/Riggers

Standard Lift Plan; G, SO

Critical Lift Plan; G, SO

Naval Architecture Analysis; G, SO

Activity Hazard Analysis (AHA)

Confined Space Entry Permit

Hot Work Permit

Certificate of Compliance

License Certificates

Radiography Operation Planning Work Sheet; G

Portable Gauge Operations Planning Worksheet; G

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.5.1 Personnel Qualifications

1.5.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and Government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

1.5.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may not serve as the Quality Control Manager. The SSHO may not serve as the Superintendent.

1.5.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and

electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the Contracting Officer for information in consultation with the Safety Office.

1.5.1.2.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements of EM 385-1-1, Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1, Section 34.

1.5.1.2.2 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04, 21.B.03, and herein.

1.5.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards, Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

c. Update training course materials whenever an update of the EM 385-1-1 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.5.1.4 USACE Dredging Contract Requirements

1.5.1.4.1 SSHO Staffing for USACE Dredging Contracts

a. Dredging contracts may include several project sites; this contract

will require a minimum of 1 full time SSHO(s) assigned per project site. SSHO may be collateral duty in specific conditions listed below.

b. An example of one dredging project site is reflected in each of the following:

(1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or

(2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,

(3) a hopper dredge (include land-based material placement site - if applicable.)

c. Individual dredging project sites with work force less than 8 employees, the SSHO may be a collateral duty, with the same responsibilities of a full time SSHO.

1.5.1.4.2 SSHO Requirements for Dredging

a. In addition to requirements stated elsewhere in this specification, the SSHO shall be present at the project site, located so they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being done. The SSHO, or Alternate SSHO, shall be available during all shifts for immediate verbal consultation and notification, either by phone or radio. The SSHO shall be a full-time, dedicated position, except as noted above. The SSHO shall report to a senior project (or corporate) officials.

b. The SSHO must inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

c. For projects with multiple shifts or when SSHO is temporarily off-site, an Alternate SSHO will be assigned to insure SSHO coverage for the project at all times work activities are conducted. The Alternate SSHO must meet the same requirements and assume the responsibilities of the project SSHO. The Alternate SSHO position may be a collateral duty.

d. If the SSHO is off-site for a period longer than 24 hours, a qualified replacement SSHO shall be provided and shall fulfill the same roles and responsibilities as the primary/initial SSHO.

1.5.1.4.3 Designated Representative (DR) Requirements for Dredging

a. Designated Representatives (DR) are collateral duty safety personnel, with safety duties in addition to their full-time occupation, and support and supplement the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. DRs shall be individual(s) with work oversight responsibilities, such as masters, mates, fill foremen, and superintendents. DRs should not be positions requiring continuous mechanical or equipment operations, such as equipment operators.

b. A DR shall be appointed for all remote work locations more than 45 minutes' travel time from the SSHO's duty location, typically including

dredged material placement sites, towing and scow operations, and other operations.

c. The DRs will perform safety program tasks as designated by the SSHO and report safety findings to the SSHO/Alternate SSHO. The SSHO shall document results of safety findings and provide information for inclusion in the CQC reports to the Government Representative.

1.5.1.4.4 Safety Personnel Training Requirements for Dredging

a. The The SSHO, Alternate SSHO, and Designated Representatives for dredging contracts shall take either the OSHA 30-hour Construction Safety Course or an equivalent 30 hours of formal safety and health training covering the subjects of the OSHA 30-hour Course (see EM 385-1-1 Appendix A, paragraph 4.b) applicable to dredging work and given by qualified instructors.

b. The SSHOs shall also have taken 24 hours of formal classroom or online safety and health related coursework in the past four (4) years. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (i.e., Instructing a 1-hour asbestos awareness course 5 times in the past 4 years provides one hour credit for training).

c. The SSHO, Alternate SSHO, and Designated Representatives shall have a minimum of three years' continuous experience within the past 5 years in supervising/ managing dredging, marine or land-based construction, work managing safety programs or processes, or conducting hazard analyses and developing controls in activities or environments with similar hazards. This is in lieu of the construction experience required by paragraph 01.A.17.b, EM 385-1-1.

1.5.1.5 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators qualified by a source that qualifies crane operators (i.e., union, a Government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

1.5.2 Personnel Duties

1.5.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily quality control report.

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and

subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.

d. Maintain applicable safety reference material on the job site.

e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.

f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above or any other required duties are not being effectively carried out. If either the Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.5.3 Meetings

1.5.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health Officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for

review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

1.5.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors at the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.6 ACCIDENT PREVENTION PLAN (APP)

1.6.1 APP - Construction

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Industrial Hygienist. The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the Contract. Disregarding the provisions of this Contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the Contract. Changes to the accepted APP must be made with the knowledge and

concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

1.6.2 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.6.3 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

1.6.3.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this Contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by Contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.6.3.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of three months.

1.6.3.3 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.

b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.

c. For lifts with anticipated binding conditions.

d. When erecting cranes.

1.6.3.3.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

1.6.3.3.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

1.6.3.4 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

1.6.3.5 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.6.3.6 Fall Protection and Prevention (FP&P) Plan

The plan must be in accordance with the requirements of EM 385-1-1, Section 21.D and ASSP Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary,

the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.6.3.7 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.6.3.8 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSP Z244.1, and ASSP A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

1.7 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.7.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.7.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.8 DISPLAY OF SAFETY INFORMATION

1.8.1 Safety Bulletin Board

Prior to commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07. Additional items required to be posted include:

a. Confined space entry permit.

b. Hot work permit.

1.8.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.9 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

1.10 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

1.11 NOTIFICATIONS and REPORTS

1.11.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than four hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; Contract title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.11.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Near Misses: For Army projects, report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.

c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

1.11.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.11.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this Contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section 16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.12 HOT WORK

1.12.1 Permit and Personnel Requirements

Submit and obtain a written permit prior to performing "Hot Work" (i.e. welding or cutting) or operating other flame-producing/spark producing devices, from the Fire Marshall. A permit is required from the Explosives Safety Office for work in and around where explosives are processed, stored, or handled. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. Provide at least two 20 pound 4A:20 BC rated extinguishers for normal "Hot Work". The extinguishers must be current inspection tagged, and contain an approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch must be trained in accordance with NFPA 51B and remain on-site for a minimum of one hour after completion of the task or as specified on the hot work permit.

When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency Fire Marshall's phone number. REPORT ANY FIRE, NO MATTER HOW SMALL, TO THE RESPONSIBLE FIRE MARSHALL IMMEDIATELY.

1.12.2 Work Around Flammable Materials

Obtain permit approval from a NFPA Certified Marine Chemist, or Certified Industrial Hygienist for "HOT WORK" within or around flammable materials (such as fuel systems or welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, or vaults) that have the potential for flammable or explosive atmospheres.

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in EM 385-1-1, Section 06.H

1.13 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with Section 34 of EM 385-1-1, OSHA 29 CFR 1926, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, and OSHA Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.13.1 Entry Procedures

Prohibit entry into a confined space by personnel for any purpose,

including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. Comply with EM 385-1-1, Section 34 for entry procedures. Hazards pertaining to the space must be reviewed with each employee during review of the AHA.

1.13.2 Forced Air Ventilation

Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.

1.13.3 Sewer Wet Wells

Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

1.13.4 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.14 DIVE SAFETY REQUIREMENTS

Develop a Dive Operations Plan, AHA, emergency management plan, and personnel list that includes qualifications, for each separate diving operation. Submit these documents to the District Dive Coordinator (DDC) via the Contracting Officer or Government Designated Authority (GDA), for review and approval at least 15 working days prior to commencement of diving operations. These documents must be at the diving location at all times. Provide each of these documents as a part of the project file.

1.15 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must comply with the applicable Storm Plan and:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and

activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. Develop an employee check-in/check-out communication procedure to ensure employee safety.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this Contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages at least 15 days in advance. At a minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1, Section 11.A.02 (Isolation). Some examples of energy isolation devices and procedures are highlighted in EM 385-1-1, Section 12.D. In accordance with EM 385-1-1, Section 12.A.01, where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of HECP and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In

accordance with EM 385-1-1, Section 11.A.02 and NFPA 70E, work on energized electrical circuits must not be performed without prior Government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additional or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conduct a pre-outage coordination meeting in accordance with EM 385-1-1, Section 12.A. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and the Public Utilities representative. All parties must fully coordinate HEC activities with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance with EM 385-1-1, Section 12.C. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1 Section 12, 29 CFR 1910.333, 29 CFR 1915.89, ASSP A10.44, NFPA 70E, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting Officer's Representative, and required by EM 385-1-1, Section 12.A.02. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting. Both the safety preparatory inspection coordination meeting and the outage coordination meeting must occur prior to conducting the outage and commencing with lockout/tagout procedures.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, both the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1, Sections 05.I and 11.B. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1, Section 12.E.06.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in

accordance with the HECP. In accordance with EM 385-1-1, Section 12.E.08, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSP Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

3.5.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards and using personal fall protection equipment. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSP Z359.2 in the AHA.

3.5.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M,ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, ASSP Z359.15, ASSP Z359.16 and ASSP Z359.18.

3.5.2.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.O through 21.O.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.2.2 Personal Fall Protection Equipment

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabineers must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. Equip all full body harnesses with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.5.3 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.5.4 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.5.5 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must be in accordance with the requirements of EM 385-1-1, ASSP Z359.2, and ASSP Z359.4.

3.6 EQUIPMENT

3.6.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless

specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

3.6.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must be in accordance with OSHA, and ASME B30.9 Standards safety standards.

c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.

e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.

f. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.

i. Use cribbing when performing lifts on outriggers.

j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

l. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

m. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

q. Follow FAA guidelines when required based on project location.

3.6.3 Machinery and Mechanized Equipment

a. Proof of qualifications for operator must be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

3.6.4 Base Mounted Drum Hoists

a. Operation of base mounted drum hoists must be in accordance with EM 385-1-1 and ASSP A10.22.

b. Rigging gear must be in accordance with applicable ASME/OSHA standards.

c. When used on telecommunication towers, base mounted drum hoists must be in accordance with TIA-1019, TIA-222, ASME B30.7, 29 CFR 1926.552, and 29 CFR 1926.553.

d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with EM 385-1-1 Section 16.B.05 and trained, at a minimum, in accordance with EM 385-1-1 Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction CPL 02-01-056 and ASME B30.23.

e. Material and personnel must not be hoisted simultaneously.

f. Personnel cage must be marked with the capacity (in number of persons) and load limit in pounds.

g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

3.7 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1, Sections 11 and 12.

3.7.1 Conduct of Electrical Work

As delineated in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves and electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910.147.

3.7.2 Qualifications

Electrical work must be performed by QP with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA.

Journeyman/Apprentice ratio must be in accordance with State, Local and Host Nation requirements applicable to where work is being performed.

3.7.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.7.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.7.5 Testing

Temporary electrical distribution systems and devices must be inspected, tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

-- End of Section --

U.S. Army Corps of Engineers (USACE)

MISHAP NOTIFICATION AND INVESTIGATION

For use of this form, see instructions in the attachments and USACE ER 385-1-99; the proponent agency is CESO.

Requirement Control Symbol

RCS-CESO-21-0001

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority 10 U.S.C. 7013, Secretary of the Army; 5 U.S.C. 7902, Safety Programs; Public Law 91-596, Occupational Safety and Health Act of 1970; DoD Instruction 6055.1, DoD Safety and Occupational Health Program; Army Regulations 385-10, Army Safety Program; DoD Instruction 6055 .07, Mishap Notification, Investigation, Reporting, and Record Keeping; and E.O. 9397 (SSN), as amended.

Principal Purpose Information collected is to provide the USACE leaders, soldiers, families and civilians in injury, illness, and loss data to effectively manage its safety and occupational health program.

Routine Uses In addition to those disclosures generally permitted under 5 U.S.C. 552a(b) of the Privacy Act of 1974, these records or information contained therein may specifically be disclosed outside the DoD as a routine use pursuant to 5 U.S.C. 552a(b) as follows: To the Department of Labor, the Federal Aviation Agency, the National Transportation Safety Board, and to Federal, State, and local agencies and applicable civilian organizations, such as the National Safety Council, for use in a combined effort of accident prevention. In some cases, data must also be disclosed to an employee's representative under the provisions of 29 CFR 1960.29. Records will be made available consistent with applicable laws and regulations. Information will be withheld from the public only if authorized by 5 U.S.C. Section 552 (Freedom of Information Act (FOIA), 5 U.S.C. 552a (Privacy Act)), or other statutory or regulatory authority.

Disclosure Failure to provide all the required information on the report may result in the rejection of report submission.

1. WHO IS REPORTING MISHAP

a. Name:	b. Phone number:
c. Email address:	d. Signature:

e. Report type:	☐ 1. Near Miss Report. *(No injury/illness, or property damage. Complete all fields with underlined text.)*	Date:
	☐ 2. Initial Accident Report. (*For accident notification within 24 hrs, Complete all fields with underlined text.*)	Date:
	☐ 3. Final Accident Report. *(For reporting findings from accident investigation, complete full form.)*	Date:

f. Mishap Type. *(Check all that apply)*

☐ Fatality	☐ Injury/Illness	☐ Property Damage	☐ Near Miss

g. Were any of the following items associated with the mishap ? ☐ Yes ☐ No *(If yes, check all that apply)*

☐ Electrical and/or Hazardous Energy	☐ Working at Heights	☐ Diving	☐ Load Handling Equipment or Rigging	☐ Occupational Health Exposure

2. WHO WAS INVOLVED IN THIS MISHAP?

a. Name:		
b. Personnel Classification:	c. Time employee began work:	
d. Gender:	e. Date of birth (for Government personnel only):	f. Age:
g. Date hired:	h. Primary language:	
i. Is individual a supervisor? ☐ Yes ☐ No	j. Duty status at time of mishap:	k. Years experience in job:

l. What was individual doing when mishap occurred? (*Select activity from the drop downs below.*)

1. General activities:	2. Vehicle/Equipment/Vessel:
3. Sports/Recreation:	4. Other not listed:

m. Did individual utilize all OSHA/EM 385-1-1 required Personal Protective Equipment (PPE) for activity? ☐ Yes ☐ No ☐ N/A

If no, identify missing PPE:

n. Was a Personal Flotation Device used? ☐ Yes ☐ No ☐ N/A	o. Was a seat belt used? ☐ Yes ☐ No ☐ N/A

p. **Government personnel only:**		
1. Job series:	2. Rank:	3. Grade:
4. Center/Division/Lab:	5. District:	
q. **Contractor personnel only:**		
1. Employer/Contractor name:		
2. Individual's occupation/trade:	Other not listed:	
r. If mishap occurred on a contractor site, provide the following:		
1. Prime Contractor name:		
2. Contract number:	3. Contract type:	4. Funding type:

3. WHAT TYPE OF INJURY/ILLNESS OCCURRED?

a. Severity of injury/illness?	b. Type of Injury/Illness:
c. Identify body part(s) affected by injury/illness:	
Primary body part affected:	Secondary body part affected:
d. Identify cause and source of injury/illness:	
Cause of injury/illness:	Source of injury/illness:

e. Was employee treated by a physician or health care professional provider? ☐ Yes ☐ No

If yes, provide name of physician or health care professional provider?

f. Was treatment given away from work site? ☐ Yes ☐ No	g. Was employee treated in an emergency room ? ☐ Yes ☐ No ☐ N/A

h. If treatment was given away from the work-site, where was it given? (For Government Personnel Only)

Treatment facility name:

Address:

City: State: Zip: Country:

i. Was employee hospitalized as an in-patient? ☐ Yes ☐ No	If yes, how many nights?	Was OSHA notified? ☐ Yes ☐ No

Note: OSHA requires reporting all work-related fatalities within 8 hours and in-patient hospitalizations, amputations and loss of an eye within 24 hours to OSHA.

j. Estimated days away from work:	k. Estimated days of restricted/transferred duty:

4. WHAT HAPPENED?

a. What was the primary activity occurring at the time of the mishap?

Other, not listed:

b. What happened? Provide a detailed description of the mishap. (Do not include any personally identifiable information (name, etc.).)

Note: Provide supporting photos, charts, diagrams, etc. with this report.

c. What other organizations or agencies have been notified about this mishap?

5. WHAT TYPE OF PROPERTY/MATERIAL WAS INVOLVED?

a. List all property/material involved in the mishap. (Include damaged and undamaged property.)

	Item A	*Item B*	*Item C*
i. Type of item:			
Other not listed:			
ii. Name of item(s):			
iii. Collision type:			
Other not listed:			
iv. Ownership of item:			
v. Dollar cost of damage:			

6. WHEN DID THE MISHAP OCCUR?

a. Date the mishap occurred:	b. Time mishap occurred:
c. What day did mishap occur on?	d. What period of day did mishap occur?

7. WHERE DID THE MISHAP OCCUR?

a. Did the mishap occur on a military Base/Post? ☐ Yes ☐ No

b. USACE Office/Program/Project name:

c. Select the location type most closely associated with the mishap:

d. Identify exact location where mishap occurred:

Address:

City: State: Zip: Country:

e. Latitude:	f. Longitude:

8. WHY DID THE MISHAP OCCUR? (*Recommend completing this section for Near Misses.*)

A. Performance Causal Factors

1. Did a problem with performance contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

B. Support Causal Factors

1. Did a problem with resources contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

C. Standards/Policy/Planning Causal Factors

1. Did an organizational standard/policy/or plan contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Was a written Activity Hazard Analysis (AHA) or equivalent completed and accepted by Government Designated Authority (GDA) for task(s) being performed at time of mishap? (If yes, attach a copy to this report) ☐ Yes ☐ No

If yes, was the AHA available and used by worker? ☐ Yes ☐ No

3. Was a written work plan (critical lift plan, fall protection plan, etc.) required, completed and accepted by the GDA for task(s) being performed at time of mishap? ☐ Yes ☐ No

If yes, was the plan available and used by worker? ☐ Yes ☐ No

4. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

D. Training Causal Factors

1. Did a problem with training contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Was individual trained to perform the activity/task? ☐ Yes ☐ No

If yes, select type of training: ☐ Classroom ☐ Certification/License ☐ On the job

☐ Other, describe:

What was date of most recent training?

3. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

E. Leader/Supervisor Causal Factors

1. Did any leader/supervisory mistake/task error contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Did the safety climate/culture contribute to the mishap? ☐ Yes ☐ No

3. Did challenges with teamwork contribute to the mishap? ☐ Yes ☐ No

4. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

F. Individual Causal Factors

1. Did any individual mistakes/task errors contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

G. Physical Environment Causal Factors

1. Did any physical environment contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

H. Material Causal Factors

1. Did any material failure contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the error that contributed most to the mishap:

2. Which failure is most closely associated with the material failure/malfunction?

3. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

I. Environmental Causal Factors

1. Did any environmental condition contribute to this mishap occurring? ☐ Yes ☐ No

If yes, select the factor that contributed most to the mishap:

2. Describe action(s) taken, anticipated or recommended to eliminate cause(s):

J. Facility/Building Design
1. Did the design of the facility/building contribute to the mishap? ☐ Yes ☐ No
If yes, describe:
2. Describe action(s) taken, anticipated or recommended to eliminate hazard:
K. Existing Hazard
1. Did a hazard(s) contribute to the mishap? ☐ Yes ☐ No
If yes, describe the hazard(s):
2. Describe action(s) taken, anticipated or recommended to eliminate hazard(s):
9. Corrective Action plan
a. Have all corrective action(s) to prevent mishap recurrence been completed? ☐ Yes ☐ No
b. Who is responsible for the corrective action plan?
c. What date will/have all corrective action(s) be/been completed by:
d. Additional information:
10. Additional Information

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SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS
02/19

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g., ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Two Park Avenue
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: https://www.asme.org/

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: https://www.astm.org/

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-981-9667
E-mail: onlinesupport@ieee.org
Internet: https://www.ieee.org/

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 800-344-3555
Fax: 800-593-6372
Internet: https://www.nfpa.org

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
http://www.wbdg.org/ffc/army-coe/standards
Order Other Documents from:
Official Publications of the Headquarters, USACE
E-mail: hqpublications@usace.army.mil
Internet: http://www.publications.usace.army.mil/
or
https://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Internet: https://www.archives.gov/
Order documents from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: https://www.gpo.gov/

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

SECTION 01 45 00.00 10

QUALITY CONTROL
11/16, CHG 2: 11/21

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D3740	(2019) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E329	(2021) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program. Include all associated costs in the applicable Bid Schedule item.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G

SD-06 Test Reports

Verification Statement

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC consist of plans, procedures, and organization necessary to produce an end product

which complies with the Contract requirements. The QC system covers all construction operations, both onsite and offsite, and be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The project superintendent maintains a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

The Contractor Quality Control (CQC) Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction shall be submitted as a pre-construction submittal prior to the start of work. The Government will consider an interim plan for the first 15 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work.

3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all construction-operations, both onsite and offsite, including work by subcontractors fabricators, suppliers and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports to an individual other than the project superintendent. The individual should be outside of the project superintendent's chain of command and must be shown as at least one level above the project superintendent in the chain of command.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the Contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Copies of these letters must be furnished to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph

requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer are required to be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the Contractor Quality Control(CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 5 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations,, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager, CQC System Manager, and sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager will also serve as a member of the CQC Staff Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is responsible for maintaing these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization that is responsible for overall management of CQC and has the authority to act in all CQC matters for the Contractor. The CQC System Manager is required to be a construction person with a minimum of 5 years in related work. This CQC System Manager is on the site at all times during construction and is employed by the prime Contractor. The CQC System Manager is assigned as CQC System Manager but may have duties as project superintendent in addition to quality control. Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

3.4.3 Additional Requirement

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval Facilities Engineering Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

3.4.4 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, have to comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

CQC is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.

b. Review of the Contract drawings.

c. Check to assure that all materials and equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.

f. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. Review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government needs to be notified at least 24 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the

definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

a. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing are in compliance with the contract.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government needs to be notified at least 24 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.

g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Record results of all tests taken, both passing and failing on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related work performed and disapproval of the test facility for this Contract.

3.7.2 Testing Laboratories

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request for can be found at: https://mtc.erdc.dren.mil/.

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils are required to meet criteria detailed in ASTM D3740 and ASTM E329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge determined by the Contracting Officer's Representative to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager near the end of the work, or any increment of the work established by a time stated in FAR 52.211-10 Commencement, Prosecution, and Completion of Work, or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the work has been completed in accordance with the contract requirements. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative are required to be in attendance at the final acceptance inspection. Additional Government personnel may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the Contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance FAR 52.246-12 Inspection of Construction.

3.9 DOCUMENTATION

3.9.1 Quality Control Activities

Maintain current records providing factual evidence that required quality

control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

a. The name and area of responsibility of the Contractor/Subcontractor.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and specifications.

3.9.2 Verification Statement

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

3.10 SAMPLE FORMS

A Daily Contractor Quality Control (CQC) Report (Form 696) is enclosed at the end of this section..

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the

Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

SECTION 01 45 00.15 10

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)
11/16, CHG 2: 08/19

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual

1.2 MEASUREMENT AND PAYMENT

The work of this section is not measured for payment. The Contractor is responsible for the work of this section, without any direct compensation other than the payment received for contract items.

1.3 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Government accesses the system using the Government Mode of RMS (RMS GM) and the Contractor accesses the system using the Contractor Mode (RMS CM). The term RMS will be used in the remainder of this section for both RMS GM and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the contract period in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Closeout
Import/Export of Data

1.3.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some correspondence, including pay requests and payrolls, are also to be provided in paper format with original signatures. Paper documents will govern, in the event of discrepancy with the electronic version.

1.3.2 Other Factors

Other portions of this document have a direct relationship to the reporting accomplished through RMS. Particular attention is directed to FAR 52.236-15 Schedules for Construction Contracts; FAR 52.232-27 Prompt

Payment for Construction Contracts; FAR 52.232-5 Payments Under Fixed-Priced Construction Contracts; Section 01 32 01.00 10 PROJECT SCHEDULE; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS; and Section 01 45 00.00 10 QUALITY CONTROL.

1.4 RMS SOFTWARE

RMS is a web based application. Download, install and be able to utilize the latest version of RMS within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates and training information are available from the RMS website (https://rms.usace.army.mil). The Government and the Contractor will have different access authorities to the same contract database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

1.5 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic contract award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance(QA)comments, as well as other miscellaneous administrative information.

1.6 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates and payment requests. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

1.6.1 Administration

1.6.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

1.6.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

1.6.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office

with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

1.6.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.6.1.5 Reports

Track the status of the project utilizing the reports available in RMS. The value of these reports is reflective of the quality of the data input. These reports include the Progress Payment Request worksheet, Quality Control (QC) comments, Submittal Register Status, and Three-Phase Control worksheets.

1.6.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response.

1.6.2 Finances

1.6.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

1.6.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data either electronically or by hard copy. Unless waived by the Contracting Officer, a signed paper copy of the approved payment certification and request is also required and will govern in the event of discrepancy with the electronic version.

1.6.3 Quality Control (QC)

Enter and track implementation of the 3-phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Insure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments of same within 7 calendar days of Government acceptance of the CQC Plan.

1.6.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official

report. The Contractor can use other supplemental formats to record QC data, but information from any supplemental formats are to be consolidated and entered into the RMS QC Daily Report. Any supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must be finalized and signed in RMS within 24 hours after the date covered by the report. Provide the Government a printed signed copy of the QC Daily Report, unless waived by the Contracting Officer.

1.6.3.2 Deficiency Tracking.

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected until the Government indicates concurrence in RMS.

1.6.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS. Worksheets for the three-phase control meetings are generated within RMS.

1.6.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

1.6.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor must monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1, Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and as required by any other applicable Federal, State or local agencies.

1.6.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

1.6.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

1.6.4 Submittal Management

Enter all current submittal register data and information into RMS within 7 calendar days of receiving access to the contract in RMS. The information shown on the submittal register following the specification Section 01 33 00 SUBMITTAL PROCEDURES will already be entered into the RMS database when access is granted. Group electronic submittal documents into transmittal packages to send to the Government, except very large

electronic files, samples, spare parts, mock ups, color boards, or where hard copies are specifically required. Track transmittals and update the submittal register in RMS on a daily basis throughout the duration of the contract. Submit hard copies of all submittals unless waived by the Contracting Officer.

1.6.5 Schedule

Enter and update the contract project schedule in RMS by either manually entering all schedule data or by importing the Standard Data Exchange Format (SDEF) file, based on the requirements in Section 01 32 01.00 13 PROJECT SCHEDULE.

1.6.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that all closeout documents are entered, completed and documented within RMS.

1.7 IMPLEMENTATION

Use of RMS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

1.8 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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CONTRACTORS QUALITY CONTROL REPORT (QCR) DAILY LOG OF CONSTRUCTION	REPORT NUMBER Page 1 of 3
	DATE
PROJECT	CONTRACT NUMBER
CONTRACTOR	WEATHER

QC NARRATIVES

ACTIVITIES IN PROGRESS

SAFETY (INSPECTIONS, MEETINGS, DEFICIENCIES, ETC.)

PREP/INITIAL DATES (Preparatory and initial dates held and advance notice)

ACTIVITY START/FINISH

_____ _____

_____ _____

CONTRACTORS QUALITY CONTROL REPORT (QCR) DAILY LOG OF CONSTRUCTION	REPORT NUMBER Page 2 of 3 DATE
PROJECT	CONTRACT NUMBER

QC REQUIREMENTS

QA/QC DEFICIENCY (Describe QC Deficiency items issued, Report QC and QA Deficiency items corrected)

CONTRACTORS ON SITE (Report first and/or last day contractors were on site)

LABOR HOURS

The following labor hours were Reported today:

Employer	Labor Classification	Number of Employees	Hours Worked
		Total	

Total hours worked to date:

EQUIPMENT HOURS

		Idle Hours	Operating Hours

CONTRACTORS QUALITY CONTROL REPORT (QCR) DAILY LOG OF CONSTRUCTION	REPORT NUMBER Page 3 of 3 DATE
PROJECT	CONTRACT NUMBER

Total _____ _____

ACCIDENT REPORTING (Describe accidents)

CONTRACTOR CERTIFICATION	**On behalf of the contractor, I certify that this Report is complete and correct and all equipment and material used and work performed during this Reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.**		
QC REPRESENTATIVE'S SIGNATURE	DATE	SUPERINTENDENT'S INITIALS	DATE

CESAM Form 696

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SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS
08/22

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 64	Compliance Assurance Monitoring
40 CFR 241	Guidelines for Disposal of Solid Waste
40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
40 CFR 258	Subtitle D Landfill Requirements
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical,

or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.3 Sediment

Sediment is soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.4 Solid Waste

Solid wastes (excluding clearing debris) include any waste generated by the Contractor which meets the most complete definition of solid waste as described by Federal, state and local laws and regulations.

1.2.5 Waters of the United States

Waters of the United States means Federally jurisdictional waters, including wetlands, that are subject to regulation under Section 404 of the Clean Water Act or navigable waters, as defined under the Rivers and Harbors Act.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preconstruction Survey

Environmental Protection Plan; G

SD-06 Test Reports

Manatee Sighting Reports; G, PD

SD-11 Closeout Submittals

Waste Determination Documentation; G

Hazardous Waste/Debris Management; G

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Protect the environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire duration of this Contract. Comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution. This includes compliance with all requirements under the terms and conditions set out in the certifications by the Alabama Department of Environmental Management (ADEM), U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) in compliance with the provisions of the Contract and applicable Federal, state, and local environmental laws and regulations. Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor. The Contractor must perform all work within compliance specifications of the permit issued by the Alabama Department of Environmental Management (ADEM) which is included in the Environmental Compliance Appendix.

Tests and procedures assessing whether construction operations comply with Applicable Environmental Laws may be required. Analytical work must be performed by qualified laboratories; and where required by law, the laboratories must be certified.

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey and Protection of Features

Prior to start of any onsite construction activities, perform a Preconstruction Survey of the project site with the Contracting Officer, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record. Include in the report a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. The Contractor and the Contracting Officer will sign this survey report upon mutual agreement regarding its accuracy and completeness. Protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference that their preservation may cause to the work under the Contract.

1.5.2 Environmental Brief

Attend an environmental brief to be included in the preconstruction meeting. Provide the following information: types, quantities, and use of hazardous materials that will be brought onto the installation; and types and quantities of wastes/wastewater that may be generated during the Contract. Discuss the results of the Preconstruction Survey at this time.

Prior to initiating any work on site, meet with the Contracting Officer Representative to discuss the proposed Environmental Protection Plan (EPP)

or equipment local requirement. Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural and cultural resources, required reports, required permits, permit requirements (such as mitigation measures), and other measures to be taken.

1.5.3 Non-Compliance Notifications

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with federal, state or local environmental laws or regulations, permits, and other elements of the Contractor's EPP. The Contractor shall record on daily reports any problems in complying with laws, regulations and ordinances and corrective action taken. After receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. FAR 52.242-14 Suspension of Work provides that a suspension, delay, or interruption of work due to the fault or negligence of the Contractor allows for no adjustments to the contract for time extensions or equitable adjustments. In addition to a suspension of work, the Contracting Officer may use additional authorities under the contract or law.

1.6 ENVIRONMENTAL PROTECTION PLAN

The purpose of the EPP is to present an overview of known or potential environmental issues that must be considered and addressed during construction. Incorporate construction related objectives and targets from the installation's EMS into the EPP. Include in the EPP measures for protecting natural and cultural resources, required reports, and other measures to be taken. Meet with the Contracting Officer or Contracting Officer Representative to discuss the EPP and develop a mutual understanding relative to the details for environmental protection including measures for protecting natural resources, required reports, and other measures to be taken. Submit the EPP not less than 7 days before the preconstruction meeting. Revise the EPP throughout the project to include any reporting requirements, changes in site conditions, or contract modifications that change the project scope of work in a way that could have an environmental impact. No requirement in this section will relieve the Contractor of any applicable federal, state, and local environmental protection laws and regulations. During Construction, identify, implement, and submit for approval any additional requirements to be included in the EPP. Maintain the current version onsite.

The EPP includes, but is not limited to, the following elements:

1.6.1 General Overview and Purpose

1.6.1.1 Descriptions

The Contractor shall prepare a listing of resources needing protection (i.e., upland vegetation, wetlands, oyster reefs, landscape features, air quality, noise levels, surface and groundwater quality, fish and wildlife, and historical, archeological and cultural resources) within authorized work areas. The Contractor shall detail special provisions taken to meet Federal, state, and local laws and regulations regarding the storage and handling of solid and hazardous waste materials.

1.6.1.2 Duties

The duties and level of authority assigned to the person(s) on the job site who oversee environmental compliance, such as who is responsible for adherence to the EPP, who is responsible for spill cleanup and training personnel on spill response procedures, who is responsible for manifesting hazardous waste to be removed from the site (if applicable), and who is responsible for training the Contractor's environmental protection personnel.

1.6.1.3 Procedures

A copy of any standard or project-specific operating procedures that will be used to effectively manage and protect the environment on the project site.

1.6.1.4 Communications

Communication and training procedures that will be used to convey environmental management requirements to Contractor employees and subcontractors.

1.6.1.5 Contact Information

Emergency contact information contact information (office phone number, cell phone number, and e-mail address).

1.6.2 General Site Information

1.6.2.1 Work Area

Work area plan showing the proposed activity in each portion of the area and identify the areas of limited use or nonuse. Include measures for marking the limits of use areas, including methods for protection of features to be preserved within authorized work areas and methods to control runoff and to contain materials on site, and a traffic control plan.

Show where any fuels, hazardous substances, solvents, or lubricants will be stored. Provide a spill plan to address any releases of those materials.

1.6.3 Management of Natural Resources

a. Fish and wildlife resources

1.6.4 Prevention of Releases to the Environment

The Contractor shall prepare a contaminant prevention statement that identifies all potentially hazardous substances on the job site and the intended actions to be taken to prevent the accidental or intentional introduction of such materials into the air, the water, or the ground. The statement shall discuss procedures to prevent releases to the environment and notifications in the event of a release to the environment. The Contractor shall set out the procedures to be followed to correct pollution of the environment due to accident, natural causes or failure to follow the procedures identified in the environmental protection plan.

1.6.5 Clean Air Act Compliance

1.6.5.1 Pollution Generating Equipment

Identify air pollution generating equipment or processes that may require federal, state, or local permits under the Clean Air Act. Determine requirements based on any current installation permits and the impacts of the project. Provide a list of all fixed or mobile equipment, machinery or operations that could generate air emissions during the project to the Installation Environmental Office (Air Program Manager). Ensure required permits are obtained prior to installing and operating applicable equipment/processes.

1.7 LICENSES AND PERMITS

Obtain licenses and permits required for the construction of the project and in accordance with FAR 52.236-7 Permits and Responsibilities. Notify the Government of all equipment that may require permits or special approvals that the Contractor plans to use on site. This paragraph supplements the Contractor's responsibility under FAR 52.236-7 Permits and Responsibilities.

a. The following water quality certification and other environmental compliance concurrences have been obtained by the Government:

(1) Alabama Department of Environmental Management (ADEM) Water Quality Certification

[(2) U.S. Fish and Wildlife Service Station 7 of the Endangered Species Act Concurrence

][(3) National Marine Fisheries Service, Protected Resources Division Section 7 of the Endangered Species Act Concurrence
]]

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants, including their habitats. The protection of rare, threatened, and endangered animal and plant species identified, including their habitats, is the Contractor's responsibility. The Contractor shall take all necessary precautions to ensure that maintenance and new work dredging activities do not adversely impact any listed threatened and/or endangered species protected under the Endangered Species Act The following species are known and could be affected within the construction area: manatees, sea turtles, giant manta ray and the Gulf sturgeon.

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified.

3.1.1 Fish and Wildlife

The Contractor shall take all necessary precautions to ensure that activities conducted during the course of this project do not adversely impact listed threatened and endangered species or their critical habitats. The Contractor shall instruct all personnel associated with the project of the potential presence of manatees, giant manta rays, sea turtles, and the Gulf sturgeon in the area, and the need to avoid collisions with and harming these animals. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, sea turtles, giant manta rays, Gulf sturgeon, dolphins or whales; or destroying or adversely modifying critical habitat of these species which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. The Contractor must take special precautions to ensure adequate protection for wildlife resources.

(1) The Contractor shall coordinate all activities associated with these resources with the Coastal Environment Team, Mobile District (Attn: Ms. Lekesha Reynolds, PD-EC at 251-690-3260, bb 251-327-8650 or Mr. Don Mroczko, PD-EC at 251-690-3185.

(2) If a collision occurs or a dead manatee, sea turtle or Gulf sturgeon is observed, a Stranding Report form should be completed and filed with NOAA. A copy of the form can be found at the Sea turtle stranding and salvage network (STSSN) website at: https://www.nrc.gov/docs/ML1434/ML14345A279.pdf

(3) Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Daphne (251-441-5181). The Contractor shall also notify the Contracting Officer or Contracting Officer Representative within 24 hours. Please also provide a copy to Mobile District Coastal Environment Office, Ms. Lekesha Reynolds at: Lekesha.W.Reynolds@usace.army.mil

(4) If a live turtle is recovered from the dredge it shall be immediately transported by a NMFS permitted and approved protected species Observer to the nearest sea turtle and marine mammal rehabilitation facility such as the Institute for Marine Mammal Studies (MMS), 10801 Dolphin Ln, Gulfport, MS 39503, 1-888-767-3657, or 1-228-896-9182 and email contactus@imms.org. Also notify the USACE, Mobile District, Chief of Coastal Environmental, PD-EC, Ms. Lekesha Reynolds, 251-690-3260, or BB 251-327-8650, Lekesha.W.Reynolds@usace.army.mil and Mr. Don Mroczko, 251-690-3185, donald.e.mroczko@usace.army.mil.

3.1.1.1 Protection of Manatees

Where manatees are known to occur and/or at required navigation channel designated by U.S. Fish and Wildlife Service, as stated in the Manatee Protection Guidelines 10(a) below and in the Environmental Appendix Cooperating Agency Certifications, in order to ensure that manatees are not adversely affected by the dredging activities authorized by this contract, the Contractor utilize the State and/or USFWS Standard Manatee Construction Conditions.

The manatee is an endangered mammal protected by Federal and State Laws. The Contractor shall observe the following precautions and other manatee precautions as stipulated by the regulatory agencies for the project:

(1) 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.

(2) 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 the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

(3) 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.

(4) Manatee Signs: Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station, or in a prominent location visible to all employees operating the vessel, a temporary sign at least 8-1/2" x 11" reading, "CAUTION: MANATEE HABITAT/IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA." In the absence of a vessel, a temporary 3' x 4' sign reading "CAUTION: MANATEE AREA" shall be posted adjacent to the issued construction permit. A second temporary sign measuring 8-1/2" x 11" reading "CAUTION: MANATEE HABITAT. IDLE SPPED IS REQUIRED IF OPERATIING A VESSEL IN THE CONSTRUCTION AREA. ALL EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION. ALL COLLISIONS WITH AND/OR INJURY TO A MANATEE SHALL BE REPORTED IMMEDIATELY TO THE USFWS IN DAPHNE (251-441-5181)" shall be posted at the dredge operator control station and at a location prominently adjacent to the issued construction permit. The Contractor shall remove the signs upon completion of construction.

(5) Manatee Sighting Reports: Any collisions with a manatee, or sighting of any injured or incapacitated manatee, shall be reported immediately to the Contracting Officer or their appointed representative.

(6) Report Submission: The Contractor shall maintain a log detailing sightings, collisions, or injuries to manatees occurring during the contract period. All data in original form shall be forwarded directly to the Mobile District, Planning and Environmental Division, Coastal Environment Team, P.O. Box 2288 Mobile, Alabama 36628-0001, (Attn: Mr. Don Mroczko) and the Area Engineer within 10 days of collection.

3.1.1.2 Use of Cutterhead Dredge

When using cutterhead dredging equipment, to minimize the potential of intercepting sea turtles/Gulf sturgeon, every effort shall be made to minimize pump operation while the dragheads/cutterheads are suspended in the water column including but not limited to the following:

(1) When initiating dredging, suction through the dragheads/cutterhead shall
be allowed just long enough to prime the pumps. Then the dragheads/cutterheads must be placed firmly on the bottom.

(2) When lifting the dragheads/cutterhead from the bottom, suction through the dragheads/cutterheads shall be allowed just long enough to clear the lines, then must cease.

(3) Pumping water through the dragheads/cutterhead shall cease while maneuvering or during travel to/from the placement area.

(4) Raising the dragheads/cutterheads off the bottom to increase suction velocities is not acceptable.

(5) During turning and repositioning operations the pumps must either be shut off or reduced in speed to the point where no suction velocity or vacuum exists.

3.1.1.3 Use of Hopper Dredge

When using a hopper dredge, the Contracor shall implement the following:

3.1.1.3.1 Laws and Regulations

(1) The Contractor shall adhere to all Federal, State, and local laws and regulations including the Gulf of Mexico Regional Biological Opinion (GRBO) (2003, as amended in 2005 and 2007).

3.1.1.3.2 Shutdown Procedures

The Contracting Officer will direct the contractor as to any required shutdown procedures or necessary changes in dredge operation as to reduce the likelihood of additional incidents. The contractor shall suspend dredging immediately if:

(1) Two or more turtle incidents occur within 24 hours

(2) Two turtles incidents, of the same species, occur during dredging

(3) Four turtle incidents, regardless of species, occur during dredging

(4) One gulf sturgeon incident during dredging

3.1.1.3.3 Observers

The contractor shall supply NMFS-approved protected species observers to be aboard the hopper dredges to monitor the hopper dredged material, screening, and dragheads for sea turtles and Gulf sturgeon. Observer coverage shall be 100 percent (24 hr/day). During transit to and from the placement area, the observer shall monitor from the bridge during daylight hours for the presence of endangered species. During dredging operations, while dragheads are submerged, the observer shall continuously monitor the inflow and/or overflow screening for turtles and Gulf sturgeon and/or parts of these species. Upon completion of each load cycle, dragheads should be monitored as the draghead is lifted from the sea surface and is

placed on the saddle in order to assure that any sea turtle that may be impinged is not lost or un-accounted for. Observers shall physically inspect dragheads and inflow and overflow screening/boxes for threatened and endangered species takes.

3.1.1.3.4 Operations and Dreging Endangered Species System (ODESS) Reporting

The ODESS system, which consists of a tablet computer with an Internet connection, shall be a standalone system, exclusive to other systems, and shall have USACE ODESS data collection and reporting software, referred to as the ODESS Field collector (FC) tool, installed by USACE ODESS support personnel. In the event hardware or software problems prevent the storage or transmission of the collected data, paper copies of the latest ODESS forms and information shall be maintained and submitted to ODESS support and the USACE Inspector or Contracting Officer Representative according to the schedule outlined in the contract specifications. Hardware and Software requirements for the system can be found at the end of this section.

Prior to the initiation of the project, Observers shall be familiar with the operation of the ODESS FC tool and proficient in its use so as to be able to prepare and transmit the results of their observations. ODESS system webinar training can be requested by contacting ODESS Support at ODESS@usace.army.mil or 1-877-840-8024.

Depending on the target audience (Observer, dredging Contractor, USACE District personnel, or other Federal agencies), ODESS training could, in addition to the webinar training, consist of demonstrating the steps involved in setting up the FC tool on the dredge, loading Observer-collected data and attachments into the FC tool, submitting these data and attachments to the ODESS database, and/or navigating around the ODESS public website to view and pull down data and/or decision-making information for later analysis.

3.1.1.3.4.1 ODESS Monitoring Reports

Observers shall record the results of the threatened and endangered species monitoring in the ODESS system by filling in the appropriate electronic forms on the ODESS FC tool and transmitting the data to the ODESS database. If there is an issue with recording data straight to the FC tool due to the logistical nature of how the Observer is collecting this data, paper copies of these forms can be downloaded from the ODESS public website (http://dqm.usace.army.mil/odess/#/download) and later entered into the FC tool when the Observer has the best opportunity.

Prior to the start of dredging, Observers shall verify that the ODESS FC tool is installed and operational on a dredge's dedicated tablet computer and that a viable Internet connection is available. In addition, before a project is initiated, on the ODESS FC tool homepage Observers shall retrieve (or "pull down") project-specific information from the ODESS database and perform a one-time setup of the dredging project by establishing the dredge name and time zone. During the project, the following forms shall be used in the FC tool and submitted to the ODESS database at the indicated reporting frequency:

(1) Load Data Form: Observers shall complete the Load Data Form, including a description of screen contents and sea conditions, based

on their observations. This form shall be completed and transmitted to the ODESS database for each load. At the end of each Observer shift, or when an Internet signal is available (not to exceed 24 hours from the start of the shift), the Observer shall submit all of their Load Data Forms. If this is not possible due to hardware or software problems, the Observer shall revert to email submission of the forms to ODESS@usace.army.mil, Lekesha.W.Reynolds@usace.army.mil, and Donald.e.mroczko@usace.army.mil.

(2) Sea Turtle Incidental Data Form: If a sea turtle or its remains are identified during a load inspection, after the appropriate parties are notified via telephone, a Sea Turtle Incidental Data Form shall be completed and submitted to the ODESS database as soon as possible (not to exceed 12 hours after the incident). Any applicable documentation (scanned copies of the paper Observer load and incident forms, species photos, etc.) shall be included as electronic attachments (.JPG or .PDF) and submitted using the FC tool.

(3) Sturgeon Incidental Data Form: If a sturgeon or sturgeon parts are identified during a load, after the appropriate parties are notified, a Sturgeon Incidental Data Form shall be completed and submitted to the ODESS database as soon as possible (not to exceed 12 hours after the incident). Any applicable documentation (scanned copies of the paper Observer load and incident forms, species photos, etc.) shall be included as electronic attachments (.JPG or .PDF) and submitted using the FC tool.

(4) Marine Mammal Observation Data Form: If a large whale is observed, both the Dredge Load and the Marine Mammal Observation Data Forms shall be completed and submitted (not to exceed 12 hours after the observation) to ODESS Support at ODESS@usace.army.mil consistent with the endangered species compliance section of the contract specification.

3.1.1.3.5 Camera

The contractor shall provide a digital camera, with an image resolution capability of 300 dpi, in order to photographically report all incidental sea turtle and Gulf sturgeon takes during dredging operations. Immediately following an incidental take of a sea turtle or Gulf sturgeon, images shall be provided to accompany load data and incidental take forms submitted to the ODESS system. The nature of findings shall be fully described in the incidental take forms including references to photographs.

3.1.1.3.6 Screening

Sea turtle observers are required on hopper dredges and shall provide for 100% inflow screening of dredged material; 100% overflow screening is recommended. If conditions prevent 100% inflow screening, inflow screening may be reduced gradually, as further detailed in the following paragraph, but 100% overflow screening is then required.

3.1.1.3.6.1 Screen Size

The hopper's inflow screens shall have 4-inch by 4-inch screening. If the Contracting Officer Representative, in consultation with observers and the draghead operator, determines that the draghead is clogging and reducing production substantially, the screens may be modified sequentially: mesh

size may be increased to 6-inch by 6-inch, then 9-inch by 9-inch, then 12-inch by 12-inch openings. Further clogging may compel removal of the screening altogether, in which case effective 100% overflow screening would be required. The Contractor Officer Representative shall request permission before doing so by contacting Mobile District Coastal Environmental Team (Ms. Lekesha Reynolds 251-690-3260) prior to the reductions in screening. The Contractor shall provide an explanation for such reduction in the dredging report.

3.1.1.3.7 Dredging Pumps

Standard operating procedure shall be that dredging pumps are disengaged by the operator when the dragheads are not firmly on the bottom, to prevent impingement or entrainment of sea turtles within the water column.

3.1.1.3.8 Sea Turtle Deflector Requirements

3.1.1.3.8.1 Sea Turtle Deflecting Draghead

A state-of-the-art rigid deflector draghead must be used on all hopper dredges in all Gulf of Mexico channels and sand mining sites at all times of the year and shall be installed while performing hopper dredging operations under this contract. The contractor shall submit drawings showing the proposed sea turtle deflector device and its attachment to the equipment being used. Drawings submitted shall include the approach angle for any and all depths to be dredged during the dredging. A copy of the approved drawings and calculations shall be available on the vessel during the dredging.

3.1.1.3.8.2 Hopper Dredge Equipment

Hopper dredge drag heads shall be equipped with rigid sea turtle deflectors, which are rigidly attached. No dredging shall be performed by the hopper dredge without a turtle deflector device that has been approved by the Contracting Officer Representative.

3.1.1.3.8.3 Deflector Design

The leading v-shaped portion of the deflector shall have an included angle of less than 90 degrees. Internal reinforcement shall be installed in the deflector to prevent structural failure of the device. The leading edge of the deflector shall be designed to have a plowing effect of at least 6" depth when the drag head is being operated. Appropriate instrumentation or indicator shall be used and kept in proper calibration to insure the critical "approach angle."

If adjustable depth deflectors are installed, they shall be rigidly attached to the drag head using either a hinged aft attachment point or an aft trunnion attachment point in association with an adjustable pin front attachment point or cable front attachment point with a stop set to obtain the 6" plowing effect. This arrangement allows fine-tuning the 6" plowing effect for varying depths. After the deflector is properly adjusted there shall be NO openings between the deflector and the drag head that are more than 4" by 4".

3.1.1.3.9 Training for Hopper Dredge Personnel

The USACE may, as necessary, conduct thorough training on measures of dredge operation that will minimize takes of sea turtles and Gulf sturgeon. It shall be the goal of each hopper dredging operation to establish operating procedures that are consistent with those that have been used successfully during hopper dredging in other regions of the coastal United States, and which have proven effective in reducing turtle/dredge interactions.

3.1.1.3.10 Sea Turtle and Gulf Sturgeon Trawling and Relocation

Trawling and relocation shall be conducted only during Hopper Dredging within Mobile Bay Bar Channel unless otherwise directed by the Contracting Officer Representative. Trawling outside of the Bar Channel is not required unless there is a take. The Contractor shall implement the following requirements Trawling and Relocation:

3.1.1.3.10.1 Trawling Requirements

Relocation trawling shall be conducted to remove sea turtles (with the exception of leatherback sea turtles, which shall be photographed in the trawling net and immediately released in place, see below) and Gulf sturgeon from the construction areas during dredging to help prevent entrainment by the dredge. In addition, giant manta rays may be present in the work areas. Observers shall not handle giant manta rays or take any physical measurements. IF a giant manta ray is captured in the trawl it shall be photographed in the trawling net and immediately released in place. Trawling shall begin at least 12 hours prior to dredging. Based on the trawling results, the Government will decide if there is a need to continue trawling. Daily trawling results shall be sent to the USACE, Mobile District, Chief of Coastal Environmental, PD-EC, Ms. Lekesha Reynolds, Lekesha.W.Reynolds@usace.army.mil and Don Mroczko, donald.e.mroczko@usace.army.mil. Based on the trawling results, the Mobile District, Planning Division, Coastal Environmental will decide on if there is a need to continue trawling. Methods and equipment shall be standardized including data sheets, nets, trawling direction to tide, length of station, length of tow, and number of tows per station. Data on each tow shall be recorded in on Trawling Report form. The trawler shall be equipped with 60-foot nets constructed from 8-inch mesh (stretch) fitted with mud rollers and flats as specified in the Turtle Trawl Nets Specifications appended to the end of this Section. Paired net tows shall be made for 12 hours per day or night, as directed by the Contracting Officer or their appointed representative. The tows shall be performed in shifts, to be determined by the Contracting Officer or their appointed representative. The trawler shall be available for operation 24 hours a day. If two (2) separate trawlers are required, they shall operate side-by-side, as much as practicable. If multiple dredges are utilized, the trawler(s) shall be used for each dredge actively performing dredging operations. If the dredging operations are coordinated so that only one (1) dredge is actively dredging, trawler(s) shall be required for only that dredge. If dredging operations cease for a period of 12 hours or more, relocation trawling shall be conducted for a minimum of 4 hours prior to resuming dredging operations. The trawler(s) shall be positioned ahead of the hopper dredge and as close to the hopper dredge as safely possible to give maximum coverage ahead of the dredging cut. The dredge and trawler(s) shall work closely together to implement techniques and procedures that will minimize the opportunity for turtles and Gulf sturgeon to enter the dredging path between the trawler(s) and dredge.

NOTE: ALL TRAWLING ACTIVITIES, VESSELS AND EQUIPMENT SHALL COMPLY WITH THE CONTRACTOR'S ACCIDENT PREVENTION PLAN AND THE REQUIREMENTS OF EM 385-1-1, U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL. Trawling shall be conducted with and against the tidal flow at a speed between 2.5 to 3.5 knots using repetitive 15- to 30-minute (total time) trawls in the work area. Trawl tow-time duration shall not exceed 30 minutes (doors in - doors out) and trawl speeds shall not exceed 3.5 knots. Positions at the beginning and end of each tow shall be determined from the Global Positioning System (GPS) equipment. Tow speed shall be recorded at the approximate midpoint of each tow. Acceptable GPS criteria shall be in accordance with EM 1110-1-1003, paragraph 5.3 and Table 5-1. This EM 1110-1-1003 can be located at the following website: http://www.publications.usace.army.mil/USACEPublications/EngineerManuals.aspx or can be purchased directly from the Government Printing Office by calling (202) 512-1800. The postal address is Superintendent of Documents, P. O. Box 371954, Pittsburgh, Pennsylvania 15250-7954 or on line at http://bookstore.gpo.gov/.

3.1.1.3.10.2 Water Quality and Physical Measurements

Water temperature measurements shall be taken at the water surface each day using a laboratory thermometer. Weather conditions shall be recorded from visual observations and instruments on the trawler. Weather conditions, air temperature, wind velocity and direction, sea state-wave height, and precipitation shall be recorded on the Trawling Report form. High and low tides shall be recorded.

3.1.1.3.10.3 Approved Sea Turtle Trawling and Relocation Supervisor

Trawling shall be conducted under the supervision of a crewmember that possesses the required permits for handling endangered species, experienced in sea turtle capture or is a NMFS-approved observer. A letter of approval from NMFS shall be provided to the Contracting Officer or their appointed representative prior to commencement of trawling.

3.1.1.3.10.4 Repair and Replacement of Damaged Trawl Nets

The Contractor, at the time of mobilization, shall provide trawl nets, which meet the requirements specified in the Turtle Trawl Net Specifications at the end of this section. Trawl nets that are damaged shall be repaired or replaced by the Contractor at no additional expense to the Government. Tools, supplies and materials for repairing nets shall be kept aboard the trawler. In the event of damage to trawl nets, one hour shall be allowed to either repair or replace them. The Contractor shall have at least one set of replacement nets immediately available at all times, to insure that the dredging work is not adversely delayed due to trawler down-time for replacing damaged nets. It is recommended that a second set of replacement nets be available aboard the trawler.

3.1.1.3.10.5 Equipment Breakdown

The contractor shall be placed in a non-pay status when trawling equipment breakdown is such that the trawler does not operate during the day. Pay time shall resume when trawling operations recommence.

3.1.1.3.10.6 Suspension of Dredging and Relocation Trawling

Should there be dangerously high seas that would cause the trawler to

leave the dredging area when relocation trawling is required, the dredge may continue to operate, as long as no turtles or Gulf sturgeon are taken and subject to the discretion of the Contracting Officer.

3.1.1.3.10.7 Turtle Excluder Devices

Approval for trawling for sea turtles without Turtle Excluder Devices (TEDs) on hopper dredge dragheads must be obtained from NMFS (contact Ms. Kelly Shotts at Kelly.Shotts@noaa.gov). Any necessary State or Federal clearances for the capture and relocation of sea turtles shall also be obtained. Approvals shall be submitted to the Contracting Officer or their appointed representative prior to trawling.

3.1.1.3.10.8 Handling During Trawling

Sea turtles and sturgeon captured pursuant to relocation trawling shall be handled in a manner designed to ensure their safety and viability, and shall be released over the side of the vessel, away from the propeller, and only after ensuring that the vessel's propeller is in the neutral, or disengaged, position (i.e., not rotating). Resuscitation guidelines are located in the Environmental Compliance Appendix. All leatherback sea turtles are to be photographed in the trawler net and immediately released in place (are not to be relocated).

3.1.1.3.10.9 Captured Turlte and Gulf Sturgeon Holding Conditions

Turtles and Gulf sturgeon may be held briefly for the collection of important scientific measurements, prior to their release. Captured turtles shall be kept moist, and shaded whenever possible, until they are released, according to the requirements below. Captured Gulf sturgeon shall be held in a suitable well-aerated seawater enclosure until they are released according to the requirements below.

3.1.1.3.10.9.1 Take and Release Time During Trawling: Turtles

Turtles shall be kept no longer than 12 hours prior to release and shall be released not less than three (3) nautical miles (nmi) from the excavation site. If two or more released turtles are later recaptured, subsequent turtle captures shall be released not less than (5) five nautical miles away. If it can be done safely and without injuries to the turtle, turtles may be transferred onto another vessel for transport to the release area to enable the relocation trawler to keep sweeping the dredge site without interruption. Minor skin abrasions resulting from trawl capture are considered non-injurious. Injured sea turtles shall be immediately transported to the nearest sea turtle rehabilitation facility. Also notify the Coastal Environmental Team, Mobile District, Ms. Lekesha Reynolds by phone at 251-690-3260 office or by email at Lekesha.w.reynolds@usace.army.mil. Observer(s), or their appointed representative(s), shall transport injured turtles to a rehabilitation facility as soon as possible. The NOAA Fisheries-approved turtle transporters shall be used for this purpose.

Mississippi

Institute for Marine Mammal Studies (MMS)
10801 Dolphin Ln, Gulfport, MS 39503, phone 1-888-767-3657, or 1-228-896-9182 email contactus@imms.org.

FLORIDA (partial list)

Gulf World
15412 Front Beach Rd
Panama City Beach, FL 32413
Tel. 850-234-5271

Emerald Coast Wildlife Rescue
406 Mountain Dr
Destin, FL 32541
Tel. 850-/650-1880

Florida's Gulfarium
1010 Miracle Strip Parkway SE
Ft. Walton Beach, FL 32548
Tel. 850-243-9046

3.1.1.3.10.9.2 Take and Release Time During Trawling: Gulf Sturgeon

Gulf sturgeon shall be released immediately after capture, away from the dredge site, unless the trawl vessel is equipped with a suitable well-aerated seawater holding tank, container, trough or pool where a maximum of one sturgeon may be held for not longer than 30 minutes before it must be released or relocated away from the dredge site.

3.1.1.3.10.10 Scientific Measures

When safely possible, all turtles (with the exception of leatherback sea turtles) shall be measured (standard carapace measurements including body depth), tagged, weighed, and a tissue sample taken prior to release. When safely possible, all Gulf sturgeon shall be measured (fork length and total length), tagged, weighed, and a tissue sample taken prior to release. Any external tags shall be noted and data recorded onto the Tagging form. Only NMFS approved protected species Observers or Observer candidates in training under the direct supervision of a NMFS-approved observer shall conduct the tagging/measuring/weighing/tissue sampling operations. All sea turtles and sturgeon shall be photographed and the photographs shall be submitted with the tagging and/or trawling reports.

3.1.1.3.10.11 Turtle Flipper External Tagging

All sea turtles captured by relocation trawling shall be flipper-tagged prior to release with external tags which shall be obtained prior to the start of dredging from the University of Florida's Archie Carr Center for Sea Turtle Research. The NMFS-approved protected species observer aboard these relocation trawlers shall flipper-tag with external tags (e.g., Inconel tags) captured sea turtles. Columbus crabs or other organisms living on external sea turtle surfaces may also be sampled and removed.

3.1.1.3.10.12 PIT Tagging

PIT tagging of sea turtles and Gulf sturgeon is not required if the NMFS-approved protected species observer does not have prior training or experience in said activity. However, if the observer has received prior training in PIT tagging procedures, then the observer shall PIT tag the animal prior to release (in addition to the standard external tagging):

(1) Sea turtle PIT tagging must then be performed in accordance with the protocol detailed at NMFS' Southeast Fisheries Science Center's

web page: http://www.sefsc.noaa.gov/species/turtles/observers.htm.

(2) Gulf sturgeon PIT tagging must then be performed in accordance with the protocol detailed at the NMFS SERO PRD Web site.

(3) PIT tags used must be sterile, individually wrapped tags to prevent disease transmission. PIT tags should be 125 kHz, glass-encapsulated tags-the smallest ones made.

3.1.1.3.10.13 Other Sampling Procedures

All other tagging and external or internal sampling procedures (e.g., blood letting, laparoscopies, anal and gastric lavages, mounting satellite or radio transmitters, etc.) performed on live sea turtles or live sturgeon are not permitted unless the observer holds a valid sea turtle or sturgeon research permit authorizing this activity, either as the permit holder, or as designated agent of the permit holder.

3.1.1.3.10.14 Trawler Reporting

At the end of each day, a report (including details about the tow, details about the turtles/sturgeons relocated, and all required photographs in .JPG or .PDF) shall be emailed by the Contractor to USACE, Mobile District, Chief of Coastal Environmental, PD-EC, Ms. Lekesha Reynolds, Lekesha.W.Reynolds@usace.army.mil and Mr. Don Mroczko, donald.e.mroczko@usace.army.mil. The results of each trawl shall be recorded on the Trawling Report. Sample forms are provided in the Environmental Compliance Appendix. Following completion of the project, an electronic copy of the trawling reports shall be forwarded to USACE, Mobile District, Chief of Coastal Environmental, PD-EC, Ms. Lekesha Reynolds, Lekesha.W.Reynolds@usace.army.mil and the CO within 10 working days of dredging completion.

3.1.1.3.11 Collateral or "Piggy Back" Research - Hopper Dredging/Trawling Relocation Only

Any sea turtle research activities proposed by the contractor, or outside parties, to be conducted in association with USACE funded actions, including endangered species monitoring, relocation trawling operations, or use of turtles acquired by these operations shall comply with the following general requirements, and any specific requirements developed by the Corps on a case-by-case basis as requests are received:

(1) The USACE shall be given at least 60 days to review and comment on any such research proposals. The point of contact for this review is Safra Altman (Safra.Altman@usace.army.mil) at the Engineer Research and Development Center (ERDC) in Vicksburg MS.

(2) No such research shall be conducted without the express consent of USACE.

(3) The USACE shall be given the opportunity to review and comment on any potential publication or interpretation of resulting data prior to release. The point of contact for this review is Dena Dickerson at the ERDC.

(4) The party or parties conducting the research shall possess a valid research permit pursuant to Section 10 of the Endangered Species Act; and will be responsible for any other Federal, State or local

permits or authorizations required, including any requirement of the National Environmental Policy Act (NEPA).

(5) Any injuries, including lethal takes resulting from sea turtle handling activity beyond USACE contract requirements shall be the responsibility of the researcher.

(6) Acknowledgment that the research was conducted with the assistance of USACE shall be included in any resulting publication or report, at the discretion of USACE.

(7) Research activities shall not hinder USACE contracted operations, nor result in any additional cost to the Government;

(8) Research personnel not directly employed by USACE contractors or subcontractors shall not board contracted vessels without signing an appropriate waiver of liability and/or other documents required by USACE.

3.1.1.3.12 PIT-Tag Scanning - Hopper Dredging/Trawling Relocation Only

All sea turtles (with the exception of leatherback sea turtles) and Gulf sturgeon captured by relocation trawling or hopper dredges shall be thoroughly scanned for the presence of PIT tags prior to release using a multi-frequency scanner powerful enough to read multiple frequencies (including 125 128, 134 and 400-kHz tags) and read tags deeply embedded deep in muscle tissue (e.g., manufactured by Trovan, Biomark, or Avid). Turtles whose scans show they have been previously PIT tagged shall be externally flipper tagged. The data collected (PIT tag scan data and external tagging data) shall be submitted to NOAA, NMFS, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov; and Sheryan.Epperly@noaa.gov. Sea turtle external flipper tag and PIT tag data generated and collected by relocation trawlers shall also be submitted to the Cooperative Marine Turtle Tagging Program (CMTTP), on the appropriate CMTTP form, at the University of Florida's Archie Carr Center for Sea Turtle Research.

Gulf sturgeon data (PIT tag scan data and external tagging data) shall be submitted within 60 days of project completion to NOAA, National Marine Fisheries Service, Protected Resources Division, 263 13th Avenue South, St. Petersburg, Florida 33701, or by fax: (727)824-5309; or by e-mail: takereport.nmfsser@noaa.gov, Attn: Dr. Stephania Bolden.

3.1.1.3.13 Handling Fibropapillomatose Turtles

NMFS-approved protected species observers onboard a relocation trawler or hopper dredges are not required to handle or sample the viral fibropapillomatose tumors if they believe there is a health hazard to themselves and choose not to. When handling sea turtles infected with fibropapilloma tumors shall either: 1) clean all equipment that comes in contact with the turtle (tagging equipment, tape measures, etc.) with mild bleach solution, between the processing of each turtle or 2) maintain a separate set of sampling equipment for handling animals displaying fibropapilloma tumors or lesions.

3.1.1.3.14 Tissue sampling for Genetic Analyses: Hopper Dredging/Trawling Relocation Only

All alive or dead sea turtles (with the exception of leatherback sea turtles) and Gulf sturgeon captured by relocation trawling or dredging shall be tissue-sampled prior to release by a NMFS-approved protected species observer.

Sea turtle tissue samples shall be taken in accordance with NMFS' Southeast Fisheries Science Centers' (SEFSC) procedures for sea turtle genetic analyses (included in the Environmental Compliance Appendix). Tissue samples shall be properly stored and mailed within 60 days of completion of dredging project, to NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149.

Gulf sturgeon tissue samples (i.e., fin clips or barbel clips) shall be taken in accordance with NMFS SERO's Protected Resources Division's Gulf sturgeon Tissue Sampling Protocol found at NMFS SERO PRD Website. Tissue samples shall be properly stored and mailed to SERO PRD (Attn: Dr. Stephania Bolden) within 60 days of dredging completion.

3.1.1.3.15 Equipment Lighting

During the sea turtle nesting season and emergence season May 1 to October 31, lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, COE EM 385-1-1, and OSHA requirements. Light intensity of lighting plants should be reduced to the minimum standard required by U.S. Coast Guard and/or OSHA for General Construction areas, in order not to misdirect sea turtles. Shields should be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area.

3.1.2 Flow Ways

Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as specified and permitted.

3.1.3 Vegetation

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

Protect existing trees that are to remain to ensure they are not injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Coordinate with the Contracting Officer and Installation Environmental Office to determine appropriate action for trees and other landscape features scarred or damaged by equipment operations.

3.1.4 Streams

Stream crossings must allow movement of materials or equipment without violating water pollution control standards of the federal, state, and local governments. Construction of stream crossing structures must be in compliance with all required permits including, but not limited to, Clean Water Act Section 404, and Section 401 Water Quality.

The Contracting Officer's approval and appropriate permits are required before any equipment will be permitted to ford live streams. In areas where frequent crossings are required, install temporary culverts or bridges. Obtain Contracting Officer's approval prior to installation. Remove temporary culverts or bridges upon completion of work, and repair the area to its original condition unless otherwise required by the Contracting Officer.

3.2 EROSION AND SEDIMENT CONTROL MEASURES

Provide erosion and sediment control measures at the placement site and along the pipeline routein accordance with state and local laws and regulations. Preserve vegetation to the maximum extent practicable.

3.3 PROTECTION OF WATER RESOURCES

The Contractor shall not pollute any water bodies including streams, lakes, bays, estuaries, or other marine or fresh waters with fuels, oils, trash, acids, or any other harmful materials. It is the responsibility of the Contractor to investigate and comply with all applicable Federal, state, county, and municipal laws concerning water pollution. The discharge of plastics of any kind within estuarine or marine waters is strictly prohibited. All work under this contract shall also be performed in such a manner that objectionable conditions will not be created in proximity to the project areas. The following requirements shall be followed:

1) The Contractor shall ensure dredging and the placement of material is in accordance with the plans and specifications included herein and shall be performed with minimum damage to the environment. No other areas are approved for the placement or excavation of material.

2) The Contract designates areas for placement of all dredged material. No other areas are approved for dredged material placement.

3) The Contractor must comply with all turbidity and monitoring standards and other specific conditions set forth in the water quality standards. Ambient turbidity levels shall not exceed background turbidity by more than 50 Nephelometric Turbidity Units. If turbidity resulting from the project exceeds these levels, the Contractor will cease activities until turbidity levels are in compliance. Should work stoppage occur, the Contractor will notify the U.S. Army Corps of Engineers [Contracting Officer and Planning and Environmental Division, Coastal Environment Team (ATTN: Ms. Lekesha Reynolds at 251-690-3260)]. Turbidity Monitoring Reports shall be emailed on a weekly basis to Ms. Lekesha Reynolds at Lekesha.W.Reynolds@usace.army.mil and Mr. Don Mroczko at Donald.e.mroczko@usace.army.mil.

4) Any material moved by the dredge, pipeline, or any other such

equipment shall be moved in such a way that: a) material will not be placed outside of the placement site boundaries as specified by the Contract; and b) safeguards against excess turbidity and suspended solids entering any adjacent water body. Work shall be performed in such a way as not to impact local wetland areas.

5) Special measures shall be taken to prevent chemicals, fuels, oils, and greases at the open water and upland placement sites or along the pipeline from entering area waters, at all times.

6) The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in area designated by the Contracting Officer. The Contracting Officer shall approve all temporary movement or relocation of Contractor facilities.

7) Discharge of any pollutant into the watercourse is strictly prohibited, except as otherwise specified or allowed in other sections of the Technical Specifications.

3.4 PROTECTION OF CULTURAL RESOURCES

3.4.1 Archaeological Resources

All items having any apparent historical or archeological interest, which are discovered in the course of any removing of material and placement activities, shall be carefully preserved and protected. The Contractor shall leave the archaeological find undisturbed, secure the site to the extent reasonably possible, and immediately report the find to the Contracting Officer and Mobile District Archeological Staff (attn: Mr. Mike Malsom PD-EI, (251) 690-2023 and Dr. Patrick M. O'Day, PD-EI (251) 690-2326). Existing historical, archeological and cultural resources for avoidance within the Contractor's work area will be so designated by the Contracting Officer. The Contracting Officer will further coordinate with the Mobile District Archeological Staff to obtain the precise coordinates for avoidance areas if needed. Any new sites would be identified and adequately marked in the field for assessment by the USACE staff, and any known sites in the removal or placement footprint will be marked for avoidance prior to dredging.

If new and unanticipated Historic Properties are inadvertently discovered during implementation of the Undertaking, the Mobile District will cease all work in the vicinity of the discovery until it can be evaluated. If the property is determined to be NRHP eligible, the Corps shall consult with the SHPO, Federally Recognized Tribes, and other interested parties to develop a treatment plan according to Stipulation lv (Historic Properties Treatment Plan).

3.5 AIR RESOURCES

Equipment operation, activities, or processes will be in accordance with 40 CFR 64 and state air emission and performance laws and standards. All fuel burning equipment shall be properly maintained to prevent violations of State or Federal Air Pollution Standards or interference with inhabitants of the area by causing drastic changes in their accustomed environment. If burning is required, the Contractor should obtain a burn permit from the local fire department, if necessary. Daily inspections will be made of all fuel burning equipment. Immediate corrective action shall be taken if exhaust emissions are found to be excessive.

3.5.1 Dust Control

The Contractor shall be required to maintain all work areas within or outside of the project boundaries free from dust that would cause a hazard or nuisance to others.

3.6 WASTE MANAGEMENT AND DISPOSAL

3.6.1 Solid Waste Management

Solid waste shall be placed in containers that are emptied on a regular schedule. All handling and placement shall be conducted to prevent spillage and contamination.

3.6.1.1 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers that are regularly emptied. Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes. At project completion, leave the areas clean. Employ segregation measures so that no hazardous or toxic waste will become co-mingled with non-hazardous solid waste.Solid waste disposal offsite must comply with most stringent local, state, and federal requirements, including 40 CFR 241, 40 CFR 243, and 40 CFR 258.

3.6.2 Control and Management of Hazardous Waste

Hazardous waste shall be stored, removed from the work area and disposed of in accordance with Federal, state and local laws and regulations.

3.6.2.1 Hazardous Waste/Debris Management

Identify construction activities that will generate hazardous waste or debris. Provide a documented waste determination for resultant waste streams. Identify, label, handle, store, and dispose of hazardous waste or debris in accordance with federal, state, and local regulations, including 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, and 40 CFR 268.

Manage hazardous waste in accordance with the approved Hazardous Waste Management Section of the EPP. Store hazardous wastes in approved containers in accordance with 49 CFR 173 and 49 CFR 178. Hazardous waste generated within the confines of Government facilities is identified as being generated by the Government. Prior to removal of any hazardous waste from Government property, hazardous waste manifests must be signed by personnel from the Installation Environmental Office. Do not bring hazardous waste onto Government property. Provide the Contracting Officer with a copy of waste determination documentation for any solid waste streams that have any potential to be hazardous waste or contain any chemical constituents listed in 40 CFR 372-SUBPART D.

3.6.3 Wastewater

3.6.3.1 Disposal of Wastewater

Disposal of wastewater must be as specified below.

3.6.3.1.1 Treatment

Do not allow wastewater from construction activities, such as onsite material processing, to enter water ways or to be discharged prior to being treated to remove pollutants. Wastewater shall be processed, filtered, ponded, or otherwise treated, if applicable, prior to release from project area into waterways. If applicable, the removed material placement operation return water shall not impact any areas of seagrasses, shellfish beds, or wetland areas. Dispose of the wastewater in accordance with 40 CFR 403, state, regional, and local laws and regulations.

3.7 SOUND INTRUSION

The Contractor shall keep dredging and placement activities under surveillance and shall exercise all necessary controls to minimize damage to the environment by noise from equipment and various activities. Areas that have noise levels greater than 85-dB continuously, or 140-dB peak (unweighted) impulse, must be designated as noise hazardous areas. These work areas must have caution signs displayed at the perimeter of the noise area indicating the presence of hazardous noise levels and requiring the use of hearing protection devices.

3.8 POST CONSTRUCTION CLEANUP

Clean up areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the Contracting Officer, remove traces of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. Grade parking area and similar temporarily used areas to conform with surrounding contours.

-- End of Section --

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SECTION 35 20 23.00 36

DREDGING
04/04

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

The descriptions and requirements below are general in nature and are supplied to allow the Contractor to develop a unit cost for dredging within the defined boundaries. For bidding purposes, it is the intent of the Government to issue a contract for deepening the Mobile Ship Channel in accordance with the specifications and drawings included herein. The work to be performed under this contract includes furnishing of all plant, labor, materials, and equipment and the performance of all work required for the construction of project improvements at Mobile Ship Channel in accordance with the contract drawings and specifications. The work includes dredging in the Mobile Ship Channel and the satisfactory placement of all dredged materials in approved dredge material placement sites. Allowable overdepth dredging is also included in the contract and will be paid for at the applicable required dredging rate.

1.2 REFERENCES

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.3 ORDER OF WORK

The Contractor shall control the order of work and shall submit a written order of work plan for the approval of the Contracting Officer's Representative prior to commencement of the work. This plan shall show the Contractor's delineated area to be used for placement of dredged material from this work within the approved limits of the in bay placement areas C through F as shown on the contract drawings. The Contractor's Order of Work plan shall also include detail of the Contractor's operational method for dredging, dredged material transportation, and placement methods that ensures an average no greater than 1.5 feet thickness of dredged material over each placement site and at no instance exceeds a +3 foot tolerance at any placement site. The Contractor shall determine the requirements for staging and fabrication areas for dredging equipment based on their proposed operational methods. Acquisition of real estate interests in any such area and/or required permits for the particular type land use shall be the sole responsibility of the Contractor, the Government being held harmless from any liability or legality of procurement, use, or restoration. Should the Contractor employ more than one dredge unit on the project, additional work locations shall be approved by the Contracting Officer's Representative. The Contractor shall give the Contracting Officer's Representative ten (10) days written advance notice of the date they plan to modify the order of work in order that required Government actions may be started sufficiently in advance of the Contractor's operations, including the installation of baselines and other survey controls.

1.4 CHARACTER OF MATERIALS

1.4.1 Logs of Borings and Laboratory Data

The boring logs and lab data for this project are located in Appendix A of this specification. Locations of borings are shown within the contract drawings. The borings represent conditions at the time of drilling operations. The Contractor shall make his own interpretation(s) of this information in determining the character of materials to be dredged. All classifications of soils, both visual and laboratory, are in accordance with the Unified Soil Classification System, Compatible with ASTM D 2487.

1.4.2 Materials to Be Removed

Material to be removed under this contract (within the required dredging prisms) includes O&M material and new work, previously undredged material. Additionally, some large and small debris, not indicated on the boring logs or contract drawings, may exist within the limits of the required work. The Contractor may also find that the material to be removed contains various non-soil substances such as fibrous debris (trees, roots, stumps, etc.), metal cables, wire, rubble, etc. Records of previous dredging, consisting of cross sections, history cards and/or general data on past contract dredging, are available at the Irvington Site Office of the Mobile District, Corps of Engineers, 7861 13th Street, Irvington, AL 36544, (251) 957-6019.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals having an "FIO" designation are for information only. Submittals having an "OP" designation are to be submitted to the Operations Division, of the U.S. Army Corps of Engineers, Mobile District. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (App); G, OP

Order of Work Plan; G, OP

Quality Control Plan; G, OP

Survey Plan; G, OP

Deposition Plan; G, OP

SD-05 Design Data

Before-Dredging Surveys; G, OP

After-Dredging Condition Survey; G, OP

Before-Placement Condition Surveys; G, OP

After-Placement Condition Surveys; G, OP

SD-06 Test Reports

Daily Report; G, OP

Dredge Progress Report; G, OP

SD-07 Certificates

Manufacturer's guarantee; G, OP

SD-11 Closeout Submittals

Project Completion Report; G, OP

1.6 METHOD OF COMMUNICATION

Project coordination with the Contracting Officer/Representative (KO/COR) and Quality Assurance Representative (QAR) is to occur during all phases of construction. The area adjacent and East of the channel deepening between stations 267+72.53 and 337+00 will be dredged under a separate Phase 6 Contract. The Contractor shall ensure close coordination regarding their order of work with the Contracting Officer to ensure clear coordination between contractors. Coordination also includes but is not limited to publication of the notice of intent to dredge and coordination with local officials including police, public, US Coast Guard, and others as agreed during coordination meetings. Submittal of the Notice of Intent to Dredge is described in the SD-01 Preconstruction requirements of this document.
Submittal requirements for Dredge Progress Reports are described below:

The Contractor shall submit a bi-weekly Dredge Progress Report in Adobe PDF format to the Contracting Officer. The Dredge progress reports shall include but not be limited to the following:

a. Summary table of excavated sediments, dredge positions and cut depths for the reporting time period obtained from applicable production reports 4267 or 27

b. Overview of the project showing the cumulative dredge positions for the reporting time period

c. Excavation graphs showing depth versus time for each dredge for the reporting time period

d. A color-coded plot, in the project reference datum, of the draghead, cutterhead, or other hydraulic or mechanical dredging device depicting the vertical and horizontal limits of the material dredged each day. Any horizontal or vertical dredge violations shall be clearly defined

e. Hopper dredges shall submit dredge track lines with draghead depths that shall indicate dredge status: dredging, transiting, unloading, and loading

f. Daily reports for the reporting time period

g. Update of the construction progress, including estimated volumetric production rates from dredge areas (both cumulative and for the reporting period)

h. Hopper Dredge Turtle Observer Reports (if applicable) for the reporting time period

i. Incidental Take Observer Reports (if applicable) for the reporting time period .

Provide a system of communication between the dredge crew and the crew at the placement area. A portable two-way radio is acceptable.

1.7 NOTICES

1.7.1 Start Work

The Contractor shall give the Contracting Officer's Representative ten (10) days written advance notice of the date they plan to begin dredging work in order that required Government actions, such as the installation of baselines and other survey controls, can be started sufficiently in advance of the Contractor's operations.

1.7.2 Work Hours

Should the Contractor elect to work on Sundays, holidays, or at night, advance notice of this intent shall be given to the Contracting Officer's Representative within a reasonable time, specifying both the dates and hours of the proposed work. Notification is not meant to restrict the Conrtactor, but to allow the government time to coordinate quality assurance inspections. Adequate lighting to facilitate thorough inspection of night operations shall be provided by the Contractor at no additional cost to the Government.

1.8 GENERAL SAFETY REQUIREMENTS

The requirements of this paragraph shall be made part of the Contractor's Accident Prevention Program submittal. The Contractor shall provide specific details of actions proposed to fulfill these requirements.

1.8.1 Accident Prevention Plan

An accident prevention program incorporating safety features and procedures from Engineer Manual EM 385-1-1, which are applicable to all aspects of the Contractor's dredging operations, is required. An accident prevention plan (app) describing the Contractor's accident prevention program shall be provided. In addition to these features, the safety requirements outlined in the following paragraphs shall be incorporated into the Contractor's accident prevention program.

1.8.2 Plant Fleeting Area

The Contractor shall designate a plant fleeting area within which all idle components of plant equipment shall be stored. The fleeting area plan shall be contained within the Order of Work Plan. The area shall be marked by "hazardous area" buoys, properly placed and marked with reflective tape to give adequate nighttime warning to mariners. In addition to these bouys, a lighted warning sign, as specified in Section 8.A. of EM 385-1-1, shall be prominently displayed on the equipment in the fleeting area. This sign shall be well lighted and have reflective borders. Multiple

lengths of floating pipeline may be placed side-by-side within this fleeting area only if protected by a barge at each end, and shall not be placed in a manner so as to extend outside the barges. Floating pipeline within this fleeting area, not protected at each end by barges, may be placed in single rows and end-to-end only. The requirement for buoys and a lighted warning sign, as specified above, also applies to this configuration.

1.8.3 Dredge Pipeline Markings (Submerged and Floating)

Pipelines, for the purpose of critical markings, are defined as submerged and floating only. Submerged pipelines are defined as those that rest on, are positioned on, or are anchored to, the water column bottom at all times. Other pipelines are defined as floating for purposes of these markings requirements. These definitions apply whether there is dredge slurry flowing through the pipeline or not. Stored pipeline is covered elsewhere in this Section.

1.8.3.1 Submerged Pipeline Markings

The location or position of the entire length of submerged pipeline shall be marked with signs, buoys, lights, or flags as required by the U.S. Coast Guard (USCG) and as approved by the Contracting Officer's Representative. Signs, bouys, and flags shall be constructed of, or coated with, reflective material that can be detected by marine radar and is easily visible when illuminated by a spotlight beam. The local USCG and U.S. Army Corps of Engineers (USACE) have agreed that the following marking elements are sufficient:

One row of signs, buoys, lights of constant yellow color and of intensity sufficient to be visible for at least one mile on a clear night, flags, or an appropriate combination of these, more or less equally spaced along the submerged pipeline length in sufficient number to define the alignment (length and course) of the pipeline.

1.8.3.2 Floating Pipeline Markings

The position of the entire length of floating pipeline, both rubber and metallic, shall be marked with lights as required by the USCG and approved by the Contracting Officer's Representative. The local USCG and USACE have agreed that the following marking elements are sufficient and in accordance with 33 CFR 88.15:

a. one row of yellow lights, more or less equally spaced, which:

(1). flash 50 to 70 times per minute;

(2). are visible all around the horizon for at least 2 miles on a clear night;

(3). are not less than 1 meter nor more than 3.5 meters above the water surface;

(4). are sufficient in number to clearly show the pipeline's alignment (length and course). The lights shall be spaced not more than 10 meters apart where a pipeline crosses a navigable channel (see paragraph below for further lighting requirements of channel crossings).

b. two red lights at each end of the pipeline length, which are:

(1). visible all around the horizon for at least 2 miles on a clear night;

(2). stacked 1 meter apart in a vertical line with the lower light at the same distance above the water as the flashing yellow lights along the rest of the pipeline.

1.8.4 Pipelines Crossing Navigable Channels

At navigable channel crossings, pipelines may be either of two types, submerged or floating (floating crossings are further defined as fixed and non-fixed opening types):

1.8.4.1 Submerged pipeline crossings

Submerged pipeline crossings shall meet the following requirements.

a. The pipeline shall be configured in such a fashion (joints, bends, etc.) that it allows a safe passageway to usual vessel traffic with dimensions equal to or greater than the project channel dimensions (bottom width, side slopes and depth);

b. The pipeline must have two lights at each side of the safe passageway, which are:

(1). visible all around the horizon for at least 2 miles on a clear night;

(2). stacked 1 meter apart in a vertical line with the lower light not less than 1 meter nor more than 3.5 meters above the water surface; and

(3). of red color matching the standard USCG channel marking convention.

1.8.4.2 Floating Pipeline Crossings

Floating pipeline crossings shall meet the following requirements:

Fixed, non-opening, drop loop crossings shall have two red lights stacked at each side of the safe passageway which meet the requirements of 1.7.4.1.b.(1)., 1.7.4.1.b.(2) and 1.7.4.1.b.(3) above, and have depth and width of the loop equal to or greater than the channel project dimensions.

Non-fixed, opening type crossings shall have two stacked red lights at each side of the to-be-presented safe passageway, which meet the criteria of 1.7.4.1.b.(1) and 1.7.4.1.b.(2) above, and have the capability to be quickly disconnected (opened), on proper notice by approaching traffic, to allow safe vessel passage.

1.8.5 Plant Inspection

All plants, in use or idle, shall be inspected at least once per shift by the Contractor'S inspector to assure that buoys, signs, and lights are in place and that all lights are operating properly. Daily reports by the Contractor shall identify inspection personnel and indicate the time of

inspection of plant in use and in storage within the fleeting area. An adequate number of reserve batteries and lights shall be stored on the dredge(s) or on other readily accessible plant equipment at all times in order that non-functioning lights can be repaired or replaced.

1.8.6 Public Awareness

The Contractor shall facilitate public awareness of potential navigation hazards presented by dredge operation and plant storage within the fleeting area by ensuring that announcement of the beginning of work is carried by local newspapers, radio and television stations, and waterway user association publications. Details provided in the announcement shall include beginning date, work schedule, work location, fleeting area location, and recommended boat operation in the vicinity of work areas. Periodic work updates and/or status announcements shall be made whenever necessary and at least on a monthly basis throughout the term of this contract. The Contractor shall provide and maintain sturdy and prominently displayed "Warning Signs" at all public boat marinas within ten (10) miles of the dredging operations and plant fleeting area. The warning signs shall be constructed as prescribed on the drawing entitled "Warning Sign" bound herein. The signs shall have red lettering and castles on a white background with a red reflective border. The information provided on the signs shall be similar to that indicated on the drawing and shall include locations of dredging operations and plant fleeting areas, as applicable. The Contractor shall be responsible for keeping the warning signs updated with appropriate information identifying all active work sites under this contract.

1.9 SPECIAL SAFETY REQUIREMENTS

The requirements of this paragraph shall be made part of the Contractor's Accident Prevention Program submittal. The Contractor shall provide specific details of actions proposed to fulfill these requirements.

1.9.1 General

As a part of the Accident Prevention Program submittal, the Contractor shall provide documentation of the "indoctrination" safety briefing for the particular job to be performed by each employee as referenced in Sections 01.B. of EM 385-1-1. This documentation shall include the employee's name, job title, date(s) of safety briefing, and subject(s) of each briefing. When an employee changes jobs, another "indoctrination" safety briefing for the new job shall occur, with the documentation appropriately updated. The Contractor shall ensure that every employee receives appropriate "on-the-job" safety briefings on the first day the employee returns from off-tour time, and regular safety briefings at least every seven (7) days for all on-tour employees. Applicable portions of Sections 01.B. of EM 385-1-1 are referenced. All such briefings shall be documented on the daily Contractor's Quality Control Report (QCR). The Contractor shall ensure that every supervisor located at the job site(s) attends a "staff" safety meeting held at least monthly. The purpose of these safety meetings shall be to review, plan, and establish safety activities for this project. Applicable portions of Sections 01.B. of EM 385-1-1 are referenced. Documentation of these meetings shall include the employees' names, job titles, dates of meetings, topics covered, summary of actions, and other appropriate information. All such meeting documentation shall be furnished as an attachment to the daily Contractor's Quality Control Report within three (3) days after the meeting. The Contracting Officer's Representative shall be notified of

all safety briefings and meetings, and may attend any "indoctrination" safety briefing, "on-the-job" safety briefings or "staff" safety meetings. These briefings and meetings shall be conducted throughout all phases of this contract and shall include the Contractor and subcontractors.

1.9.2 Accident/Incident Investigation and Reporting

The Contractor shall designate a specific company officer as the investigating official referenced by Section 1 of EM 385-1-1. The investigation official shall attend the pre-construction conference. The investigating official's name and other pertinent information including company position, qualifications, experience, and training shall be listed in the Contractor's Accident Prevention Program when submitted for approval. All accidents and incidents shall be personally investigated by this official in accordance with the requirements of EM 385-1-1, and the requirements specified herein and at the pre-construction conference. The investigation official shall sign Block 1.d. of the ENG Form 3394 attesting to his or her personal participation in the accident or incident investigation process, the accident or incident cause analysis, and the accident or incident cause elimination plans anticipated or recommended. The completed, typed original of ENG Form 3394 shall be submitted to the Contracting Officer's Representative within 24 hours of the accident or Incident. All accidents and incidents shall be immediately reported to the Designated Government Representative. Accident and incident management shall be emphasized and will be further discussed at the Pre-Construction Conference.

1.9.3 Critical Lift Operations with Hoisting Equipment

All hoisting equipment used on this contract shall be performance- and operation-tested in accordance with EM 385-1-1. The planning and conduct of these tests shall be documented using the CRITICAL LIFT PLAN in accordance with EM 385-1-1. These tests shall be conducted for any CRITICAL LIFT OPERATION, i.e., when any one of the following conditions exists:

(a) Load to be lifted exceeds the original TEST LOAD (TEST LOAD or PERFORMANCE LOAD TEST is made at the beginning of the particular hoisting equipment's start-of-work on this contract).

(b) The operator will lose sight of the load during lift operation

(c) The lift operation requires two or more signal persons.

(d) The rigging procedures to be used on the lift operation are considered unusual.

(e) The operator or supervisor believes the lift operation should be considered CRITICAL.

The Contractor shall ensure that hoisting equipment operators have been proven competent prior to employment on this contract. A Resume' of each operator's competence (experience, training, etc.) shall be made part of the Contractor's Quality Control Plan referenced elsewhere in this specification. Hoisting equipment performing duty cycle activities shall undergo the critical lift operation testing procedure for each distinct type of duty cycle activity (dragline activity, clamshell activity, etc.) involved. When any of the conditions under which the original critical

lift operation test was conducted for a piece of hoisting equipment changes, another critical lift operation test shall be planned, conducted and documented for that equipment. All documentation for critical lift operation tests shall become part of the permanent contract safety files. All actions specified in the paragraph entitled "General Safety Requirements" shall be part of the Contractor's Accident Prevention Program submittal. The Contractor shall provide specific details of actions proposed to fulfill these requirements.

1.10 INSPECTION OF PLANT

The dredge plant shall be inspected by the Contractor and will be inspected by the Contracting Officer's representative to insure that all dredging plant required under the contract has been mobilized and is in safe working condition.

1.10.1 Contractor's Obligation to Inspect

Before any mechanized equipment is placed in service, it shall be inspected and tested by the Contractor and certified to be in safe operating condition using the Safety Survey Checklist for Floating Plant and the Safety Inspection Checklist for Mobile Construction Equipment forms as prescribed by EM 385-1-1. Records of these tests and inspections shall be provided to the Government prior to Government inspection and shall be maintained at the site by the Contractor.

1.10.2 Government Safety Inspection

Upon completion of mobilization, before starting work, and after the checklist forms are provided to the Government, a safety inspection will be conducted by the Government. The safety inspection will be conducted using the checklists as a guide to denote any deficiencies. Inspections performed by the Government do not relieve the Contractor of his responsibility to perform his own inspections of plant to assure a safe working environment at all times in accordance with contract specifications, EM 385-1-1 and his Accident Prevention Plan. Checklists are provided in Appendix D.

1.10.3 Hopper Leakage Test

During the safety inspection, the dredge will be required to take on water equivalent to the hopper capacity. In order for the dredge to begin work, it must have no more than a 5% loss in a one hour period. This test may be performed again at any time during the contract when an indication of leakage exists. Should the dredge fail said test, no dredging will take place until the leakage is repaired.

1.10.4 Clearance to Begin Work

Upon completion of the Government's safety inspection, a list of deficiencies, if any, will be given to the Contractor for corrective action. If, in the opinion of the Contracting Officer's Representative, the plant is unsafe or does not meet the terms of the specifications, clearance to begin work will be withheld. In the absence of deficiencies, the plant will be released to begin work. Inspections performed by the Government do not relieve the Contractor of his responsibility to perform his own inspections of plant to assure a safe working environment at all times in accordance with contract specifications, EM 385-1-1 and his Accident Prevention Plan.

1.10.5 USCG Operator's License

If Dredge (or other marine construction) Plant operation support workboat operators are moving dredge equipment, supplies, personnel, etc. in/at the immediate dredging site, i.e., from one side of the channel to the opposite side, or to/from a shore staging area located not more than approximately ½ mile from the dredge work location/operation and always within sight of the dredge operator, then the work boat operator need not be the holder of a USCG Operator's license. However, if the workboat moves equipment, personnel, supplies, etc., or proceeds "light boat", any significant distance beyond the immediate dredge work location/site, particularly over congested, busy waterways and/or out of sight of the dredge operator, an appropriate licensed operator (must possess a current USCG Operator's License) must be in control of the vessel operation. References: EM 385-1-1 Section 19 Paragraph 19.A.02 b., Volume III of the USCG Marine Safety Manual Section 24.B.3, 46 USC 8904.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 DREDGING

3.1.1 General

Dredging under this contract shall include removal, transportation, and satisfactory dplacement of dredged materials described herein and shown on the contract drawings. Dredging limits shown on the contract drawings were determined based on surveys current during the development of these specifications. The following web site links contain files of the most recent hydrographic surveys for the channel. These surveys and data are provided for information only and may not reflect the current conditions.

Mobile Ship Channel
https://www.arcgis.com/apps/opsdashboard/index.html#/4b8f2ba307684cf597617bf1b6d2f85d

3.1.2 Required Dredging

The contract prices shall include the cost of performing the work described below and shown on the contract drawings. Required dredging under this contract includes all material lying within the designated side slopes of one foot vertical to five feet horizontal (1V to 5H) originating at the plane of elevation -52 feet MLLW from Station 226+16 to Station 500+00, at the widths shown on the contract drawings. No dredging of the turning basin is included in this contract.

3.1.2.1 Side Slope Excavation

Side slope material will be required to be removed when designated as such. Material that is actually removed, within the required dredging limits to provide for final side slopes no flatter than as designated, but not in excess of the amount originally lying above this required dredging limiting side slope, will be estimated and paid for (as applicable), whether dredged in the original position or by dredging "storage space" below the required side slope plane, at the bottom of the slope, for upslope material capable of falling into the cut. This "storage space", excavated in anticipation of upslope face material falling thereinto, is

not subject to the above depth and width overdredging restrictions (if applicable), as long as it is reasonable. The Contractor should refer to the typical section included in the contract drawings for the required dredging, allowable overdepth, and allowable maintenance limits.

3.1.3 Allowable Overdepth

To accommodate the imprecision of the dredging process, material removed from within the Mobile Ship Channel alignment limits to a depth of 2 feet below the depth of required dredging will be estimated and paid for at the contract unit price for new work dredging. Side slopes for allowable overdepth will be 1V:0H. The Contractor shall not exceed 2 feet of allowable overdepth dredging.

3.1.4 Dredge Material Overflow

Overflow will be limited to forty-five minutes, per load, for hopper dredges only, unless otherwise approved by the COR. Overflow will only be allowed for material that is predominantly sand. This slurry shall not overflow transport vessel sidewalls while in transit, nor shall it be dumped (or pumped) from the vessel except when placed directly at an authorized dredge material placement area. Mechanical dredge bucket dripping occurring between the excavation point and deposition into dump scows will not be considered overflow.

3.1.5 Excessive Dredging

Material removed from beyond the dredging limits shown on the contract drawings shall be considered excessive dredging for which payment will not be made. Payment will be made for removal of shoals performed in accordance with the applicable provisions of the Additional Special Contract Requirements paragraph entitled "FINAL EXAMINATION AND ACCEPTANCE".

3.2 DREDGED MATERIAL PLACEMENT

3.2.1 General Requirements

All excavated material shall be transported to, and placed in the proper d redged material placment areas as described below. The Contractor shall develop dredged material placement procedures based on these requirements. Costs associated with the requirements of placement of dredge materials shall be included in the Bidding Schedule unit prices for dredging.

3.2.2 Deposition Plan

A deposition plan, based on the requirements and limitations specified hereinafter, shall be submitted by the Contractor (as a part of the requirements in the paragraph entitled "ORDER OF WORK") to the Contracting Officer's Representative for approval prior to placement of any dredged material under this contract. The Contractor shall delineate within thein bay placement sites C through F, as shown on the contract drawings all areas to be used for placement of dredged material from this work. The Contractor's deposition plan shall include location and methods of placement of all dredged material from this contract. The Contractor's deposition plan shall be completely explanatory and shall include all assumptions, statements of fact, computations, and a narrative to fully explain the procedures to be followed during the contract in compliance

with the specified method of placement of dredged material. The Contractor's deposition plan shall address each different placement situation and include any required monitoring, preparation, or operation and maintenance actions involved. Bids received will be based on using the placement areas described below.

3.2.3 Plant Equipment Layout

The Contractor shall be responsible for selection of a method of construction and/or plant equipment layout that will not cause a hazard to existing navigation nor unduly restrict marine traffic, particularly in the marked navigation channels and the adjacent private docking/mooring fairways.

3.2.4 Dredge Material Placement Areas

The Contractor shall delineate within the limits of the bay placement sites C through F as shown on the contract drawing sheet CN107 all areas to be used for placement of dredged material from this work. The Contractor shall ensure depostion is within the limits of the site and the Contracting Officer's approved delineated placement boundary. Dredge material placed within the bay sites C through F shall be on an average no greater than 1.5 feet in thickness over each placement site and in no instance shall the placement exceed a +3 foot tolerance.

3.2.5 Misplaced Dredged Materials

Any dredged materials deposited at locations or elevations other than those designated or approved by the Contracting Officer's Representative shall be considered misplaced material and shall not be paid for until the Contractor, at his expense, removes and redeposits such misplaced material where directed. Misplaced material will be quantified by volumes calculated from hydrograph surveys and/or DQM measurements. Required removal and redeposit of the misplaced material and any necessary placement area restoration work shall not be the basis for a time extension or additional compensation under this contract. The Contracting Officer may elect to waive the removal and replacement of misplaced material. If so, material dumped outside the limits of the placement area will not be eligible for payment.

3.2.6 Disposal of Debris and Obstructions

Debris, such as stumps, roots, logs, and any other objects except archeological or historical resources unearthed during dredging operations shall be removed, transported, and satisfactorily disposed of within an upland off-site disposal area secured by the Contractor. If debris is encountered requiring an alternative disposal site the COR will be notified. The COR will then coordinate with Ms. LeKesha Reynolds or Mr. Don Mroczko. The COR will then advise the contractor on disposal requirements. Archeological and historical resources shall be addressed as specified in Environmental Protection Paragraph entitled "RECORDING AND PRESERVING HISTORICAL AND ARCHEOLOGICAL FINDS". Removal and disposal of debris and obstructions shall not be measured separately for payment but shall be considered subsidiary to dredging. Removed debris may be temporarily stored until the upland off-site disposal area has been secured by the Contractor. Debris disposal areas shall be approved by the Contracting Officer's Representative prior to use by the Contractor. All costs associated with the required disposal of debris shall be included in the contract unit price for dredging in the Bidding Schedule.

3.2.7 Disposal Operation Verification

3.2.7.1 General

For the transport and deposition of dredged materials, the Contractor shall operate under the requirements of SECTION 35 20 23.13, NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SCOW - ULLAGE PROFILE, SECTION 35 20 23.23, NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM HOPPER DREDGE, and SECTION 35 20 23.33, NATIONAL DREDGING QUALTIY MANAGEMENT PROGRAM PIPELINE HYDRAULIC DREDGE.

3.2.8 Turbidity Monitoring

The contractor shall monitor turbidity in the work area throughout the life of the contract to ensure the Contractor complies with permit requirements. Turbidity shall be taken once daily, beginning at least two hours after dredging begins during daylight dredging and placement activities. The Contractor shall utilize a turbidity meter equivalent to the HACH 2100 Portable Turbidimeter for this purpose. Suspension of work resulting from this monitoring shall not be a basis for increase of the contract price or contract duration. Turbidity reports shall be submitted daily to the government representative.

3.3 REPORTING REQUIREMENTS

The Contractor shall prepare and submit a Report of Operations and a Contractor's Quality Control (CQC) Report daily. The reports shall be developed in accordance with SECTION 01 45 00.15 10.The Contractor reports shall be prepared for all dredging work activities. A sample of each form for recording the required information is bound herein. In addition to the two daily dredging reports required, the Contractor shall submit a monthly report of operations covering each month or partial month's work on the ENG No. 4267 and/or 27a. The monthly reports shall be submitted to the Contracting Officer's Representative on or before the seventh (7th) day of each month, consolidating the previous month's work. Upon completion of the contract, the Contractor shall submit a consolidated job report, combining the monthly reports. These reports shall be submitted in duplicate, the original and one copy. The Contractor shall complete a narrative completion report combining all reports (696's, 4267's, etc.). The report shall be maintained throughout the life of the project. A draft shall be submitted bi-monthly, with the final narrative completion report being submitted at the end of the contract. The draft and final versions shall be submitted in electronic and hardcopy forms.

3.3.1 Contractor Construction Quality (CCQ) Management

The CCQ System Manager and designated alternates shall have completed the instruction course entitled "Construction Quality Management for Contractors". This course is offered periodically throughout the year at various COE Districts. Upon successful completion of this course, a training certificate, with an expiration date five years from issue, will be awarded to participants. This certification shall be obtained not later than 60 calendar days after the issuance of Notice to Proceed. All costs associated with acquisition of this certification shall be borne by the Contractor.

3.4 DREDGING SURVEYS

3.4.1 General

The Government will furnish survey and dredging layout data for each dredging area tangent prior to any dredging. The data will be discussed at the pre-construction conference.

3.4.2 Survey Plan

The Contractor shall prepare and submit for approval of the Contracting Officer's Representative, a written survey plan, presenting the project survey effort from start to completion. The plan shall cover, as a minimum, layout work including baseline control, progress surveys, and monitoring surveys. The plan shall include details of all equipment used for surveying as well as a step by step process of survey efforts. This plan shall coincide with the order of work plan required by the paragraph entitled "Order of Work." The Contractor's survey plan shall show a percentage breakdown of each type of survey phase (baseline control, progress surveys, etc.) of the total survey effort for the project.

3.4.3 Layout of Work

All surveys for baselines, hydrographic survey ranges, cutting ranges, and other necessary survey work shall be performed by standard survey methods as referenced in the paragraph entitled "Soundings." All baselines and markers, whether land or water based, shall be related to existing land based survey markers using coordinate positions furnished by the Government. All such survey work shall be clearly and completely recorded in standard bound field books, and shall be made available for inspection and verification by representatives of the Government. Upon or before completion of the requirements of this contract, the field books and computations shall become the property of the Government. The Contractor shall furnish all electronic positioning and surveying equipment, stakes, poles, flagging, field books, compact discs, and other survey materials and engineering work required for the layouts. Costs associated with the required layout of work and positioning surveys, and all data compilation and computations shall be included in the Bidding Schedule contract unit price for dredging.

3.4.4 Electronic Positioning

While making required surveys, the Contractor shall use an electronic horizontal positioning system. The positioning system shall be range/range, range/azimuth, GPS, DGPS, etc., with manufacturer's guarantee of positional error not greater than 3 meters at any time after calibration.

3.4.5 Quality Control

The Contractor shall establish and maintain a quality control plan for surveying operations to assure compliance with contractual requirements. The Contractor shall maintain records of quality control qualifications for survey personnel. These records shall include, but not be limited to, the following requirements:

(a) Survey work shall be performed in accordance with the USACE Hydrographic Surveying Engineering Manual, EM 1110-2-1003. The manual can be found at the following link:

https://www.publications.usace.army.mil/USACE-Publications/Engineer-Manuals/u43544q/687964726F67726170686963/

Sole responsibility for accuracy, completeness, and verification of all survey work performed during execution of this contract, with the exception of the initial and final quantity surveys performed by the Government, shall rest with the Contractor.

(b) Daily reports shall be submitted by the Contractor for days when surveying activity is required. The reports shall be prepared and signed by the Contractor's authorized representative. Report submittal to the Contracting Officer's Representative shall be on the duty day following the surveying activity. The reports shall include, but not be limited to, the following: equipment used; location, description, and type of work performed; inspection(s) of work; verbal instructions received and action(s) taken; safety procedures; and cause(s) of delays. All daily reports shall be prepared on SAM Form No. 696 (copy attached hereto).

(c) The Contractor shall be responsible for protection of all vegetation and property within surveying areas. Should any portion of the survey work area require tree trimming or cutting, or use of private property or facilities for any purpose, the Contractor shall obtain specific written consent from the affected property owner(s) prior to commencing any survey work within that area. The Contractor shall save and hold harmless the Government from any liability in connection with required survey activities.

(d) All survey work shall be subject to periodic inspection and verification by the Government, both during and after completion of such work. Should any portion of the surveys be found in error, it shall be the responsibility of the Contractor to correct such error at no cost to the Government. In the event that dredging operations have proceeded based on erroneous survey information, any necessary redredging shall be done at the Contractor's expense. The Contractor should perform verification calculations and calibrations of the survey data furnished by the Government prior to using that data for dredging purposes. All verification and calibration calculations shall be the sole responsibility of the Contractor. Presence of the Government representative at the work site shall not relieve the Contractor of responsibility for providing quality control of the required survey work and shall not relieve the Contractor from the responsibility of taking necessary corrective action should errors be discovered that necessitate redredging. The final determination of acceptable and unacceptable dredged channel sections will be made by the Contracting Officer's Representative.

3.4.5.1 Channel Surveys

The Contractor shall perform before-dredging condition surveys and after-dredging condition surveys in accordance with Section 01 00 00, pargaph 1.10 FINAL EXAMINATION AND ACCEPTANCE, of the project excavation limits.

3.4.5.2 Surveys For Dredge Material Placement Areas

The Contractor shall perform before-placement condition surveys and after-placement condition surveys along repeatable ranges covering the

portion of the placement area to be used for this contract and adjacent bottom within the limits specified herein. The required before and after condition surveys shall be referenced to MLLW. Before- surveys shall be performed within 15 days prior to commencement of placement operations; the after-, within 5 days of completion of placement operations at the placement area. The surveys shall be oriented with ranges (cross sections) spaced two hunderd (200) feet apart and extending five hundred (500) feet beyond the approved placement area limits for this contract. Surveys for open water placement areas or monitoring areas, baselines, hydroranges, cutting ranges and all other necessary surveys shall be performed by standard survey methods as referenced in subparagraph (a) of the paragraph entitled "Quality Control" in this specification section. Depths shall be recorded at 25-foot intervals or less, to a vertical accuracy of 0.5 foot or less. The tide shall be observed and recorded at the beginning and end of surveys and each half hour during surveys. Tide elevations shall be read and recorded to the nearest 0.1 foot. All baselines and all markers, whether land or water based, shall be referenced to existing land based survey markers using channel centerline coordinates furnished by the Government. All poles, stakes, flagging, books, compact discs, and/or other survey materials shall be furnished by the Contractor. The Contractor shall submit the survey data in "raw" hardcopy form (fathometer charts, books, scrolls, etc.), plotted form, and in digital form on compact discs within five (5) working days of completion of the surveys. The data furnished on compact discs shall include Microstation CADD drawing files from which hardcopy drawing plots were made. These books and/or compact discs shall, upon or before completion of the requirements of this contract, become the property of the Government. All costs associated with the required surveys and data compilation shall be included in the unit price for dredging.

3.5 SOUNDINGS

Soundings for the original and final surveys for the dredged areas as required by the paragraphs entitled "PLACEMENT OF DREDGED MATERIAL" and "DREDGING SURVEYS" in this specification section shall be made by an electronic sounding device. The electronic sounding device shall be similar and equal to the Teledyne Odom Echotrac MKIII echo sounder fathometer depth recorder. All before- and post-dredging quantity computations will be based on high frequency surveys, unless otherwise directed by the Contracting Officer Representative. Automated hydrographic survey data acquired by the Contractor shall be furnished to the Government on compact discs in the form of CADD drawing files in Microstation format. Costs associated with the required soundings and data compilation will be included in the unit price for dredging.

3.5.1 Sounding Equipment

The sounding equipment will consist of a sounding machine/device capable of providing updated soundings on no more than 1/20 second intervals and have an accuracy rating of not less than +/-0.5 feet. Sounding device will have analog charting (real time) within the device and will have all the capabilities of calibrating to a bar check utilizing the Norfolk Method of bar checking. All depths acquired will consist of dual frequency soundings utilizing a high operating 208 Khz frequency transducer and a low operating 41 Khz or 24 Khz frequency transducer. The high frequency soundings will be shown in conjunction with the 41 kHz soundings on the analog chart of the sounding device. All soundings will be acquired on a continuous basis with plotting of data based on the scale and size of the plot and in clearly legible print.

3.5.2 Acquired and Processed Data

The survey system employed shall use a computer and software capable of handling all required data points and the plotting of those points. If the Contractor is utilizing HYPACK to perform required surveys, the Contractor shall submit the HYPACK project files for the specific survey performed. These files contain all the files that make up the survey, including raw and edited line, log, and tide files associated with each survey, among others. Otherwise, the Contractor shall utilize a system capable of acquiring or converting all unedited raw data (horizontal and vertical) to an IBM ASCII-compatible format prior to submittal to the Government. The ASCII format shall be compatible with the MS DOS Operation system. Sounding files shall contain single line records. Each record shall contain the easting, northing, elevation, date, and time for one sounding. Items in each record shall be separated by space characters (ASCII 32 (10)) and records shall be terminated by a line feed with carriage return. Sounding files shall be no greater than 1.2 MB in size and shall contain the data for no more than 99 section lines. All records shall conform to the format below:

East	North	Elevation	Date	Time
123456.78	876543.21	-42.3	01/15/91	14:22:13.3

The survey system shall provide a means of plotting all data points for submittal in hard copy form according to the requirements listed herein. Routine/verification surveys shall be submitted within 24 hours of the survey and larger surveys shall be submitted within 48 hours of the survey. All plots shall be submitted on full size 22" x 34" (ANSI 'D' size) plot paper or half size, 11" x 17" if approved by the Contracting Officer's Representative, and shall include not less than the following: all navigation aids; a north arrow; station data (corrected to MLLW); date of survey; grid ticks; surveyor's name; vessel name; channel lines and any other pertinent information. The scale of plan view plots shall be 1" = 200' and of cross-sectional plots as specified by the Contracting Officer's Representative. Plan view plots shall delineate actual vessel track along the route taken and display depths acquired along the route at a clearly legible text size. Cross-section plots shall display the channel dimensions in a template format. Data files shall be provided on compact discs in the format previously specified and in unedited form. All hard copy submittals shall consist of edited data with all supporting field notes and scrolls. The Contractor's proposed digital data shall be submitted at the Preconstruction Conference for approval by the Contracting Officer's Representative.

3.5.3 Compilation of Processed Data

A compilation of all digital data (surveys, dredge electronic tracking, etc.) collected over the life of the contract by the Contractor shall be consolidated on a CD, or multiple CD's if necessary, indexed in orderly fashion, e.g. type survey (placement, channel, etc.), such that the overall data collection effort can be easily followed. The Contractor's proposed digital data CD indexing structure shall be submitted at the Preconstruction Conference for approval by the Contracting Officer's Representative. The Contractor shall submit the compiled digital data CD(s) at the completion of the contract.

3.6 NAVIGATION AIDS

If necessary, navigation aids located within or near the areas required to be dredged will be removed by the USCG in advance of dredging operations. Relocation of navigation aids shall be discussed and scheduled with the USCG at the pre-construction conference.

3.7 PROJECT COMPLETION REPORT

The Contractor shall submit a project completion report in Adobe PDF format to the Contracting Officer within 30 days following project completion. The Project Completion Report shall include but not be limited to the following:

(a) Names and titles of the project managers overseeing the effort, including contact information (telephone numbers, mailing addresses, and email addresses)

(b) Location and description of the project, including the final total volume of material extracted from the Mobile Harbor Channel the volume of material actually placed into each placement site (including a description of the volume calculation method used to determine these volumes)

(c) Files containing the x, y, z and time stamp of the dredge locations (if applicable)

(d) Narrative describing the final, as-built features, boundaries

(e) A table, showing the various items of work construction, final quantities, and monetary amounts

(f) A listing of construction and construction oversight information, including the prime and subcontractor(s), contract costs, etc;

(g) A list of all major equipment used to construct the project

(h) A narrative discussing the construction sequences and activities, and, if applicable, any problems encountered and solutions

(i) A list and description of any construction change orders issued (if applicable)

(j) A list and description of any safety-related issues or accidents reported during the life of the project

(k) A narrative and any appropriate tables describing any environmental or compliance surveys or efforts associated with the project and costs associated with these surveys or efforts

(l) A table listing significant construction dates beginning with bid opening and ending with final acceptance of the project

(m) Digital appendices containing the as-built drawings, cross-sections, and survey data

-- End of Section --

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SECTION 35 20 23.13

NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM - SCOW ULLAGE PROFILE
02/22

PART 1 GENERAL

1.1 DESCRIPTION

The work under this contract requires use of the National Dredging Quality Management Program (DQM)to monitor the dredge's status at all times during the contract and to manage data history. For the purpose of these specifications, a scow is defined as any non-self-propelled vessel used to transport dredged material. This includes, but is not limited to, split-hull scows, pocket scows, hopper barges, and deck barges.

This performance-based specification section identifies the minimum required output and the precision and instrumentation requirements. The requirements may be satisfied using equipment and technical procedures selected by the Contractor.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

National Dredging Quality Management Program Certification, Mobile District; G, OP

1.3 PAYMENT

Separate payment for installation, operation, and maintenance of the DQM-certified system as specified herein for the duration of the dredging operations is not allowed; all costs in connection therewith are considered a subsidiary obligation of the Contractor and are covered under the contract unit price for dredging in the bidding schedule.

1.4 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION

1.4.1 Certification

The Contractor is required to have a current certification from DQM for the scow instrumentation system to be used under this contract. Criteria for certification is based on the most recent specification posted on the DQM website http://dqm.usace.army.mil/Specifications/Index.aspx, Verify compliance with these criteria by onsite quality assurance (QA) checks conducted by the DQM Support Center Data Acquisition and Analysis Team and by periodic review of the transmitted data. If a system is installed specifically for this contract, in order to ensure that it is capable of transmitting quality data to the DQM database, the QA checks should take place either prior to the start of the contract or, with prior approval of the local USACE District, as soon as practical after dredging commences.

DQM Certification is valid for one year from the date of certification and is contingent upon the system's ability to meet the performance requirements as outlined in paragraph PERFORMANCE REQUIREMENTS. If issues with data quality are not corrected within 48 hours, the system certification will be revoked and additional QA checks by the Data Acquisition and Analysis Team may be necessary. Annual DQM Certification must be based on the following:

A series of QA checks as outlined on the DQM website https://dqm.usace.army.mil/Certifications/Index.aspx

Verification of data acquisition and transfer as described in paragraph PERFORMANCE REQUIREMENTS

Review of the Dredge Plant Instrumentation Plan (DPIP) as described in paragraph DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

1.4.2 Quality Assurance (QA)

The Dredging Contractor must have personnel who are familiar with the system instrumentation and who have the ability to recalibrate the sensors on site during the QA process. The Dredging Contractor must coordinate pickup times and locations and provide transportation to and from any platform with a DQM system to team personnel in a timely manner. The Dredging Contractor must also have on site for the QA checks a tug capable of towing the scow. As a general rule, DQM Data Acquisition and Analysis Team personnel will come with personal protective equipment (PPE) consisting of hardhats, steel toe boots, and life jackets. If additional safety equipment is needed, such as eye protection, safety harnesses, work gloves, or personal location beacons, provide these items to the team while on site. Submit a test data package to the DQM database from the system on each scow and have it accepted by the DQM Support Center prior to scow compliance checks. Also submit data collected during the QA Checks from the scow monitoring system to the DQM database and the Data Acquisition and Analysis Team personnel while on site. It is the Dredging Contractor's obligation to inform the QA team if the location designated for the QA checks has any site-specific safety concerns prior to their arrival on site.

The owner or operator of the scow must contact DQM at DQM-AnnualQA@rpsgroup.com on an annual basis, or at least three weeks prior to the proposed beginning of dredging, to schedule QA checks. This notification is meant to make the Data Acquisition and Analysis Team aware of a target date and the contract on which the plant will be used. At least one week prior to the target date, the Dredging Contractor must contact the Data Acquisition and Analysis Team and verbally coordinate a specific date and location. The Contractor must then follow up this conversation with a written email confirmation. The owner/operator must coordinate the QA checks with all local authorities including, but not limited to, the local USACE Contracting Officer's Representative (COR).

1.4.3 Recertification

Recertification is required for any yard work which produces modification to displacement (for example, a change in scow lines, or repositioning or repainting hull marks), modification to bin volume (change in bin dimensions or addition or subtraction of structure), or changes in sensor type or location; report these changes in the sensor log section of the DPIP. A system does not have to be transmitting data between jobs;

however, in order to retain certification during this period, the system sensors or hardware should not be disconnected or removed from the scow. If the system is powered down, retain calibration coefficients.

1.5 DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

The Contractor must have a digital copy of the DPIP on file with the DQM Support Center. While working on site, the Contractor must also maintain on the dredge a copy of the DPIP which is easily accessible to Government personnel at all times. This document must describe the sensors used, configuration of the system, how sensor data will be collected, how quality control on the data will be performed, and how sensors/data reporting equipment will be calibrated and repaired if they fail. A description of computed scow-specific data and how the sensor data will be transmitted to the DQM database must also be included. The Contractor must submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to start of work.

A complete list of the required DPIP contents is provided on the DQM website https://dqm.usace.army.mil/Certifications/Index.aspx. Submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to the start of work. Any changes to the computation methods must be approved by the DQM Support Center prior to their implementation.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 REQUIREMENTS FOR REPORTED DATA

Provide, operate, and maintain all hardware and software to meet these specifications. The Contractor is responsible for replacement, repair, and calibration of sensors and other necessary data acquisition equipment needed to supply the required data. Complete repairs within 48 hours of any sensor failure. Notify the Contracting Officer's Representative (COR) upon completion of a repair, replacement, installation, modification, or calibration. The COR may request recalibration of sensors or other hardware components at any time during the contract as deemed necessary.

Keep a log of sensor repair, replacement, installation, modification, and calibration in the onsite copy of the DPIP. The log must contain a three-year history of sensor maintenance, including the time of sensor failures (and subsequent repairs), the time and results of sensor calibrations, the time of sensor replacements, and the time that backup sensor systems were initiated to provide the required data. It must also contain the name of the person responsible for the sensor work. Install sensors that are capable of collecting parameters within specified accuracies and resolutions indicated in the following subparagraphs.

With the exception of position and any value calculated, reported sensor values should represent a weighted average with the highest and lowest values not included in the calculated average for the given interval. The averaging routine used should be consistent across all event triggers. This information should be documented in the DPIP sections that say "Calculations done external to the instrumentation." These data-reporting requirements cover the collection of electronic data on a scow through the

entire dredging cycle. Disposal events can consist of both open-water disposal and offloading. Open-water disposal is the placement of material via bottom doors or split hull. Offloading is the placement of material via either hydraulic or mechanical means.

3.1.1 Scow Name

Assign a unique name for each scow that will remain constant from one dredging operation to the next.

3.1.2 Contract Number

The USACE-assigned contract number for the project will be reported.

3.1.3 Load Number

A DQM load number must document the end of a disposal event for a given scow.

3.1.4 Horizontal Positioning

Record horizontal positioning as the geographic coordinates of the vessel as indicated by the location of the Global Positioning System (GPS) antenna. Obtain all locations using a positioning system operating with a minimum accuracy level of 3 to 10 feet horizontal Circular Error Probable (CEP). Report positions as Latitude/Longitude WGS 84 in decimal degrees. West Longitude and South Latitude values are reported as negative.

3.1.5 Date and Time

Report the date and time to the nearest second and referenced to Universal Time Coordinated (UTC) based on a 24-hour format: yyyy-mm-dd hh:mm:ss.

3.1.6 Hull Status

Hull status is meant to reflect a condition when material could be removed or released from the scow. For this contract, hull status must register closed prior to leaving the disposal area.

3.1.6.1 Open-Water Disposal

Indicate an open split hull or open bottom door of a scow by reporting an "OPEN" value. Indicate a closed split hull or closed bottom door of a scow by reporting a "CLOSED" value. An open status must be indicated as the bin starts to open, and a closed status must be indicated only once the bin is fully closed. For pocket scows, the open/closed status must correspond to the compartment which is first to open and last to close.

3.1.6.2 Offloading

For non-dumping scows, an "OPEN" value indicates that the bin is in the process of being unloaded, either by pumping or mechanical means.

3.1.7 Course

Provide scow course-over-ground (COG) using industry-standard equipment. Provide scow course-over-ground (to the nearest whole degree) with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.8 Speed

Provide scow speed-over-ground in knots using industry-standard equipment with a minimum accuracy of 1.0 knot and resolution to the nearest 0.1 knot.

3.1.9 Heading

Provide scow heading using industry-standard equipment. The scow heading must be accurate to within 5 degrees and reported to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.10 Draft

Report all draft measurements in feet, tenths, and hundredths with an accuracy of plus or minus 0.1 foot relative to observed physical draft readings. Report the measurements at a resolution of two decimal places (hundredths of a foot). The reported forward draft value must be equal to the sum of the visual forward port and starboard draft mark readings divided by two. The reported aft draft value must be equal to the sum of the visual aft port and starboard draft mark readings divided by two. Forward draft, aft draft, and average draft will be reported. Place sensors at an optimum location on the scow to be reflective of observed physical draft mark readings at any trim or list. Minimum accuracies are conditional to relatively calm water. The reported sensor value is an average of at least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged. When the average draft is calculated for the purpose of determining displacement, maintain significant digits for average draft such that if forward draft were 0.15 and aft draft were 0.1, then the average draft would be 0.125.

3.1.11 Displacement

Report scow displacement in long tons, based on the most accurate method available for the scow. The minimum standard of accuracy for displacement is interpolation from the displacement table, based on the average draft. For this contract the density of water used to calculate displacement is 64.11 lbs/cubic foot and is used for an additional interpolation between the fresh and salt water tables.3.1.12 Bin Ullage Sounding

Report all ullage soundings in feet, tenths, and hundredths with an accuracy of plus or minus 0.1 foot with respect to the combing and be representative of the forward and aft extents of the hopper as close to the centerline as is possible. Report the measurements at a resolution of two decimal places (hundredths of a foot). If sensors must be offset from the centerline of the bin, they should be offset to opposite sides of the vessel. Forward ullage, aft ullage, and average ullage soundings will be reported. The reported sensor value is an average of at least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged. When the average ullage is calculated for the purpose of determining the hopper volume, maintain significant digits for the average ullage such that if the forward ullage were 0.15 and aft ullage were 0.1, then the average ullage would be 0.125. Special arrangements for pocket scows may be made in consultation with the DQM Support Center.

3.1.13 Bin Volume

Report scow bin volume in cubic yards based on the most accurate method available for the scow. The minimum standard of accuracy for bin volume is interpolation from the bin volume table based on the average ullage soundings.

3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

The Contractor's DQM system must be capable of collecting, displaying, and transmitting information to the DQM database. The parameters which must be reported to the DQM database include trip number, date and time, hull status, scow course, scow speed, scow heading, draft, displacement, ullage, and bin volume. Provide an easily accessible, permanent visual display on the scow to show in real time the parameters collected by the system in the same units as the data submitted to the DQM database. In the event a reported parameter is calculated based on multiple sensors, the sensor values as used in the equation must be able to be viewed in addition to the required parameter. If a hardware problem occurs, or if a part of the system is physically damaged, the Contractor is be responsible for repairing it within 48 hours of determination of the condition.

3.2.1 Telemetry

The Contractor may select any commercial satellite, cellular phone, or other data communications systems available, as long as it is capable of transmitting real-time data as well as enough additional bandwidth to clear historically queued data when a connection is reobtained. If connectivity is lost, que and transmit unsent data upon restoration of connectivity. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

The data transmission process from the scow to the DQM database must be automated. The data may be sent from the scow directly to the DQM database or to a shore-based system. Data transmitted to the DQM database should be raw data; use repeatable automated software or programming routine to process any shoreside data. Include a description of this process in the DPIP.

3.2.2 Data Reporting Frequency

Log disposal activities with high temporal and spatial resolution. Log data as a series of events. Each set of measurements (time, position, etc.) will be considered an event. Collect any required information in paragraph REQUIREMENTS FOR REPORTED DATA, that is not an averaged variable (that is, draft and ullage) within 1 second of the reported time. Measure data with sufficient frequency by the scow system to resolve the events to the accuracy specified in the following table. Any averaged variable must be collected and computed within this sampling interval. Event types "Sailing," "Loading/Stationary," "Offloading," and "Open Water Disposal" are triggered by a time criterion; the criterion should be consistent across the "Sailing" and "Open Water Disposal" event types and should not change for the data collected on a given scow. This criterion should be documented by the Contractor in the DPIP.

Event Type	**Event Trigger Descriptions**	**Event Time Resolution**	**Event Position Resolution**
Loading/ Stationary	**No change in position with hull status closed** An elapsed time of 1 hour since the last event. NONCLOSURE In the event a scow has completed an open water disposal and transited back to a holding station without closing the hull, the sampling must be changed to once per hour.	1 minute	N/A
Sailing	**Change in position with hull status closed** Time from the last sample equals 1 minute.	1 second	plus or minus 10 ft
Open Water Disposal	**Hull status open** A position must be recorded within 1 second of the hull status going from closed to open and again within 1 second of the hull status going from open to closed. Report the position at any equal interval from 6 to 12 seconds. This interval must always remain consistent for the dredge plant.	1 second	plus or minus 10 ft
Offloading	**Offloading material, hull status reported as open** A position must be recorded within 1 minute arrival at the offload location and within one secnd of the material starting to be removed from scow. The time from the last sample equals 1 minute. STANDBY OFFLOADING In the even a scow is not being actively offloaded at the offload location for a time equal to one hour, the sampling interval must be equal to once an hour.	1 second 1 minute	plus or minus 10 ft

Example: The scow is stationary for 1 hour and 15 minutes, and then it sails to the disposal area. You should have a "Loading/Stationary" event at time 0, time 1 hour, and time 1 hour and 15 minutes. Then, for "Sailing," within 1 second of an elapsed time of 1 minute from the 1 hour and 15 minutes event, another event occurs.

3.2.3 Data Transmission to the Web Service

Use a Simple Object Access Protocol (SOAP) web service to report sensor data to the DQM database. Transmit data as it is collected in real time and pushed to the DQM web service. If the web service is not available or returns an error message, store the data in a queue and transmit upon re-establishment of the connection, starting with the oldest data in the queue and continuing until real-time transmission is restored. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Support Center

on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

Contact dqm-support@usace.army.mil to obtain the web service URL and the appropriate key credentials and communication protocol.

The data transmission method call takes two arguments: a string containing the plant identifier assigned by the DQM Support Center and a second string containing the XML-formatted sensor data. The method returns the string "OK" if the data is received. If the data is not received, either the web service or the client application throws an error.

3.2.4 XML-Formatted Sensor Data String

Pass each scow event as a string on one continuous line of data. The example below is broken up by variable for ease of reading:

```
<?xml version="1.0"?>
<SCOW_DREDGING_DATA version="2.5">
   <SCOW_NAME>AU1994</SCOW_NAME>
   <CONTRACT>W123BA-09-D-0087_RL01</CONTRACT>
   <TRIP_NUMBER>34</TRIP_NUMBER>
   <X_POSITION>-81.670632</X_POSITION>
   <Y_POSITION>41.528987</Y_POSITION>
   <DATE_TIME>2010-08-14 10:50:15</DATE_TIME>
   <SCOW_SPEED>0.0</SCOW_SPEED>
   <SCOW_COURSE>0.0</SCOW_COURSE>
   <HULL_STATUS>OPEN</HULL_STATUS>
   <SCOW_HEADING></SCOW_HEADING>
   <SCOW_FWD_DRAFT></SCOW_FWD_DRAFT>
   <SCOW_AFT_DRAFT></SCOW_AFT_DRAFT>
   <SCOW_AVG_DRAFT></SCOW_AVG_DRAFT>
   <ULLAGE_FWD></ULLAGE_FWD>
   <ULLAGE_AFT></ULLAGE_AFT>
   <ULLAGE_AVG></ULLAGE_AVG>
   <SCOW_BIN_VOLUME></SCOW_BIN_VOLUME>
   <SCOW_DISPLACEMENT></SCOW_DISPLACEMENT>
   <SCOW_LIGHTSHIP></SCOW_LIGHTSHIP>
   <SCOW_TDS></SCOW_TDS>
   <ADDITIONAL_DATA>Some more scow info, if needed</ADDITIONAL_DATA>
</SCOW_DREDGING_DATA>
```

Format DATE_TIME values as YYYY-MM-DD HH:MM:SS, as shown above. If, for any reason, a field has no value, the enclosing XML tags should be sent with nothing between them (for example, <DRAFT_AFT></DRAFT_AFT>). The web service cannot handle a "null" value or any other indicators of no value collected.

3.2.5 Contractor Data Backup

Maintain an archive of all data sent to the DQM database during the dredging contract. The Contracting Officer's Representative (COR) may require, at no increase in the contract price, that the Contractor provide a copy of these data covering specified time periods. Provide the data in the HTML format which would have been transmitted to the DQM database. Submit data via storage medium acceptable to the COR.

At the end of the dredging contact, contact the DQM Support Center prior to discarding the data. The DQM Support Center will verify that all data

has been received and appropriately archived before giving the Contractor discard permission. Record in a separate section at the end of the scow's onsite copy of the DPIP the following information:

Person who made the call
Date of the call
DQM representative who gave permission to discard

3.3 PERFORMANCE REQUIREMENTS

The Contractor's DQM system must be fully operational at the start of dredging operations and fully certified prior to moving dredge material on the contract (see paragraph NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION). To meet contract requirements for operability, in addition to certification, the Contractor's system must provide a data string with values for all parameters while operating, as described within the specifications. Additionally, all hardware must be compliant with DPIP requirements (see paragraph DREDGE PLANT INSTRUMENTATION PLAN (DPIP)). Quality data strings are considered to be those providing values for all parameters reported when operating according to the specification. Make repairs necessary to restore data return compliance within 48 hours. Failure by the Contractor to report the required data within the specified time window for scow measurements (see paragraph DATA REPORTING FREQUENCY, and paragraph DATA TRANSMISSION TO THE WEB SERVICE) and failure to receive DQM certification prior to dredging will result in withholding of up to 10 percent of the contract progress payment per FAR 52.232-5 Payments under Fixed-Price Construction Contracts.

3.4 LIST OF ITEMS TO BE PROVIDED BY THE CONTRACTOR

DPIP
https://dqm.usace.army.mil/Certifications/Index.aspx
Paragraph DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

DQM SYSTEM
Sensor instrumentation - Paragraph REQUIREMENTS FOR REPORTED DATA

SCOW DATA
Event documentation - Paragraph DATA REPORTING FREQUENCY
Data reports - Paragraph DATA TRANSMISSION TO THE WEB SERVICE

QA EQUIPMENT ON THE DREDGE
Clear and accurate draft marks
Ullage tape

-- End of Section --

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SECTION 35 20 23.23

NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM - HOPPER DREDGE
02/22

PART 1 GENERAL

1.1 DESCRIPTION

The work under this contract requires use of the National Dredging Quality Management Program (DQM)to monitor the dredge's status at all times during the contract and to manage data history.

This performance-based specification section identifies the minimum required output and the precision and instrumentation requirements. The requirements may be satisfied using equipment and technical procedures selected by the Contractor.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

National Dredging Quality Management Program Certification, Mobile District; G, OP

1.3 PAYMENT

Separate payment for installation, operation, and maintenance of the DQM-certified system as specified herein for the duration of the dredging operations is not allowed; all costs in connection therewith are considered a subsidiary obligation of the Contractor and are covered under the contract unit price for dredging in the bidding schedule.

1.4 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION

1.4.1 Certification

The Contractor is required to have a current certification from DQM for the hopper dredge instrumentation system to be used under this contract. Criteria for certification is based on the most recent specification posted on the DQM website: http://dqm.usace.army.mil/Specifications/Index.aspx. Verify compliance with these criteria by annual onsite quality assurance (QA) checks conducted by the DQM Support Center Data Acquisition and Analysis Team and by periodic review of the transmitted data. DQM Certification is valid for one year from the date of the annual QA checks. Certification is contingent upon the system's ability to continuously meet the performance requirements as outlined in paragraph PERFORMANCE REQUIREMENTS. If issues with data quality are not corrected within 48 hours, the system certification will be revoked and additional QA checks by the Data Acquisition and Analysis Team may be necessary.

Annual DQM Certification must be based on the following:

a. A series of quality assurance checks as outlined on the DQM website: https://dqm.usace.army.mil/Certifications/Index.aspx.

b. Verification of data acquisition and transfer as described in paragraph Performance Requirements.

c. Review of the Dredge Plant Instrumentation Plan (DPIP) as described in paragraph DREDGE PLANT INSTRUMENTATION PLAN (DPIP).

1.4.2 Recertification

The owner or operator of the dredge must contact DQM at DQM-AnnualQA@rpsgroup.com on an annual basis, or at least three weeks prior to certification expiration, to schedule QA checks for renewal. This notification is meant to make the Data Acquisition and Analysis Team aware of a target date for the annual QA checks for the dredge. At least one week prior to the target date, the Contractor must contact the Data Acquisition and Analysis Team and verbally coordinate a specific date and location. The Contractor must then follow up this conversation with a written email confirmation. The owner/operator must coordinate the QA checks with all local authorities, including but not limited to, the local USACE Contracting Officer's Representative (COR).

Recertification is required for any yard work which produces modification to displacement (change in dredge lines, or repositioning or repainting hull marks), modification to bin volume (change in bin dimensions, or addition or subtraction of structure), or changes in sensor type or location; report these changes in the sensor log section of the DPIP. A system does not have to be transmitting data between jobs; however, in order to retain its certification during this period, the system sensors or hardware should not be disconnected or removed from the dredge. If the system is powered down, retain calibration coefficients.

1.5 DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

The Contractor must have a digital copy of the DPIP on file with the DQM Support Center. While working on site, the Contractor must also maintain on the dredge a copy of the DPIP which is easily accessible to Government personnel at all times. This document must describe the sensors used, configuration of the system, how sensor data will be collected, how quality control on the data will be performed, and how sensors/data reporting equipment will be calibrated and repaired if they fail. A description of the computed dredge-specific data and how the sensor data will be transmitted to the DQM database will also be included. A complete list of the required DPIP contents is provided on the DQM website https://dqm.usace.army.mil/Certifications/Index.aspx

Submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to the start of work. Any changes to the computation methods must be approved by the DQM Support Center prior to their implementation.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 REQUIREMENTS FOR REPORTED DATA

Provide, operate, and maintain all hardware and software to meet these specifications. The Contractor is responsible for replacement, repair, and calibration of sensors and other necessary data acquisition equipment needed to supply the required data. Complete repairs within 48 hours of any sensor failure. Notify the COR upon completion of a repair, replacement, installation, modification, or calibration. The COR may request recalibration of sensors or other hardware components at any time during the contract as deemed necessary.

Keep a log of sensor repair, replacement, installation, modification, and calibration in the dredge's onboard copy of the DPIP. The log must contain a three-year history of sensor maintenance, including the time of the sensor failures (and subsequent repairs), the time and results of sensor calibrations, the time of sensor replacements, and the time that backup sensor systems were initiated to provide required data. It must also contain the name of the person responsible for the sensor work. Install sensors that are capable of collecting parameters within specified accuracies and resolutions indicated in the following subparagraphs. Reported sensor values for ullage, draft, and draghead depth should represent a weighted average with the highest and lowest values not included in the calculated average for the given interval. This information should be documented in the DPIP sections that say "Calculations done external to the instrumentation."

3.1.1 Date and Time

Report the date and time to the nearest second and referenced to UTC time based on a 24-hour format: mm/dd/yyyy hh:mm:ss. The reported time must be the time reported by the GPS in the NMEA string.

3.1.2 Load Number

A load number must document the end of a disposal event. Load numbering will begin at number 1 at the start of the contract and will be incremented by 1 at the completion of each disposal event or emptying of the hopper. Whenever possible, calculate the load number off of the sensors aboard the dredge, which must be a mathematically repeatable routine. Make efforts to include logic that avoids false load number increments. Do not allow the routine to miss any disposal event. If manual incrementing of the load number is in place, pay extra attention to this value in the quality control process.

3.1.3 Horizontal Positioning

Obtain all locations using a positioning system operating with a minimum accuracy level of 3 to 10 feet horizontal Circular Error Probable (CEP). Report positions as Latitude/Longitude WGS 84 in decimal degrees. West Longitude and South Latitude values are reported as negative.

3.1.3.1 Vessel Horizontal Positioning

Record vessel horizontal positioning as geographic coordinates of the vessel as indicated by the location of the GPS antenna.

3.1.3.2 Draghead Horizontal Positioning

Record draghead horizontal positioning as geographic coordinates of the heel on the centerline of the draghead(s). Describe any offset calculations from the GPS antenna in the DPIP.

3.1.4 Hull Status

Monitor open/closed status of the hopper dredge, corresponding to the split/non-split condition of a split-hull hopper dredge. For dredges with hopper doors, the status of a single door that is the first opened during normal disposal operations may be monitored. An "open" value indicates that the hopper door is open or, in the case of split-hull dredges, that the hull is split. A "closed" value indicates that the hopper doors are closed or, in the case of split-hull dredges, that the hull is not split.

For this contract, hull status must register closed prior to leaving the disposal area.

3.1.5 Dredge Course

Provide dredge course-over-ground (COG) using industry-standard equipment. Provide dredge course-over-ground to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.6 Dredge Speed

Provide dredge speed-over-ground in knots using industry-standard equipment with a minimum accuracy of 1 knot and resolution to the nearest 0.1 knot.

3.1.7 Dredge Heading

Provide dredge heading using industry-standard equipment. The dredge heading must be accurate to within 5 degrees and reported to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.8 Tide

Obtain tide data using appropriate equipment to give the water level with an accuracy of plus or minus 0.1 foot and a resolution of 0.01 foot. Enter tide values above project datum described in the dredging specification with a positive sign and those below with a negative sign.

3.1.9 Draft

Report all draft measurements in feet, tenths, and hundredths with an accuracy of plus or minus 0.1 foot relative to observed physical draft readings. Report the measurements at a resolution of two decimal places (hundredths of a foot). The reported forward draft value is equal to the sum of the visual forward port and starboard draft mark readings divided by two. The reported aft draft value is equal to the sum of the visual aft port and starboard draft mark readings divided by two. Forward draft, aft draft, and average draft will be reported. Place sensors at an optimum location on the vessel to be reflective of observed physical draft mark readings at any trim or list. Minimum accuracies are conditional to relatively calm water. The sensor value reported must be an average of at

least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged. When the average draft is calculated for the purpose of determining displacement, maintain significant digits for average draft such that if forward draft was 0.15 and aft draft was 0.1, the average draft would be 0.125.

3.1.10 Hopper Ullage Sounding

Report all reported ullage soundings in feet, tenths, and hundredths with an accuracy of plus or minus 0.1 foot with respect to the combing and be representative of the forward and aft extents of the hopper as close to the centerline as is possible. Report the measurements at a resolution of two decimal places (hundredths of a foot). Report forward ullage and aft ullage soundings. Mount sensors to avoid discharge flume turbulence, foam, and any structure that could produce sidelobe errors. If sensors must be offset from the centerline of the hopper, they should be offset to opposite sides of the vessel. If more than one fore or one aft sensor are used, place the sensors near the corners of the hopper, and report the average value of the fore sensors and the average value of the aft sensors. The sensor value reported must be an average of at least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged. When the average ullage is calculated for the purpose of determining hopper volume, maintain significant digits for average ullage such that if forward ullage was 0.15 and aft ullage was 0.1, then the average ullage would be 0.125.

3.1.11 Hopper Volume

Report hopper volume in cubic yards, based on the most accurate method available for the dredge. The minimum standard of accuracy for hopper volume is interpolation from the certified hopper volume table, based on the average fore and aft ullage soundings.

3.1.12 Displacement

Report dredge displacement in long tons, based on the most accurate method available for the dredge. The minimum standard of accuracy for displacement is interpolation from the displacement table, based on the average draft. For this contract the density of water used to calculate displacement is 64.11 lbs/cubic foot, and it will be used for an additional interpolation between the fresh and salt water tables.3.1.13 Empty Displacement

Report empty displacement in long tons, which is the lightship value of the dredge, or the weight of the dredge with no material in the hopper, adjusted for fuel and water consumption.

3.1.14 Draghead Depths

Report draghead depths with an accuracy of plus or minus 0.5 foot and a resolution to the nearest 0.1 foot as measured from the surface of the water with no tidal adjustments. Minimum accuracies are conditional to relatively calm water. The sensor value reported must be an average of at least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged.

3.1.15 Slurry Densities

Use a density metering device, calibrated according to the manufacturer's specifications, to record the slurry density of each dragarm to the nearest 0.001 g/cc with an accuracy of plus or minus 0.01 g/cc. If the manufacturer does not specify a frequency of recalibration, conduct calibration prior to commencement of work.

3.1.16 Slurry Velocities

Use a flow metering device, calibrated according to the manufacturer's specifications, to record the slurry velocity of each dragarm to the nearest 0.01 fps with an accuracy of plus or minus 0.5 fps. If the manufacturer does not specify a frequency of recalibration, conduct calibration prior to commencement of work. Measure the slurry velocity in the same pipeline inside diameter as that used for the slurry density measurement.

3.1.17 Pump RPM

Measure the RPM of any pump being used to move material with the highest level of accuracy that is standard on the vessel operational displays, either at the bridge, at the drag tender's controls, or in the engine room. Dredges with multiple pumps per side must report RPM for the pump that best describes the dredging process (typically the outboard pump).

3.1.18 Sea Suction Valve for Dragarm

If sea suction can be taken to bypass suction through the draghead, the sea suction location and valve status will be reported. The status of the valve will change from "closed" to "open" when the valve starts to open and will register "closed" when the valve is fully closed. When applicable, the state of the latch will be reported as "true" or "false." Report the sea suction location in a standard non-changing name string of no more than 20 characters. These field values will always occur in the XML string as a set. The DQM system can accommodate only up to four unique sea suction locations. Suggested options for the naming convention can be found in the example dataset in paragraph DATA FORMAT.

3.1.19 Pumpout

When the hopper dredge is being pumped out, report a "true" value; when it is not, report a "false" value. The only permissible values are "true" and "false."

3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

The Contractor's DQM system must be capable of collecting, displaying, and transmitting information to the DQM database. Record the applicable parameters from paragraph REQUIREMENTS FOR REPORTED DATA as events locally and continually transmitted to the DQM database anytime an Internet connection is available. Equip the Dredge with a DQM computer system, consisting of a computer, monitor, keyboard, mouse, data modem, UPS, and network hub. Provide a standalone computer system, exclusive to the DQM monitoring system, and with USACE DQM software installed on it. If a hardware problem occurs, or if a part of the system is physically damaged, the Contractor is responsible for repairing it within 48 hours of determination of the condition.

3.2.1 Computer Requirements

Provide a dedicated onboard computer for use by the DQM system. This computer must run USACE software and receive data from the Contractor's data-reporting interface. This computer must meet or exceed the following performance specifications:

CPU:	Intel or AMD processor with a (non-overclocked) clock speed of at least 1.6 gigahertz (GHz)
Hard drive:	250 gigabytes (GB); internal
RAM:	4 gigabytes (GB)
Ethernet adapter:	Internal network card with an RJ-45 connector
Ports:	1 free serial port with standard 9-pin connectors; 1 free USB port
Other hardware:	Keyboard, mouse, monitor

Install a fully licensed copy of Windows 7 Professional Operating System or later on the computer specified above. Also install any necessary manufacturer-provided drivers for the installed hardware. Locate and orient the computer to allow data entry and data viewing, as well as to provide access to data ports for the connection of external hardware.

3.2.2 Software

The DQM computer's primary function is to transmit data to the DQM shoreside database. Do not install software which conflicts with this function on this computer. The DQM computer must have the USACE-provided Dredging Quality Management Onboard Software (DQMOBS) installed on it by DQM personnel along with USACE-selected software for remote support and management.

3.2.3 UPS

Supply an Uninterruptible Power Supply (UPS) for the computer and networking equipment. The UPS must provide backup power at 1 kVA for a minimum of ten minutes. The UPS must interface with the DQM computer to communicate UPS status. Ensure that sufficient power outlets are available to run all specified equipment.

3.2.4 Internet Access

Maintain an Internet connection capable of transmitting real-time data to the DQM server and supporting remote access, as well as enough additional bandwidth to clear historically queued data when a connection is re-obtained. If connectivity is lost, que and transmit unsent data upon restoration of connectivity. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Support Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

Acquire and install all necessary hardware and software to make the Internet connection available for data transmission to the DQM web service. Configure the hardware and software to allow the DQM Support Center remote access to this computer. Coordination between the dredging

company's IT and the DQM Support Center may be required in order to configure remote access though any security, firewall, router, and telemetry systems. Telemetry systems must be capable of meeting these minimum reporting requirements in all operating conditions.

3.2.5 Data Routing Requirements

Onboard sensors must continually monitor dredge conditions, operations and efficiency and route this information into the shipboard dredge-specific system (DSS) computer to assist in guiding dredge operations. Portions of this Contractor-collected information must be routed to the DQM computer on a real-time basis. Use an RS-232 9600- or 19200-baud serial interface to send standard sensor data to the DQM computer. Configure the serial interface as 8 bits, no parity, and no flow control.

3.2.6 Data Reporting Frequency

Log data as a series of events. Each event will consist of a dataset containing dredge information in accordance with paragraph REQUIREMENTS FOR REPORTED DATA. Each set of measurements (time, position, etc.) will be considered an event. Collect any required information in paragraph REQUIREMENTS FOR REPORTED DATA that is not an averaged variable (draft and ullage) within 1 second of the reported time. Send a data string for an event to the DQM computer every 6 to 12 seconds. This interval must remain constant throughout the contract; do not transmit data strings more than once per every 5 seconds. Collect and compute any averaged variable within this sampling interval.

3.2.7 Data Format

Report data as an extensible Markup Language (W3C standard XML 1.0) document as indicated below. Line breaks and spaces are added for readability, but the carriage return, line feed character combination is added only to delineate records (HOPPER_DREDGING_DATA tag) for actual data transmission.

```
      {?xml version="1.0"?}
      {HOPPER_DREDGING_DATA version = "2.0"}
         {DREDGE_NAME} string32 {/DREDGE_NAME}
            {HOPPER_DATA_RECORD}
                {DATE_TIME} time date string {/DATE_TIME}
                {CONTRACT_NUMBER} string32 {/CONTRACT_NUMBER}
                {LOAD_NUMBER} integer string {/LOAD_NUMBER}
                {VESSEL_X coord_type="LL"} floating point string
{/VESSEL_X}
                {VESSEL_Y coord_type="LL"} floating point string
{/VESSEL_Y}
            {PORT_DRAG_X coord_type="LL"} floating point string
{/PORT_DRAG_X}
            {PORT_DRAG_Y coord_type="LL"} floating point string
{/PORT_DRAG_Y}
            {STBD_DRAG_X coord_type="LL"} floating point string
{/STBD_DRAG_X}
                {STBD_DRAG_Y coord_type="LL"} floating point string
{/STBD_DRAG_Y}
                {HULL_STATUS} OPEN/CLOSED string {/HULL_STATUS}
                {VESSEL_COURSE} floating point string {VESSEL_COURSE}
                {VESSEL_SPEED} floating point string {/VESSEL_SPEED}
                {VESSEL_HEADING} floating point string {/VESSEL_HEADING}
```

```
                  {TIDE} floating point string {/TIDE}
                  {DRAFT_FORE} floating point string {/DRAFT_FORE}
                  {DRAFT_AFT} floating point string {/DRAFT_AFT}
                  {ULLAGE_FORE} floating point string {/ULLAGE_FORE}
                  {ULLAGE_AFT} floating point string {/ULLAGE_AFT}
                  {HOPPER_VOLUME} floating point string {/HOPPER_VOLUME}
                  {DISPLACEMENT} floating point string {/DISPLACEMENT}
                 {EMPTY_DISPLACEMENT} floating point string
     {/EMPTY_DISPLACEMENT}
                  {DRAGHEAD_DEPTH_PORT} floating point string
     {/DRAGHEAD_DEPTH_PORT}
                  {DRAGHEAD_DEPTH_STBD} floating point string
     {/DRAGHEAD_DEPTH_STBD}
                  {PORT_DENSITY} floating point string {/PORT_DENSITY}
                  {STBD_DENSITY} floating point string {/STBD_DENSITY}
                  {PORT_VELOCITY} floating point string {/PORT_VELOCITY}
                  {STBD_VELOCITY} floating point string {/STBD_VELOCITY}
                  {PUMP_RPM_PORT} floating point string {/PUMP_RPM_PORT}
                  {PUMP_RPM_STBD} floating point string {/PUMP_RPM_STBD}
                  {VALVE_1_LOCATION} string32 {VALVE_1_LOCATION}
                  {VALVE_1_STATUS} open/closed {/VALVE_1_STATUS}
                  {VALVE_1_LATCHED} true/false {/VALVE_1_LATCHED}
                  {VALVE_2_LOCATION} string32 {/VALVE_2_LOCATION}
                  {VALVE_2_STATUS} open/closed {/VALVE_2_STATUS}
                  {VALVE_2_LATCHED} true/false {/VALVE_2_LATCHED}
                  {VALVE_3_LOCATION} string32 {/VALVE_3_LOCATION}
                  {VALVE_3_STATUS} open/closed {/VALVE_3_STATUS}
                  {VALVE_3_LATCHED} true/false {/VALVE_3_LATCHED}
                  {VALVE_4_LOCATION} string32 {/VALVE_4_LOCATION}
                  {VALVE_4_STATUS} open/closed {/VALVE_4_STATUS}
                  {VALVE_4_LATCHED} true/false {/VALVE_4_LATCHED}
                  {PUMP_OUT_ON} true/false/unknown string {/PUMP_OUT_ON}
                  {/HOPPER_DATA_RECORD}

                {/HOPPER_DREDGING_DATA}
                 Carriage Return - ASCII value 13
                 Line Feed - ASCII value 10
```

Example

```
     {?xml version="1.0"?}
     {HOPPER_DREDGING_DATA version = "2.0"}
       {DREDGE_NAME}Essayons{/DREDGE_NAME}
          {HOPPER_DATA_RECORD}
                  {DATE_TIME}04/11/2002 13:12:05{/DATE_TIME}
                  {CONTRACT_NUMBER}GDSNWP-11-G-0001{/CONTRACT_NUMBER}
                  {LOAD_NUMBER}102{/LOAD_NUMBER}
                  {VESSEL_X coord_type="LL"}-80.123333{/VESSEL_X}
                  {VESSEL_Y coord_type="LL"}10.123345{/VESSEL_Y}
                  {PORT_DRAG_X coord_type="LL"}-80.1233371{/PORT_DRAG_X}
                  {PORT_DRAG_Y coord_type="LL"}10.12335{/PORT_DRAG_Y}
                  {STBD_DRAG_X coord_type="LL"}-80.123339{/STBD_DRAG_X}
                  {STBD_DRAG_Y coord_type="LL"}10.123347{/STBD_DRAG_Y}
                  {HULL_STATUS}CLOSED{/HULL_STATUS}
                  {VESSEL_COURSE}258{/VESSEL_COURSE}
                  {VESSEL_SPEED}3.4{/VESSEL_SPEED}
                  {VESSEL_HEADING}302{/VESSEL_HEADING}
                  {TIDE}-0.1{/TIDE}
                  {DRAFT_FORE}10.05{/DRAFT_FORE}
```

{DRAFT_AFT}15.13{/DRAFT_AFT}
{ULLAGE_FORE}10.11{/ULLAGE_FORE}
{ULLAGE_AFT}10.22{/ULLAGE_AFT}
{HOPPER_VOLUME}2555.2{/HOPPER_VOLUME}
{DISPLACEMENT}4444.1{/DISPLACEMENT}
{EMPTY_DISPLACEMENT}2345.0{/EMPTY_DISPLACEMENT}
{DRAGHEAD_DEPTH_PORT}55.10{/DRAGHEAD_DEPTH_PORT}
{DRAGHEAD_DEPTH_STBD}53.21{/DRAGHEAD_DEPTH_STBD}
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{STBD_DENSITY}1.03{/STBD_DENSITY}
{PORT_VELOCITY}22.1{/PORT_VELOCITY}
{STBD_VELOCITY}23.3/STBD_VELOCITY}
{PUMP_RPM_PORT}55{/PUMP_RPM_PORT}
{PUMP_RPM_STBD}54{/PUMP_RPM_STBD}
{VALVE_1_LOCATION}Starboard Dragarm{VALVE_1_LOCATION}
{VALVE_1_STATUS}open{/VALVE_1_STATUS}
{VALVE_1_LATCHED}true{/VALVE_1_LATCHED}
{VALVE_2_LOCATION}Port Dragarm{/VALVE_2_LOCATION}
{VALVE_2_STATUS}closed{/VALVE_2_STATUS}
{VALVE_2_LATCHED}false{/VALVE_2_LATCHED}
{VALVE_3_LOCATION}Port Sea Chest{/VALVE_3_LOCATION}
{VALVE_3_STATUS}closed{/VALVE_3_STATUS}
{VALVE_3_LATCHED}false{/VALVE_3_LATCHED}
{VALVE_4_LOCATION}Starboard Sea Chest{/VALVE_4_LOCATION}
{VALVE_4_STATUS}open{/VALVE_4_STATUS}
{VALVE_4_LATCHED}false{/VALVE_4_LATCHED}
{PUMP_OUT_ON}false{/PUMP_OUT_ON}
{/HOPPER_DATA_RECORD}
{/HOPPER_DREDGING_DATA}
{cr}
{lf}
{DREDGE_NAME}Essayons{/DREDGE_NAME}
{HOPPER_DATA_RECORD}
{DATE_TIME}04/11/2002 13:12:10{/DATE_TIME}
{CONTRACT_NUMBER}GDSNWP-11-G-0001{/CONTRACT_NUMBER}
{LOAD_NUMBER}102{/LOAD_NUMBER}
{VESSEL_X coord_type="LL"}-80.123334{/VESSEL_X}
{VESSEL_Y coord_type="LL"}10.123346{/VESSEL_Y}
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{PORT_DRAG_Y coord_type="LL"}10.12336{/PORT_DRAG_Y}
{STBD_DRAG_X coord_type="LL"}-80.123340{/STBD_DRAG_X}
{STBD_DRAG_Y coord_type="LL"}10.123348{/STBD_DRAG_Y}
{HULL_STATUS}CLOSED{/HULL_STATUS}
{VESSEL_COURSE}259{/VESSEL_COURSE}
{VESSEL_SPEED}3.5{/VESSEL_SPEED}
{VESSEL_HEADING}300{/VESSEL_HEADING}
{TIDE}-0.1{/TIDE}
{DRAFT_FORE}10.00{/DRAFT_FORE}
{DRAFT_AFT}15.15{/DRAFT_AFT}
{ULLAGE_FORE}10.15{/ULLAGE_FORE}
{ULLAGE_AFT}10.20{/ULLAGE_AFT}
{HOPPER_VOLUME}2555.5{/HOPPER_VOLUME}
{DISPLACEMENT}4444.0{/DISPLACEMENT}
{EMPTY_DISPLACEMENT}2345.0{/EMPTY_DISPLACEMENT}
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```
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                    {PUMP_RPM_PORT}55{/PUMP_RPM_PORT}
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                    {VALVE_1_STATUS}open{/VALVE_1_STATUS}
                    {VALVE_1_LATCHED}true{/VALVE_1_LATCHED}
                    {VALVE_2_LOCATION}Port Dragarm{/VALVE_2_LOCATION}
                    {VALVE_2_STATUS}closed{/VALVE_2_STATUS}
                    {VALVE_2_LATCHED}false{/VALVE_2_LATCHED}
                    {VALVE_3_LOCATION}Port Sea Chest{/VALVE_3_LOCATION}
                    {VALVE_3_STATUS}closed{/VALVE_3_STATUS}
                    {VALVE_3_LATCHED}false{/VALVE_3_LATCHED}
                    {VALVE_4_LOCATION}Starboard Sea Chest{/VALVE_4_LOCATION}
                    {VALVE_4_STATUS}open {/VALVE_4_STATUS}
                    {VALVE_4_LATCHED} false{/VALVE_4_LATCHED}
                    {PUMP_OUT_ON}false{/PUMP_OUT_ON}
                    {/HOPPER_DATA_RECORD}
      {/HOPPER_DREDGING_DATA}
      {cr}
      {lf}
```

3.2.8 Data Reporting

The system must transmit correctly formatted event data XML strings to the DQM database continuously from mobilization until the last USACE post-dredging survey has been accepted. If the Internet connection (paragraph INTERNET ACCESS) is non-operable, perform manual backups from the dredge computer of the XML data string which would have been transmitted to the DQM computer over the serial connection for each day the device is inoperable and submit to the DQM Support Center within 48 hours. This submission does not replace the requirement of correcting the issue affecting the automatic transmission of data. In the event of data transfer, transmission, or hardware failure, maintain a manually recorded disposal log consisting of a series of events. These events are start of dredging, end of dredging, pre-disposal, and post-disposal. Include time stamp (GMT), position (Latitude and Longitude WGS84), draft, ullage, volume, and displacement for each event. Submit disposal logs on a daily basis to the COR during the time when the system is not operational.

3.2.9 Contractor Data Backup

Maintain an archive of all data sent to the DQM computer during the dredging contract. The COR may require, at no increase in the contract price, that the Contractor provide a copy of these data covering specified time periods. Provide the data, transmitted to the DQM computer, in the XML format with no line breaks between the parameters and each record string on a separate line. The naming convention for the files is {dredgename}_{StartYYYYMMddhhmmss}_{EndYYYYMMddhhmmss}.txt. Submit data via storage medium acceptable to the COR.

At the end of the dredging contract, contact the DQM Support Center prior to discarding the data. The DQM Support Center will verify that all data has been received and appropriately archived before giving the Contractor discard permission. Record the following information in a separate section at the end of the dredge's onboard copy of the DPIP:

Person who made the call
Date of the call
DQM representative who gave permission to discard

3.3 PERFORMANCE REQUIREMENTS

The Contractor's DQM system must be fully operational at the start of dredging operations and fully certified prior to moving dredge material on the contract (see paragraph NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION). To meet contract requirements for operability, in addition to certification, the Contractor's system must provide a data string with all values for all parameters while operating, as described in the specifications. Additionally, all hardware must be compliant with hardware requirements (paragraph COMPUTER REQUIREMENTS). Quality data strings are considered to be those providing values for all parameters reported when operating according to the specification. Make repairs necessary to restore data return compliance within 48 hours. Failure by the Contractor to report the required data within the specified time window for dredge measurements (see paragraph DATA REPORTING FREQUENCY and paragraph DATA REPORTING) will result in withholding of up to 10 percent of the contract progress payment per FAR 52.232-5 Payments under Fixed-Price Construction Contracts.

3.4 LIST OF ITEMS TO BE PROVIDED BY THE CONTRACTOR

DPIP
https://dqm.usace.army.mil/Certifications/Index.aspx

DQM System
Sensor instrumentation: paragraph REQUIREMENTS FOR REPORTED DATA
DQM computer: paragraph NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

Dredge Data
Event documentation: paragraph DATA REPORTING
Dredge data backups: paragraph CONTRACTOR DATA BACKUP

QA Equipment on the Dredge
Dragarm depth chain
Ullage tape
Refractometer
Water sampling device

-- End of Section --

SECTION 35 20 23.33

NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM - PIPELINE HYDRAULIC DREDGE
02/22

PART 1 GENERAL

1.1 DESCRIPTION

The work under this contract requires use of the National Dredging Quality Management Program (DQM)to monitor the dredge's status at all times during the contract and to manage data history.

This performance-based specification section identifies the minimum required output and the precision and instrumentation requirements. The requirements may be satisfied using equipment and technical procedures selected by the Contractor.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

National Dredging Quality Management Program Certification, Mobile District; G, OP

1.3 PAYMENT

Separate payment for installation, operation, and maintenance of the DQM-certified system as specified herein for the duration of the dredging operations is not allowed; all costs in connection therewith are considered a subsidiary obligation of the Contractor and are covered under the contract unit price for dredging in the bidding schedule.

1.4 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION

The Contractor is required to have a current certification from the DQM Program for the cutter/suction head hydraulic dredge instrumentation system to be used under this contract. Standard Operating Procedures (SOP) and criteria for certification are presented on the DQM website at https://dqm.usace.army.mil.

1.5 DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

The Contractor must have a digital copy of the Dredge Plant Instrumentation Plan (DPIP) on file with the DQM Support Center. While working on site, the Contractor must also maintain on the dredge a copy of the DPIP, which is easily accessible to Government personnel at all times. This document must accurately describe the sensors used, the configuration of the system, how sensor data will be collected, how quality control on the data will be performed, and how the sensors/data-reporting equipment will be calibrated and repaired if it

fails. A description of the computed dredge-specific data and how the sensor data will be transmitted to the DQM database will also be included. Prior to the start of work, the Contractor must submit to the DQM Support Center any addendum or modifications made to the plan subsequent to its original submission. Requirements and a template for the DPIP are available on the DQM website at https://dqm.usace.army.mil.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 REQUIREMENTS FOR REPORTED DATA

Provide, operate, and maintain all hardware and software to meet these specifications. The Contractor is also responsible for the replacement, repair, and calibration of the sensors and other necessary data acquisition equipment needed to supply the required data. Document and complete the procedure to complete a repair as soon as practical. If repair is not possible within two business days of any sensor failure, submit a plan and timeline to complete the repair. Upon completion of a repair, replacement, installation, modification, or calibration, notify the Contracting Officer's Representative (COR). The COR may request recalibration of the sensors or other hardware components at any time during the contract as deemed necessary.

Keep a log of sensor repair, replacement, installation, modification, and calibration in the dredge's onboard copy of the DPIP. The log must contain a three-year history of sensor maintenance, including the time of the sensor failures (and subsequent repairs), the time and results of sensor calibrations, the time of sensor replacements, and the time that backup sensor systems were initiated to provide the required data. It must also contain the name of the person responsible for the sensor work. Install sensors that are capable of collecting parameters within the specified accuracies and resolutions indicated in the following subparagraphs and transmit these parameters to the DQM database. Transmit all data in JSON message bundles. Each bundle can contain multiple message types. Transmit sensor data as work event messages, and transmit data which relates to the operational state of the dredge or its sensors as state event messages. (See paragraph PARAMETER TRANSMISSION TO THE WEB SERVICE.)

3.1.1 Message Bundle Data

Every message bundle must contain descriptive data that relates the message to a given dredge plant and date/time. Identify the start of a message bundle by the tag "DQM_data".

3.1.1.1 Messages

Messages contain operational data that populates the DQM database for a dredge plant. A message must consist of an event type and its associated data (as defined in paragraph DREDGE EVENTS - WORK EVENT and paragraph DREDGE EVENTS - STATE EVENT), a date/time stamp indicating when the event occurred or started, and a comment providing clarification or metadata about the situation. There are multiple event types, but they all fall into one of two categories - work events and state events.

3.1.1.1.1 Message Time

In a work event message, message time is the date and time that the data is collected from the sensors; in a state event message, message time is the date and time that the state event begins. Report and reference the message time to the nearest second and to Coordinated Universal Time (UTC) time based on a 24-hour format (*YYYY-MM-DD HH:MM:SS*). In order to ensure accuracy and reliability, synchronize the time stamp to UTC format from an accurate, unchangeable source (for example, a GPS National Marine Electronics Association [NMEA] datastring). Identify message time by the tag "msg_time".

3.1.1.1.2 Comment

Comments concerning the work event or state event messages being transmitted provide descriptive information that relates to the data. An example of a comment for work event data is information about a sensor issue; an example of a comment for state event data is a description of operations. Identify a comment by the introductory tag "comment", and the comment must not consist of more than 250 characters.ext

3.1.1.2 Dredge Events - Work Event

There are two types of dredge event messages - work event messages and state event messages. Work event messages contain data that are instantaneously collected or calculated from sensors and are logged as a series of events. Work events are triggered by a time interval change (as described in paragraph WORK EVENT MESSAGES). Initiate all work event messages by the header tag "work_event".

3.1.1.2.1 Vertical Correction

Obtain the variation of the water level from the vertical datum for the river stage or tidal gage described in the state events using appropriate equipment to give the water level with an accuracy of plus or minus 0.1 ft. Enter vertical correction values above project datum described in the dredging specification with a positive sign and those below with a negative sign. The tag for vertical correction is "vert_correction".

3.1.1.2.2 Cutter/Suction Head Location and Movement

Monitor the X, Y, and Z components of the cutter/suction head location. Additional calculations made from the observed values determine the rates of movement to track the progress of the dredge.

3.1.1.2.2.1 Cutter/Suction Head Horizontal Position

Obtain the forwardmost point of the cutter/suction head using a positioning system operating with a minimum accuracy level of 3-10 feet horizontal Circular Error Probable (CEP). Report it as Latitude/Longitude WGS 84 in decimal degrees with West Longitude and South Latitude values reported as negative. Identify position values by the tags "ch_latitude" and "ch_longitude".

3.1.1.2.2.2 Cutter/Suction Invert Depth

Cutter/suction invert depth is the depth of the invert of the suction mouth relative to the surface of the water. Instrumentation must be capable of reporting to an accuracy of plus or minus 0.5 foot and a

resolution to the nearest 0.1 foot with no tidal adjustments. Minimum accuracies are conditional to relatively calm water. Use the tag "ch_depth" to identify the cutter/suction head depth.

3.1.1.2.2.3 Cutter/Suction Head Heading

The cutter/suction head heading is the angle of the centerline of the cutter/suction head and dredge ladder measured relative to true north. Provide all headings using industry-standard equipment. The heading must be accurate to within 5 degrees and reported to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention. Use the tag "ch_heading" to identify the cutter/suction head heading.

3.1.1.2.3 Dredge Activity

Monitor dredge activity using a combination of the following parameters.

3.1.1.2.3.1 Slurry Velocity

Use a flow-metering device, calibrated according to the manufacturer's specifications, to record the slurry velocity to the nearest 0.01 fps with an accuracy of plus 0.5 fps. If the manufacturer does not specify a frequency of recalibration, conduct calibration prior to the commencement of work. Measure the slurry velocity for the same pipeline inside diameter as that used for the slurry density measurement. Associate the tag "slurry_velocity" with this value.

3.1.1.2.3.2 Slurry Density

Use a density-metering device, calibrated according to the manufacturer's specifications, to record the slurry density to the nearest 0.01 g/cc. It is understood that the accuracy of this sensor can vary based on several factors, including the type of material, the magnitude of the cut, and the length of time since calibration. If the manufacturer does not specify a frequency of recalibration, conduct calibration prior to the commencement of work. Continuous monitoring of this sensor ensures that drift and other factors inherent in the dredging process can be accounted for in monitoring dredge activity. Associate the tag "slurry_density" with this value.

3.1.1.2.3.3 Pump RPM

The pump rpm is the number of revolutions per minute measured for the slurry pump shaft. Measure the shaft revolution rate (rev/min) with the highest level of accuracy that is standard on the vessel's operational displays either at the bridge or in the engine room. Identify this value by the tag "rpm".

3.1.1.2.3.4 Pump Vacuum

Measure the vacuum pressure of the dredge pump(s) (inches of mercury) as near to the eye as practicable in the pump's suction pipe with the highest level of accuracy that is standard on the vessel's operational displays either at the leverman's controls or in the engine room. Identify vacuum pressure by the tag "vacuum".

3.1.1.2.3.5 Pump Outlet Pressure

Measure the pump outlet pressure in the discharge line on the pump side of the flap valve in terms of pounds per square inch (psi) on a gauge. Identify pump outlet pressure by the tag "outlet_psi".

3.1.1.2.4 Outfall Information (Open Water/Spill Barge Disposal)

Monitor the X and Y position of the terminal end of the outfall pipe continuously and report the position as part of the work event string.

3.1.1.2.4.1 Discharge Horizontal Position

Obtain the horizontal position of the outfall end of the discharge pipe using a positioning system operating with a minimum accuracy level of 3-10 feet horizontal Circular Error Probable (CEP). Report it as Latitude/Longitude WGS 84 in decimal degrees with West Longitude and South Latitude values being reported as negative. Identify position values by the tags "outfall_latitude" and "outfall_longitude".

3.1.1.3 Dredge Events - State Event

There are two types of dredge event messages - work event messages and state event messages. State event messages provide information about the current state of the dredge equipment or operations. They are created and sent only when a state changes. Since state events often cannot be collected in real time, state events are tagged with a date time stamp (referenced to Coordinated Universal Time [UTC]) that indicates when the state change happened relative to the work event message tag. This data is considered to be "true" until another state event tag of the same type is received. Indicate each type of state event message by a specific header tag as enumerated in the following subparagraphs. State events can be transmitted along with work event message bundles directly by the contractor using the indicated format, or they can be entered on the "State" tab in the DQM-provided software. However, they should be sent only if the state value changes.

3.1.1.3.1 Message Time

The state event time is the date and time that the event starts. Enter the leverman's time to the nearest second as local time and automatically convert to and report in UTC based on a 24-hour format (YYYY-MM-DD HH:MM:SS). Identify message time by the tag "msg_time".

3.1.1.3.2 Contract Event

Report information concerning the contract under which dredging is being performed at the start and completion of each contract using the header tag "contract_event".

3.1.1.3.2.1 Contract Number

Report the USACE-assigned contract number for the project using the tag "contract_number".

3.1.1.3.2.2 Contract Start and End

Report the start and end of a contract using the tag "event_type" with the appropriate value of "start" or "end".

3.1.1.3.3 Tide Station/River Stage Gage Event

Group together properties associated with the vertical correction (see paragraph VERTICAL CORRECTION) for the tide station/river stage gage under the header tag "station_event". This information must be sent at the start of the contract and each time the dredge has moved enough to change the station being used.

3.1.1.3.3.1 Station Name

The station name is a concise name defining the tide station/river stage gage begin referred to. It must be introduced by the tag "station_name", and it must not consist of a descriptor of more than 25 characters.

3.1.1.3.4 Length of Pipe Event

Report the leverman's estimate of the length of pipe downflow from the dredge pump, measured to the nearest whole foot, under the header tag "pipe_length_event". This information must be sent at the start of the contract and at the completion of each 24-hour period ending at midnight local time.

3.1.1.3.4.1 Floating Pipe

Report the total length of floating pipe with the tag "length_floating".

3.1.1.3.4.2 Submerged Pipe

Report the total length of floating pipe with the tag "length_submerged".

3.1.1.3.4.3 Shore Pipe

Report the total length of shore pipe with the tag "length_land".

3.1.1.3.5 Booster Pump

Include information concerning the booster pumps being used under the header tag "booster_pump_event". A message must be sent to indicate any change in the status of the booster pumps being used.

3.1.1.3.5.1 Number of Booster Pumps

Upon the addition or removal of a booster pump, report the total number of booster pumps being used with the tag "booster_total".

3.1.1.3.6 Dredge Advance

Measure the dredge advance, the total forward progress of the dredge relative to the centerline of the cut, to the nearest whole foot and cumulatively calculate over a 24-hour period from midnight to midnight local time. Identify it by the tag "advance_daily". Report in Greenwich Mean Time (GMT)the msg_time associated with this tag as the first timestamp of the following 24-hour period (based on the local time) rather than as midnight of the day for which the value was calculated.

3.1.1.3.7 Outfall Information

Monitor and send the X and Y position of the terminal end of the outfall

pipe at the start of the contract and thereafter according to the following table. Discharge Heading and Pipe Elevation may be omitted if the dredge is not discharging into an upland disposal site. For beach nourishment, the horizontal X and Y position of the outfall must be sent at the start of the contract and at the completion of each 24-hour period ending at midnight local time.

Discharge Location	Horizontal Position	Discharge Pipe Elevation	Discharge Outfall Heading
Open Water	Continuous Work Event	N/A	N/A
Scow	Upon Change	N/A	N/A
Beach	Every 24 Hours	N/A	N/A
Upland	Upon Change	Upon Change	Upon Change

3.1.1.3.7.1 Discharge Location

Report information on where the slurry is being discharged with the tag "outfall_location". Acceptable values include "upland", "open water", "beach", and "scow".

3.1.1.3.7.2 Discharge Horizontal Position

Obtain the horizontal position of the outfall end of the discharge pipe using a positioning system operating with a minimum accuracy level of 3-10 feet horizontal Circular Error Probable (CEP). Report it as Latitude/Longitude WGS 84 in decimal degrees with West Longitude and South Latitude values being reported as negative. Identify position values by the tags "outfall_latitude" and "outfall_longitude".

3.1.1.3.7.3 Discharge Outfall Heading

The discharge outfall heading is the angle relative to true north measured from the centerline of the pipe in the direction of discharge. Provide all headings using industry-standard equipment. They must be accurate to within 5 degrees and report to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention. Identify the discharge heading by the tag "outfall_heading".

3.1.1.3.7.4 Discharge Pipe Elevation

The discharge pipe elevation is the height of the outfall measured in feet and tenths of a foot relative to the project datum. The required accuracy is contingent upon contract requirements. Use the tag "outfall_elevation" to identify this elevation.

3.1.1.3.8 Non-effective Work Event

Report delays and dredge downtime at the conclusion of the event. Submit the reason for the non-effective work time under the header tag "non_eff_event" within 24 hours of the event.

3.1.1.3.8.1 Non-effective Work Interval

Report the start and end times for the non-effective work event using the

tags "msg_start_time" and "msg_end_time".

3.1.1.3.8.2 Dredge Function Code

Transmit the dredge operator indication of production delays, as listed on Form 4267, at the end of the non-effective interval. Identify dredge function event messages by the tag "function_code" consisting of one of the following standardized entries to indicate the operation:

AGV	Assisting Grounded Vessels
CCH	Change Cutterhead
CCSH	Clear Cutter Suction
CLPJ	Change Location Bar
COLL	Collision
CPPL	Clear Pump Pipeline
CPR	Change Impeller
DR	Dike Repair
FBD	Fire Boat Drills
HPL	Handling Pipe Line
HSL	Handling Swing Line
HSP	Handling Shore Pipe
LDNE	Loss Due to Natural Elements
LDPV	Loss Due to Passing Vessel
LNL	Transfer to New Location
MISC	Miscellaneous
MOB	Mobilization & Demobilization
MSC	Miscellaneous/Non-pay
OC	Out of Commission
OR	Operating Repairs
P	Preparation
PREP	Preparation & Making Up Tow
RPL	Repair Pipeline
SB	Sounding & Buoying
SBT	Stand-By Time as Directed
SH	Sundays-Holidays
TFS	Taking on Fuel & Supplies
TOW	Time on Tow
WAP	Waiting Attendant Plant

3.1.1.3.8.3 Additional Comments

Use the "comment" tag to provide additional explanation for the noted delays or downtimes. For example, when the code "LDPV" (Loss Due to Passing Vessel) is indicated, list the name of the vessel and the number of tows with the "comment" tag.

3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

The Contractor's DQM system must be capable of collecting and transmitting information to the DQM onboard computer. Record the applicable parameters from paragraph REQUIREMENTS FOR REPORTED DATA as local events and transmit continuously to the DQM database anytime an Internet connection is available. Equip the dredge with a DQM computer system consisting of a computer, monitor, keyboard, mouse, data modem, Universal Power Supply (UPS), and network hub. Provide a standalone computer system, exclusive to the DQM monitoring system, with USACE DQM software installed on it. If a hardware problem occurs, or if a part of the system is physically damaged, the Contractor is responsible for repairing it within two business days of the determination of the condition or submitting a plan

and timeline for repair if the repair will take more than two business days.

3.2.1 Computer Requirements

Provide a dedicated onboard computer for use by the Dredging Quality Management system. This computer must run the USACE DQM software and receive data from the Contractor's data-reporting interface. This computer must meet or exceed the following performance specifications:

CPU:	Intel or AMD processor with a (non-overclocked) clock speed of at least 1.6 gigahertz (GHz)
Hard drive:	250 gigabytes (GB); internal
RAM:	4 gigabytes (GB)
Ethernet adapter:	Internal network card with an RJ-45 connector
Ports:	1 free serial port with standard 9-pin connectors; 1 free USB port
Other hardware:	Keyboard, mouse, monitor

Install a fully licensed copy of Windows 7 Professional Operating System or later on the computer specified above. Also install any necessary manufacturer-provided drivers for the installed hardware.

Locate and orient this computer to allow data entry and data viewing as well as to provide access to data ports for connection of external hardware.

3.2.2 Software

The DQM computer's primary function is to transmit data to the DQM shoreside database. Do not install software which conflicts with this function on this computer. The DQM computer must have the USACE-provided Dredging Quality Management Onboard Software (DQMOBS) installed on it by DQM personnel.

3.2.3 UPS

Supply an Uninterruptible Power Supply (UPS) for the computer and networking equipment. It must interface with the DQM computer to communicate UPS status, and it must provide backup power at 1 kVA for a minimum of 10 minutes. Ensure that sufficient power outlets are available to run all specified equipment.

3.2.4 Internet Access

Maintain an Internet connection capable of transmitting real-time data to the DQM server as well as enough additional bandwidth to clear historically queued data when a connection is re-established. If connectivity is lost, que and transmit unsent data upon restoration of connectivity. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Support Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

Acquire and install all necessary hardware and software to make the Internet connection available for data transmission to the DQM web service. Configure the hardware and software to allow the DQM Support Center remote access to this computer, and the telemetry system must be capable of meeting these minimum reporting requirements in all operating conditions.

In areas with poor cellular service and at the local District's discretion, it may be required to manually download the data on a daily basis using the protocol for retrieving and submitting backup files provided by the DQM Support Center. This method of data transmission should be used only if Internet connectivity is unavailable at the dredging site, and it should be considered a temporary measure.

3.2.5 Data Routing Requirements

Onboard sensors continually monitor dredge conditions, operations, and efficiency and route this information to the shipboard dredge-specific system (DSS) computer to assist in guiding dredge operations. Portions of this Contractor-collected information, as described in this specification, must be routed to the DQM computer on a real-time basis. Use an RS-232 serial interface with a baud rate of 9600 or 19200 bps to send standard sensor data to the DQM computer. Configure the serial interface as 8 bits, no parity, and no flow control.

Digitally log and transmit information regarding changes in the state of the dredge as close to the time of the occurrence as possible. These events can either be included in a separate message bundle going to the DQM onboard computer, or they can be entered on the "State" tab in the DQM Pipeline Software.

3.3 DREDGE MONITORING DATA

3.3.1 General

Onboard sensors continuously collect dredging data in support of the dredge Contractor's operations. Portions of this Contractor-collected information, as described in this specification, and store and transmit calculations based on them to the DQM database on a near real-time basis. Additionally, digitally log and transmit information regarding the state of the dredge.

3.3.2 Data Measurement Frequency

The frequency of data transmission is dependent on the type of message being sent. Work Event messages contain data that are instantaneously collected or calculated from sensors and are logged as a series of events. State event messages are activated by a change in the dredge state.

3.3.2.1 Work Event Messages

Log data as a series of events. Each event must consist of a dataset containing dredge information (as defined in paragraph REQUIREMENTS FOR REPORTED DATA). Consider each set of measurements (for example, time and position) an event with a 6-12 second interval between work events. This interval must remain consistent across event types for the dredge plant.

Record a standard data string within one second of an event trigger with the time stamp and all parameters reflecting when the event happened.

3.3.2.2 State Event Messages

Consider a set of descriptive information (event name, time, description, comment) a state event. Record these events within 24 hours of a change in state with the time stamp reflecting when the event happened.

3.3.3 Parameter Transmission to the Web Service

Format the data as JSON (JavaScript Object Notation, as defined at http://www.json.org) strings of arbitrary length. These JSON strings represent a hierarchical data structure consisting of a message bundle which may contain 0-3 automatic data messages and any number of manual data messages.

A tag/parameter is reported only when it contains a value. Do not include "Null" value strings in a message bundle.

```
****************************
Message bundle
****************************

{
  "DQM_Data": {
    "messages": [
      {
        "work_event": {
        "msg_time":            <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "vert_correction":   <floating point 100th decimal place>,
          "ch_latitude":       <decimal to 6 decimal places>,
          "ch_longitude":      <decimal to 6 decimal places>,
          "ch_depth":          <floating point 100th decimal
place>,
          "ch_heading":        <integer value 000-359>,
          "slurry_velocity":   <floating point 100th decimal place>,
          "slurry_density":    <floating point 100th decimal place>,
          "pump_rpm":          <integer>,
          "vacuum":            <floating point 100th decimal place>,
          "outlet_psi":        <floating point 100th decimal place>,
          "comment":           <string>},
        }
      },
      {
        "contract_event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "contract_number":   <string>,
          "event_type":        <string - "start" or "end">,
          "comment":           <string>
        }
      },
      {
        "station_event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "station_name":      <string>,
          "comment":           <string>
        }
      },
```

```
            {
              "pipe_length_event": {
                "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
                "length_floating":   <integer>,
                "length_submerged":  <integer>,
                "length_land":       <integer>,
                "comment":           <string>
              }
            },
            {
              "booster_pump_event": {
                "msg_time":          <24-hour UTC time YYYY-MM-DDHH:MM:SS>,
                "booster_total":     <integer>,
                "comment":           <string>
              }
            },
            {
              "advance_Event": {
                "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
                "advance_daily":     <integer>,
                "comment":           <string>
              }
            },
            {
              "outfall_position": {
                "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
                "outfall_location":  <string-"upland", "beach", "scow",
      "open water">
                "outfall_latitude":  <decimal to 6 decimal places>,
                "outfall_longitude": <decimal to 6 decimal places>,
                "outfall_heading":   <integer value 000-359>,
                "outfall_elevation": <floating point 10th decimal place>,
                "comment":           <string>
              }
            },
            {
              "non_eff_event": {
                "msg_start_time":    <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
                "msg_end_time":      <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
                "function_code":     <string - 1 to 4 characters>,
                "comment":           <string>

              }
            }
          ]
        }
      }
```

3.3.4 Contractor Data Backup

Maintain an archive of all data sent to the DQM computer during the dredging contract. The COR may require, at no increase in the contract price, that the Contractor provide a copy of these data covering specified time periods. Provide the data in the same JSON format as would have been transmitted to the DQM computer. There must be no line breaks between the parameters, and each record string must be on separate line. The naming convention for the files must be <*dredgename*>_<*StartYYYYMMddhhmmss*>_<*EndYYYYMMddhhmmss*>.txt.
Data submission must be via a storage medium acceptable to the COR.

At the end of the dredging contact, call the National DQM Support Center prior to discarding the data. The DQM Support Center will verify that all data has been received and appropriately archived before giving the Contractor discard permission. Record the following information in a separate section at the end of the dredge's onboard copy of the DPIP:

Person who called the National DQM Support Center
Date of the call
DQM representative who gave permission to discard the data

3.4 PERFORMANCE REQUIREMENTS

The Contractor's National Dredging Quality Management Program's data transmission must be fully operational at the start of dredging operations. To meet contract requirements for operability, the Contractor's system must provide an accurate data string return and be compliant with hardware requirements. Data string return is defined as the number of quality records within an event or state tag sent by the contractor's system to the DQM database. Quality data strings are considered to be those providing accurate values for all parameters reported when operating according to the specification. Make repairs necessary to restore data return compliance within two business days, or submit a plan and timeline for repair if the repair will take more than two business days. Failure by the Contractor to report quality data within the specified time window for dredge measurements as stated in the specifications (see paragraph INTERNET ACCESS, paragraph DATA MEASUREMENT FREQUENCY, and paragraph PARAMETER TRANSMISSION TO THE WEB SERVICE, will result in withholding of up to 10 percent of the contract progress payment per FAR 52.232-5 Payments under Fixed-Price Construction Contracts.

3.5 LIST OF ITEMS TO BE PROVIDED BY THE CONTRACTOR

DPIP
https://dqm.usace.army.mil

DQM System
Paragraph 3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS, including all subparagraphs

Dredge Data
Paragraph DREDGING MONITORING DATA

-- End of Section --

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SAFETY CHECKLIST FOR FLOATING PLANT

Contract # and title:	
Contractor:	Subcontractor:
Plant Name:	Owner:
Superintendent:	Captain:
Engineer:	Number in crew:
Contract inspector:	Date inspected:

This checklist references EM 385 1-1, revised 3 November 2003	Yes	No	N/A
1. Is a copy of the current USCG Form 835 available for plants regulated by USCG? (19.A.01)			
2. Is documentation of an accredited marine surveyor (SAMS or NAMS) available for non-USCG inspected plants? (19.A.01)			
3. Do all officers and crew posses an appropriate USCG license or USACE license and certification? (19.A.02)			
4. Are periodic inspections and test records of all floating plant, equipment, and machinery available as part of the official project file? (19.A.01)			
5. Is there a severe weather plan which contains the following available? (19.A.03) a. A description of potential types of severe weather hazards and steps to guard against the hazards? b. The time frame for implementing the plan? c. The name and location of the safe harbor? d. The name of the vessels which will be used to move any non-self propelled plant, and their type, capacity, speed, and availability? e. River gage readings at which floating plant must be moved away from dams, river structures, etc. to safe areas?			

	Yes	No	N/A
6. Is the station bill conspicuously posted throughout the vessel? (19.A.04)			
7. Has each crewmember been given a written description of their emergency duties and are they familiar with them? (19.A.04)			
8. Have the following drills and tests been recorded in the station log? (19.A.04) a. Abandon ship drill? b. Fire drill? c. Man overboard drill? d. Pump shell or pipe rupture? e. Hull failure? f. Emergency power and lighting tests? g. Bimonthly emergency power generator tests? h. Bimonthly emergency lighting storage batteries tests? Note: First set of drills shall be conducted within 24 hours of occupancy or commencement of work.			
9. Are material safety data sheets (MSDSs) available for all hazardous materials on board? (06.B.01)			
10. Are employees trained to handle hazardous materials? (06.B.01)			
11. Are at least two employees on each shift certified in CPR and first aid? (03.A.02)			
12. Is there a first aid log at each first aid station? (01.D.04)			
13. Are first aid kits located in a readily accessible location and adequately stocked? (03.B.01 & .02)			
14. Is there an adequate supply of approved, potable drinking water available? (02.A.01)			
15. Are outlets dispensing non-potable water clearly marked “Water Unfit For Drinking, Washing or Cooking”? (02.A.07)			
16. Are the proper numbers of toilets, washbasins and showers provided? (02.B.06 & .07)			

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Reference: EM 385-1-1, 3 November 2003 edition.

	Yes	No	N/A
17. Are water, soap, and a means of drying available? (02.C.02)			
18. Is the latest information published by the USCG regarding aids to navigation available on board the vessel? (19.A.11)			
19. Is the vessel equipped with: (19.A.05) a. Fenders? b. Axes or other emergency cutting equipment? c. An appropriate navigational signal device? d. General alarm system operated from primary electrical system with standby batteries on trickle charge? e. Easily accessible emergency controls that are adequately protected against accidental operation? f. Explosion-proof lights around gasoline and oil barges or other locations where a fire or explosive hazard exists? g. Interconnected emergency alarms? h. Smoke alarms in living quarters? i. Carbon Dioxide CO monitors in all occupied spaces? j. Doors that open from both sides? k. Clearly marked emergency exits? l. Emergency stops for prime movers operating a dredge pump? m. GFCI protection on grounded 120 or 240-volt systems in toilet/shower spaces, galley, machinery spaces, weather deck, exterior or near any sinks? n. Properly maintained and identified watertight compartments?			
20. Fuel systems: (19.A.06) a. Are tanks or lines free of gauge glasses or try cocks? b. Do all fuel tanks have shutoff valves that can be operated outside the compartment in which the tank is located and outside the engine compartment and outside the house bulkheads at or above the weather deck? c. Is there a shut off valve at the engine end of the fuel lines that are 6 feet or more in length and can it be operated from outside the house bulkheads at or above the weather deck? d. Overboard discharge?			

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	Yes	No	N/A
d. Are all carburetors on gasoline engines equipped with a backfire trap or flame arrestor? e. Are all carburetors (except downdraft type) equipped with a drip pan, with flame screen, which is continuously emptied by suction from the intake manifold or if permitted by the overboard discharge? f. Are fuel storage tanks diked or curbed IAW NAVFAC DM-22? If not are portable tanks used IAW USCG requirements in 46 CFR Parts 64 and 98.3?			
21. Are cables which cross the waterways between floating plants or between plant and mooring marked? (19.A.07)			
22. Is there a fire and emergency warning system (or an established fire watch) on all vessels where people are quartered? (19.A.07)			
23. Are all floors, decks, and bilge's free of accumulation of fuel and grease? (19.A.07)			
24. Are there holdbacks or rings available to secure equipment during rough weather? (19.A.07)			
25. Are all deck openings, elevated surfaces, and similar locations provided with guardrails, bulwarks, or taut cable guard lines? (19.A.07)			
26. Are all rotating machinery, hot pipes, and moving cables guarded against accidental contact? (16.B.03)			
27. Are hazardous energy control procedures available to insure that machinery will not be operated while greasing or making repairs? (12.A.01 & 16.A.08)			
28. Are decks free of tripping hazards or adequately marked in yellow? (19.A.07)			
29. Is all deck cargo carried on fuel barges placed on dunnage? (19.A.07)			
30. Are all pieces of floating plants operating as one unit securely fastened together with no openings (or with guarded openings)? (19.A.07)			
31. Is there a list of confined spaces available? (19.A.08)			

32. Are all permitted required confined spaces labeled? (19.A.08)	Yes	No	N/A
33. Are engine spaces housing internal combustion engines having electric spark ignition systems equipped with exhaust fans? (19.A.10)			
34. Are all machinery spaces and non-diesel fuel tanks compartments equipped with at least 2 ventilators, fitted with fans? (19.A.10)			
35. Are the following spaces provided with an adequate natural ventilation system? (19.A.10) a. Spaces containing a portable fuel tank? b. Living spaces or galley? c. Other compartment spaces?			
36. Do vent intakes extend to within 1 foot of the bottom of the compartment? (19.A.10)			
37. Is suitable eye protection provided at battery charging stations? (05.B.01 & .05)			
38. Are eye wash stations provided at battery charging stations? (6.B.02)			
39. Are flammable items such as paint and thinners properly stored? (9.B)			
40. Are gasoline and other flammable liquids properly stored, dispensed, and handled? (09.B.01-.30)			
41. Does all electrical wiring meet requirements of USCG-259, the National Electrical Safety Code and the National Electric Code? (11.A.01)			
42. Are insulated mats provided at locations where machinery has exposed live parts? (11.A.07)			
43. Are switch and transformer banks adequately protected and marked to keep unauthorized personnel out of the danger area? (11.A.02)			
44. Are portable electric tools grounded by a multiconductor cord with an identified conductor and a multicontact polarized plug-in receptacle? (11.C.01)			

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Reference: EM 385-1-1, 3 November 2003 edition.

	Yes	No	N/A
45. Are ground fault circuit interrupters provided in locations where portable tools could be used? (11.C.05)			
46. Are flexible cords protected in work area, appropriately secured or suspended and are they used for appropriate usages? (11.A.03 and Table 11-1)			
47. Are all means of access properly secured, guarded and free of slipping and tripping hazards? (19.B.01)			
48. Are all working decks, stair treads, ship ladders, platforms, catwalks, and walkways, provided with non-slip surfaces? (19.B.01)			
49. Are grab bars provided on the sides of super structure of tugs, tenders, and launches except where railings are present? (19.B.01)			
50. Are double rung or flat tread type Jacob's ladders restricted to use only when no safer form of access is practical? (19.B.01)			
51. Is there a safe means for boarding or leaving the vessel? Note: Walking on rip-rap should be avoided where practical (19.B.02)			
52. Is there a stairway, ladder, ramp, gangway, or personnel hoist provided at all personnel points of access with breaks of 19" or more in elevation? (19.B.02)			
53. Are gangways and ramps: (19.B.02) a. Secured at one end by at least one point on each side with lines or chains to prevent overturning? b. Supported at the other end in such a manner as to support them and their normal loads in the event they slid off their supports? c. Placed at an angle no greater than that recommended by the manufacturer? d. Provided with a standard guardrail?			
54. Are stairs or permanent inclined ladders provided for vertical access between decks? (9.B.03)			

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	Yes	No	N/A
55. Is there at least 2 feet of clearance on outboard edges used for passageways? (19.B.3)			
56. Is the vessel equipped with at least one portable or permanent ladder with at least one portable or permanent ladder with which to rescue a person in the water? (19.B.04)			
57. Are there at least 2 means of escape from all assembly, sleeping and messing areas on the plant? (19.B.04)			
58. Are all means of access maintained safe and functional? (19.B.04)			
59. Are all floating pipelines used as walkways equipped with a walkway which is at least 20” wide and has a handrail on at least one side? (19.B.05)			
60. Are floating pipelines that are not intended as walkways barricaded on both ends?(19B.05)			
61. Are positive measures taken to raise and secure the ladder and to block suction and discharge lines during maintenance on pumps and suction or discharge lines? (19.D.01)			
62. Do floating or trestle supported dredge pipelines display the following lights at night and in periods of restricted visibility: (19.D.02 and 33 CFR 88.13) a. One row of yellow lights that : (1) Flash 50-70 times per minute? (2) Are visible all around the horizon? (3) Are visible for at least 2 miles on a clear night? (4) Are between 3-10 feet above the water? (5) Are approximately evenly spaced? (6) Are not more than 30 feet apart where the pipeline crosses a navigable channel? (7) Are sufficient in number to clearly show the pipeline’s length and course? b. Two red lights at each end of the pipeline (including ends in a channel where the pipeline is separated to allow vessels to pass) that: (1) Are visible all around the horizon? (2) Are visible for at least 2 miles on a clear dark night? (3) Are 3 feet apart in a vertical line with the lower light at the same height above the water as the flashing yellow light?			

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	Yes	No	N/A
63. Is the dredge designed such that a failure or rupture of any dredge pump component including the pipe shall not cause the dredge to sink? (19.D.04)			
64. Is submerged pipeline resting on the bottom where it crosses the navigation channel and is it and the anchoring system no higher than the required project depth? (19.D.03)			
65. Is buoyant or semi-buoyant pipeline fully submerged and on the bottom? (19.D.03)			
66. Is raised pipeline adequately marked? (19.D.03)			
67. Is a bilge alarm or shutdown interface available on any dredge with the dredge pump below the waterline? (19.D.07)			
68. Are two positive means available to secure “stone boxes” when the boxes are under positive pressure? (19.D.08)			
69. Dredge Disposal Sites (19.D.09) a. Is there an adequate supply of drinking water? b. Are toilet facilities provided? c. Disposal area watchmen certified in CPR and first aid? d. Is at least one 16-unit first-aid kit available?			
70. Scows and Barges a. Are scows dumping in open ocean waters equipped with remote opening devices to preclude the transfer of personnel between vessels? b. Is a safety means of transferring personnel between the towing vessels and scow provided? c. Have contractors identified general and site-specific adverse weather and sea conditions under which the towing of scows and cargo barges is prohibited? d. Do all barges and scows comply with 46 CFR 174.010 through 174.020 for intact stability of deck cargo barges? e. Are fall protection devices and equipment listed in 21.A.15 used on scows and open barges to prevent employees transiting between the stern and bow of the vessel from fallings into the hopper or falling off the side of the vessel to the structure located 6 feet for more below?			

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Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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QUALITY CONTROL REPORT-BUCKET/PIPELINE

CONTRACT NO.	CONTRACT TITLE	CONTRACTOR	REPORT NO.

CHARACTER OF REPORT	☒ MAINTENANCE	☐ NEW WORK	☐ ENVIRONMENTAL	DATE

DREDGE	NAME AND TYPE					SHIFTS PER DAY		DAYS PER WEEK	
	SIZE		HORSEPOWER			NO. OF CREW MEMBERS			
	PIPELINE	DIPPER OR BUCKET	DREDGE PUMP	SUCTION PIPE JET	CUTTER OR BUCKET	DREDGE	SHORE	OTHER	TOTAL

LOCATION/CHANNEL OF WORK

LOCATION OF WORK	REACH DREDGED; STATION TO STATION	DISPOSAL AREA USED	QTY DEPOSITED GROSS (CY)	CUMMULATIVE AND QTY DEPOSIT FOR DA (CY)

CHARACTER OF MATERIAL (%)	GRAVEL	SAND	CLAY	MUD	SILT	HARDPAN	STONE	SHELL	OTHER

CHANNEL CONDITION	AVERAGE DEPTH	BEFORE DREDGING	AFTER DREDGING

RIVER/TIDE STAGE	MIN	TIME	MAX	TIME	GAGE LOATION
	MIN	TIME	MAX	TIME	GAGE DATUM

WEATHER CONDITION	WEATHER	TEMP (min/max)	VISIBILITY	WIND

WORK PERFORMED

ITEM	UNIT	QUANTITY
AVERAGE WIDTH OF CUT	FT	
TOTAL ADVANCE THIS PERIOD	FT	
TOTAL ADVANCE PREVIOUSLY	FT	
TOTAL ADVANCE TO DATE	FT	
SCOWS LOADED	NUMBER	
AVERAGE LOAD PER SCOW	CY	

FLOATING PIPE SHORE PIPE SUBMERGED PIPE

TOTAL LENGTH OF DISCHARGE PIPE FT

CUBIC YARDS REMOVED	GROSS	CREDITED
AMOUNT DREDGE THIS DATE		
AMOUNT PREVIOUSLY REPORTED		
TOTAL AMOUNT DREDGED TO DATE		
AMOUNT DREDGED PER PUMPING/CUTTING HR		

OPERATING SUPPLIES

COMMODITY		CONSUMED	CREDITED
ITEM	UNIT	QUANTITY	QUANTITY
FUEL			
ELECTRICITY			
LUBRICANTS			

MOB DATE	DREDGE START	DEMOB DATE

DISTRIBUTION OF WORK

EFFECTIVE WORKING TIME (CHARGEABLE TO COST OF WORK)	HR.	MIN.
PUMPING OR DREDGING		
PCT OF EFFECTIVE TIME		
BOOSTER (IN LINE)		
NON-EFFECTIVE WORKING TIME (CHARGEABLE COST OF WORK)		
HANDLING PIPE LINES		
HANDLING ANCHOR LINES		
CLEARING PUMP AND PUMP LINES		
CLEARING CUTTER AND SUCTION HEAD		
WAITING FOR SCOWS		
TO AND FROM WHARF OR ANCHORAGE		
CHANGING LOCATION OF PLANT ON JOB		
LOSS DUE TO OPPOSING NATURAL ELEMENTS		
SHORE LINE AND SHORE WORK		
WAITING FOR BOOSTER		
MINOR OPERATING REPAIRS (EXPLAIN IN REMARKS)		
WAITING FOR ATTENDANT PLANT		
PREPARATION AND MAKING UP TOW		
TRANSFERRING PLANT BETWEEN WORKS		
LAY TIME OFF SHIFT AND SATURDAYS		
SUNDAYS AND HOLIDAYS		
FIRE DRILL		
MOVING OUT OF WAY OF TRAFFIC		
MISCELLANEOUS (EXPLAIN IN REMARKS)		
TOTAL NON-EFFECTIVE TIME		
PCT. OF NON-EFFECTIVE		
TOTAL EFFECTIVE AND NON-EFFECTIVE TIME (CHARGEABLE TO COST OF WORK)		

QUALITY CONTROL REPORT-BUCKET/PIPELINE			PAGE NO. Page 2 of 3
CONTRACT NO.	CONTRACT TITLE	CONTRACTOR	REPORT NO.
DREDGE			DATE

ATTENDANT PLANT				LOST TIME (NOT CHARGEABLE TO COST OF WORK)		
ITEM	NAME OR NUMBER	H.P.	HOURS		HR	MIN
				MAJOR REPAIRS		
				CESSATION		
				COLLISIONS		
				MISCELLANEOUS		
				TOTAL LOST TIME		
				PERCENTAGE OF TOTAL TIME		
				TOTAL TIME IN PERIOD		

QC NARRATIVE(S)

GENERAL COMMENTS

SAFETY

CONTRACTOR CERTIFICATION	**On behalf of the contractor, I certify that this Report is complete and correct and all equipment and material used and work performed during this Reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.**		
QC REPRESENTATIVE'S SIGNATURE	DATE	SUPERINTENDENT'S INITIALS	DATE

RMS FORM 4267

QUALITY CONTROL REPORT-BUCKET/PIPELINE			PAGE NO. Page 3 of 3
CONTRACT NO.	CONTRACT TITLE	CONTRACTOR	REPORT NO.

ATTENDANT PLANT OVERFLOW

ITEM	NAME OR NUMBER	H.P.	HOURS

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FLOATING PLANT INSPECTION CHECKLIST

Hopper DREDGE

NOTE: This is a checklist only and does not include ALL pertinent safety requirements. For detailed requirements, refer to EM 385-1-1, 15 September 2008

Contractor Name:

Contract No.:

Contractor's Representative:

Representatives Title:

United States Coast Guard Certificate of Inspection - Expiration Date:

Stability Letter - Date Issued:

Date of QC Inspection:

Each employer shall furnish to each of its employees, employment, and place of employment, which are free from hazards (PL 91-596).

Note: Paragraph references in this table refers to paragraphs in EM 385-1-1 (15 September 2008).

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	**(Section)**	**(Yes/No)**	**(If Non Applicable or marked No, explain in detail)**
1. Personal Protective and Safety Equipment (Attach training records)	05.A		
2. Respiratory protection program (Attach training records and Medical evaluations)	05.G		
3. Lamps for general illumination shall be protected from accidental contact of breakage	07.A.07		
4. All sources of ignition shall be prohibited within 50 feet of operations with potential fire hazard	09.A.06		
5. Housekeeping (Attach most recent daily inspection report)	14.C		
6. Rigging inspections	15		
7. Running Lines within 6ft-6in	15.A.05		
8. Custom designed beams, clamp, etc, must be tested and marked	15.A.07		
9. Rigging personnel qualifications	15.B		
10. Cranes or hoisting equipment inspected, tested and certified in writing prior to being placed in use (Attach certification)	16.A.02		
11. Work area control in accessible areas where equipment is rotating	16.A.12		
12. Maintenance/repairs of cranes and Hoisting equipment (Attach recent records of maintenance and repairs)	16.A.15		
13. Personnel Qualifications of all crane Operators (Attach proof of qualifications prior to start of work)	16.B		
14. Crane Operators certified by option 2: 16.B.03 (b) (Attach records of Audits)	16.B.03 (b)(6)		
15. Operator physical qualifications/ Examination (Attach written/ signed documentation for acceptance prior to operating a crane)	16.B.06		
16. Inspection Criteria for Cranes and Hoisting Equipment (Attach all inspection logs that apply, but no less than a Periodic inspection)	16.D		
17. Records of crane and hoisting equipment and inspections (Attach records)	16.D.02		

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	(Section)	(Yes/No)	(If Non Applicable or marked No, explain in detail)
18. Operational Aids required on all Cranes and Derricks	16.E.03		
19. Operational Testing	16.F.02 (3)		
20. Load Testing	16.F.03		
21. All Cranes and hoisting equipment shall have the following documents in the cab at all times they are to be operated:	16.G.01		
22. Accessible areas within the swing radius of the crane or hoisting equipment , shall be barricaded to prevent an employee from being struck or crushed	16.G.09 (b)(2)		
23. Projects shall have adequate means for monitoring local weather conditions, including a wind-indicating device	16.I.01		
24. Floating Cranes/ Derricks, Crane Barges, and Auxiliary shipboard mounted Cranes (Attach Navel Architectural analysis for load rating)	16.L		
25. Safety devices and operational aids	16.L.06		
26. Crane -Supported personnel platforms: work platform and suspension system shall be designed and certified by a registered professional engineer	16.T		
27. machinery and mechanized equipment must be inspected and tested in accordance with the manufacturer's recommendations and requirement of this manual and certified in writing (Attach documents)	18.G.02		
28. All floating plant regulated by the USCG shall have required USCG documentation that is current (Attach Documents)	19.A.01		
29. Stumbling and tripping hazards must be painted yellow	19.A.07 (J)		
30. Access to/from vessels	19.B.02		
31. Two means of escape shall be provided for normal work, assembly, sleeping, and messing areas on floating plants	19.B.04 (b)		
32. Escape hatches and emergency exits shall be marked on both sides with letters, at least 1 in (2.5 cm) high, stating "EMERGENCY EXIT - KEEP CLEAR."	19.A.05 (j)		
33. Railings	19.C.01		
34. Marine Railing types	19.E		
35. Pressurized Equipment and Systems (Attach inspection and Test logs)	20.A		
36. Compressed Gas Cylinders	20.D		
37. Personal Fall protection Systems (Attach Inspection documentation)	21.H		
38. Rescue plan and procedures (Attach Rescue plan and procedure)	21.M		
39. Confined space identification (Attach the list of confined spaces)	34.A.04		
40. Identification and Labeling confined space	34.A.05 (a)		
41. Confined Space Program Elements	34.A.06		
42. Work performed in confined and enclosed spaces on ships and vessels	34.B		

FLOATING PLANT INSPECTION CHECKLIST

Clamshell

NOTE: This is a checklist only and does not include ALL pertinent safety requirements. For detailed requirements, refer to EM 385-1-1, 15 September 2008

Contractor Name:

Contract No.:

Contractor's Representative:

Representatives Title:

United States Coast Guard Certificate of Inspection - Expiration Date:

Stability Letter - Date Issued:

Date of QC Inspection:

Each employer shall furnish to each of its employees, employment, and place of employment, which are free from hazards (PL 91-596).

Note: Paragraph references in this table refers to paragraphs in EM 385-1-1 (15 September 2008).

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	**(Section)**	**(Yes/No)**	**(If Non Applicable or marked No, explain in detail)**
1. Personal Protective and Safety Equipment (Attach training records)	05.A		
2. Respiratory protection program (Attach training records and Medical evaluations)	05.G		
3. All wearable PFDs shall be of a highly visible orange/redish color	05.J.03		
4. PDF automatically activated light	05.J.04		
5. Lifesaving and Safety Skiff	05.K		
6. Lamps for general illumination shall be protected from accidental contact of breakage	07.A.07		
7. Work performed at night, a night operations lighting plan shall be developed (Attach Plan)	07.A.8		
8. All sources of ignition shall be prohibited within 50 feet of operations with potential fire hazard	09.A.06		
9. Storage areas/tanks shall be surrounded by a curb, earthen dike or other equivalent means of containment of at least 6 in (.15 m) in height	09.B.18		
10. Firefighting Equipment	09.G		
11. Batteries and Battery Charging	11.G		
12. Housekeeping (Attach most recent daily inspection report)	14.C		
13. Rigging inspections	15		
14. Running Lines within 6ft-6in	15.A.05		
15. Custom designed beams, clamp, etc, must be tested and marked	15.A.07		
16. Rigging personnel qualifications	15.B		
17. Cranes or hoisting equipment inspected, tested and certified in writing prior to being placed in use (Attach certification)	16.A.02		

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	(Section)	(Yes/No)	(If Non Applicable or marked No, explain in detail)
18. Work area control in accessible areas where equipment is rotating	16.A.12		
19. Maintenance/repairs of cranes and Hoisting equipment (Attach recent records of maintenance and repairs)	16.A.15		
20. Personnel Qualifications of all crane Operators (Attach proof of qualifications prior to start of work)	16.B		
21. Crane Operators certified by option 2: 16.B.03 (b) (Attach records of Audits)	16.B.03 (b)(6)		
22. Operator physical qualifications/ Examination (Attach written/ signed documentation for acceptance prior to operating a crane)	16.B.06		
23. Inspection Criteria for Cranes and Hoisting Equipment (Attach all inspection logs that apply, but no less than a Periodic inspection)	16.D		
24. Records of crane and hoisting equipment and inspections (Attach records)	16.D.02		
25. Periodic Inspection (Attach Records)	16.D.10		
26. Safety Devices and Operational Aids required on all Cranes and Derricks	16.E		
27. Operational Testing	16.F.02		
28. Load Testing	16.F.03		
29. All Cranes and hoisting equipment shall have the following documents in the cab at all times they are to be operated:	16.G.01		
30. Accessible areas within the swing radius of the crane or hoisting equipment , shall be barricaded to prevent an employee from being struck or crushed	16.G.09 (b)(2)		
31. Projects shall have adequate means for monitoring local weather conditions, including a wind-indicating device	16.I.01		
32. Floating Cranes/ Derricks, Crane Barges, and Auxiliary shipboard mounted Cranes (Attach Navel Architectural analysis for load rating)	16.L		
33. Safety devices and operational aids	16.L.06		
34. Additional inspection requirements for barges, pontoons, vessel or other means of flotation used to support a land crane/Derrick	16.L.08		
35. Crane -Supported personnel platforms: work platform and suspension system shall be designed and certified by a registered professional engineer	16.T		
36. machinery and mechanized equipment must be inspected and tested in accordance with the manufacturer's recommendations and requirement of this manual and certified in writing (Attach documents)	18.G.02		
37. All floating plant regulated by the USCG shall have required USCG documentation that is current (Attach Documents)	19.A.01		
38. Stumbling and tripping hazards must be painted yellow	19.A.07 (J)		
39. Access to/from vessels	19.B.02		
40. Two means of escape shall be provided for normal work, assembly, sleeping, and messing areas on floating plants	19.B.04 (b)		
41. For floating plant with internal combustion engines, marine quality listed CO monitors shall be installed and maintained	19.A.05(h)		

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	(Section)	(Yes/No)	(If Non Applicable or marked No, explain in detail)
42. Escape hatches and emergency exits shall be marked on both sides with letters, at least 1 in (2.5 cm) high, stating "EMERGENCY EXIT - KEEP CLEAR."	19.A.05 (j)		
43 .Fuel Systems and Fuel Transfers	19.A.06		
44. Railings	19.C.01		
45. Small boats with length 26 ft or less shall be provided with integrated combinations	19.D.07		
46. Marine Railing types	19.E		
47. Pressurized Equipment and Systems (Attach inspection and Test logs)	20.A		
48. Compressed Gas Cylinders	20.D		
49. Personal Fall protection Systems (Attach Inspection documentation)	21.H		
50. Rescue plan and procedures (Attach Rescue plan and procedure)	21.M		
51. The Construction, installation, and use of Ladders	24.B		
52. Handrails	24.C		
53. Confined space identification (Attach the list of confined spaces)	34.A.04		
54. Identification and Labeling confined space	34.A.05 (a)		
55. Confined Space Program Elements	34.A.06		
56. Work performed in confined and enclosed spaces on ships and vessels	34.B		

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FLOATING PLANT INSPECTION CHECKLIST

Pipeline

NOTE: This is a checklist only and does not include ALL pertinent safety requirements. For detailed requirements, refer to EM 385-1-1, 15 September 2008

Contractor Name:

Contract No.:

Contractor's Representative:

Representatives Title:

United States Coast Guard Certificate of Inspection - Expiration Date:

Stability Letter - Date Issued:

Date of QC Inspection:

Each employer shall furnish to each of its employees, employment, and place of employment, which are free from hazards (PL 91-596).

Note: Paragraph references in this table refers to paragraphs in EM 385-1-1 (15 September 2008).

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	**(Section)**	**(Yes/No)**	**(If Non Applicable or marked No, explain in detail)**
1. Medical and first aid requiremwents	03.A.01		
2. Personal Protective and Safety Equipment (Attach training records)	05.A		
3. Respiratory protection program (Attach training records and Medical evaluations)	05.G		
4. All wearable PFDs shall be of a highly visible orange/redish color	05.J.03		
5. PDF automatically activated light	05.J.04		
6. Lifesaving and Safety Skiff	05.K		
7. Lamps for general illumination shall be protected from accidental contact of breakage	07.A.07		
8. Work performed at night, a night operations lighting plan shall be developed (Attach Plan)	07.A.8		
9. All sources of ignition shall be prohibited within 50 feet of operations with potential fire hazard	09.A.06		
10. Storage areas/tanks shall be surrounded by a curb, earthen dike or other equivalent means of containment of at least 6 in (.15 m) in height	09.B.18		
11. Firefighting Equipment	09.G		
12. Batteries and Battery Charging	11.G		
13. Housekeeping (Attach most recent daily inspection report)	14.C		
14. Rigging inspections	15		
15. Running Lines within 6ft-6in	15.A.05		
16. Custom designed beams, clamp, etc, must be tested and marked	15.A.07		
17. Rigging personnel qualifications	15.B		
18. Cranes or hoisting equipment inspected, tested and certified in writing prior to being placed in use (Attach certification)	16.A.02		

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	(Section)	(Yes/No)	(If Non Applicable or marked No, explain in detail)
19. Work area control in accessible areas where equipment is rotating	16.A.12		
20. Maintenance/repairs of cranes and Hoisting equipment (Attach recent records of maintenance and repairs)	16.A.15		
21. Personnel Qualifications of all crane Operators (Attach proof of qualifications prior to start of work)	16.B		
22. Crane Operators certified by option 2: 16.B.03 (b) (Attach records of Audits)	16.B.03 (b)(6)		
23. Operator physical qualifications/ Examination (Attach written/ signed documentation for acceptance prior to operating a crane)	16.B.06		
24. Inspection Criteria for Cranes and Hoisting Equipment (Attach all inspection logs that apply, but no less than a Periodic inspection)	16.D		
25. Records of crane and hoisting equipment and inspections (Attach records)	16.D.02		
26. Periodic Inspection (Attach Records)	16.D.10		
27. Safety Devices and Operational Aids required on all Cranes and Derricks	16.E		
28. Operational Testing	16.F.02		
29 Load Testing	16.F.03		
30. All Cranes and hoisting equipment shall have the following documents in the cab at all times they are to be operated:	16.G.01		
31. Accessible areas within the swing radius of the crane or hoisting equipment , shall be barricaded to prevent an employee from being struck or crushed	16.G.09 (b)(2)		
32. Projects shall have adequate means for monitoring local weather conditions, including a wind-indicating device	16.I.01		
33. Floating Cranes/ Derricks, Crane Barges, and Auxiliary shipboard mounted Cranes (Attach Navel Architectural analysis for load rating)	16.L		
34. Safety devices and operational aids	16.L.06		
35. Additional inspection requirements for barges, pontoons, vessel or other means of flotation used to support a land crane/Derrick	16.L.08		
36. Anchor handling barge/ vessel	16.L.12		
37. Crane -Supported personnel platforms: work platform and suspension system shall be designed and certified by a registered professional engineer	16.T		
38. machinery and mechanized equipment must be inspected and tested in accordance with the manufacturer's recommendations and requirement of this manual and certified in writing (Attach documents)	18.G.02		
39. All floating plant regulated by the USCG shall have required USCG documentation that is current (Attach Documents)	19.A.01		
40. For floating plant with internal combustion engines, marine quality listed CO monitors shall be installed and maintained	19.A.05(h)		
41. Escape hatches and emergency exits shall be marked on both sides with letters, at least 1 in (2.5 cm) high, stating "EMERGENCY EXIT - KEEP CLEAR."	19.A.05 (j)		
42. Stumbling and tripping hazards must be painted yellow	19.A.07 (J)		
43 .Fuel Systems and Fuel Transfers	19.A.06		

Items	Reference	Meets 385 1-1	Remarks
(Brief description)	(Section)	(Yes/No)	(If Non Applicable or marked No, explain in detail)
44. Access to/from vessels	19.B.02		
45. Two means of escape shall be provided for normal work, assembly, sleeping, and messing areas on floating plants	19.B.04 (b)		
46. Access on floating pipeline	19.B.05		
47. Railings	19.C.01		
48. Small boats with length 26 ft or less shall be provided with integrated combinations	19.D.07		
49. Marine Railing types	19.E		
50. Submerged and floating dredge pipline (Attach notification)	19.G.03		
51. Dredges shall be designed so that a failure or rupture shall not cause the dredge to sink. (Attach Data or Plans)	19.G.04		
52. Dredge pump below the waterline shall have a bilge alarm or shutdown interface.	19.G.07		
53. Pressurized Equipment and Systems (Attach inspection and Test logs)	20.A		
54. Compressed Gas Cylinders	20.D		
55. Personal Fall protection Systems (Attach Inspection documentation)	21.H		
56. Rescue plan and procedures (Attach Rescue plan and procedure)	21.M		
57. The Construction, installation, and use of Ladders	24.B		
58. Handrails	24.C		
59. Confined space identification (Attach the list of confined spaces)	34.A.04		
60. Identification and Labeling confined space	34.A.05 (a)		
61. Confined Space Program Elements	34.A.06		
62. Work performed in confined and enclosed spaces on ships and vessels	34.B		

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APPENDIX A

GEOTECHNICAL BORING LOGS AND LAB DATA

MHVBC-X-19 Borings

Project I.D. | Boring Designation **MHVBC-50-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	SHEET 1 OF 2 SHEETS

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.60188507 LONG = -88.03121573	
		STATE PLANE COORDINATES X = 1,801,375 Y = 219,288	
DATE OF BORING	*STARTED* 01-24-20 / *COMPLETED* 01-24-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	*HORIZ.* NAD83 / *VERT.* MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	*TOP OF BORING* -48.0 Feet / *GROUND WATER* Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ AUTO HAMMER ☐ MANUAL HAMMER
DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	*DISTURBED* 1 / *UNDISTURBED (UD)* 0
TOTAL DEPTH OF BORING 16.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-48.0	0.0									
			(SP) SAND, poorly-graded, wet, light gray, fine to medium grained							
-51.0	3.0									
			(CL) CLAY, lean, low plasticity, soft consistency, wet, light brown, with sand, inorganic, intermittent clay lenses from 3' to 10'					At El. -51 Ft. -200= 75%, PL= 15, LL= 28, PI= 13, MC= 31%		
-52.0	4.0									
			(SP) SAND, poorly-graded, wet, light gray, fine to coarse grained	100	1		Vibracore			
								At El. -56 Ft. -200= 3.1%, Cu= 2.65, Cc= 0.95, MC= 20%, Gs= 2.75		

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL NAD83	VERTICAL MLLW
LOCATION COORDINATES X = 1,801,375 Y = 219,288	ELEVATION TOP OF BORING -48.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
			At El. -60.0 Ft. trace gravel	100	1		Vibracore			
-64.0	16.0									
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.							

10 11 12 13 14 15 16 17 18 19 20 21 22 23

Project I.D. | Boring Designation **MHVBC-51-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	SHEET 1 OF 2 SHEETS

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.61040019 LONG = -88.03180698	
		STATE PLANE COORDINATES X = 1,801,203 Y = 222,386	
DATE OF BORING	*STARTED* 01-24-20 / *COMPLETED* 01-24-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	*HORIZ.* NAD83 / *VERT.* MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	*TOP OF BORING* -47.0 Feet / *GROUND WATER* Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ AUTO HAMMER ☐ MANUAL HAMMER
DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	*DISTURBED* 1 / *UNDISTURBED (UD)* 0
TOTAL DEPTH OF BORING 19.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-47.0	0.0									
			(ML) SILT, inorganic-L, low plasticity, very soft consistency, wet, dark gray, traces of wood					At El. -49 Ft. -200= 89%		
-51.0	4.0									
			(SP) SAND, poorly-graded, wet, light gray, fine to coarse grained	100	1		Vibracore	At El. -55 Ft. -200= 1%, PL= 26, LL= 48, PI= 22, Cu= 1.88, Cc= 1.05, MC= 23%, Gs= 2.86		

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION: Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM: State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL: NAD83	VERTICAL: MLLW
LOCATION COORDINATES: X = 1,801,203 Y = 222,386	ELEVATION TOP OF BORING: -47.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
			At El. -58.0 Ft. medium to coarse grained							
			At El. -60.5 Ft. with gravel							
				100	1		Vibracore			
-66.0	19.0									
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.							

10 11 12 13 14 15 16 17 18 19 20 21 22 23

Project I.D. | Boring Designation **MHVBC-52-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 2 **SHEETS**

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.62015527 LONG = -88.03290815	
		STATE PLANE COORDINATES X = 1,800,874 Y = 225,936	
DATE OF BORING	***STARTED*** 01-27-20 / ***COMPLETED*** 01-27-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** -47.0 Feet / ***GROUND WATER*** Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 1 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 18.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-47.0	0.0									
			(SC) SAND, clayey, soft consistency, wet, dark gray, trace wood							
			At El. -49.0 Ft., wet, light gray, fine to coarse grained, trace gravel					At El. -49 Ft. -200= 47%, PL=12, LL= 25, PI= 13, MC= 21%		
				100	1		Vibracore			
			At El. -53.0 Ft. CH lense							
			At El. -55.0 Ft. trace gravel							
								At El. -56 Ft. -200= 2%, Cu= 2.12, Cc= 1.01, MC= 26%, Gs=		

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL NAD83	VERTICAL MLLW
LOCATION COORDINATES X = 1,800,874 Y = 225,936	ELEVATION TOP OF BORING -47.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
				100	1		Vibracore	2.74		
-65.0	18.0									
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.							

10 11 12 13 14 15 16 17 18 19 20 21 22 23

Project I.D. | Boring Designation **MHVBC-53-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 2 **SHEETS**

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.63880569 LONG = -88.03216444	
		STATE PLANE COORDINATES X = 1,801,140 Y = 232,718	
DATE OF BORING	***STARTED*** 01-26-20 / ***COMPLETED*** 01-26-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** -44.0 Feet / ***GROUND WATER*** Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 1 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 18.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-44.0	0.0									
-45.0	1.0		(MH) SILT, inorganic-H, high plasticity, very soft consistency, wet, dark gray							
			(SM) SAND, silty, wet, gray, fine to medium grained							
			At El. -48.0 Ft. CH lense							
			At El. -49.5 Ft. CH lense	100	1		Vibracore	At El. -49 Ft. -200= 45%, PL= 19, LL= 14, PI= NP, MC= 29%		
			At El. -51.0 Ft. CH lense							
			At El. -51.5 Ft. trace gravel							
-54.0	10.0									

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL NAD83	VERTICAL MLLW
LOCATION COORDINATES X = 1,801,140 Y = 232,718	ELEVATION TOP OF BORING -44.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
			(SP) SAND, poorly-graded fine to coarse grained, trace gravel							
				100	1		Vibracore	At El. -55 Ft. -200= 1%, Cu= 2.17, Cc= 0.96, MC= 19%, Gs= 2.79		
-62.0	18.0									
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.							

10 11 12 13 14 15 16 17 18 19 20 21 22 23

Project I.D. | Boring Designation **MHVBC-54-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 2 **SHEETS**

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.65148881 LONG = -88.03177891	
		STATE PLANE COORDINATES X = 1,801,283 Y = 237,331	
DATE OF BORING	***STARTED*** 01-24-20 / ***COMPLETED*** 01-24-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** -45.0 Feet / ***GROUND WATER*** Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 1 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 16.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-45.0	0.0									
			(SP) SAND, poorly-graded, wet, light brown, fine to coarse grained, trace gravel							
			At El. -48.0 Ft. CH lense							
				100	1		Vibracore			

0 1 2 3 4 5 6 7 8 9 10

SAM FORM 1836
AUG 2017

AFTER DRILLING ▼ *DURING DRILLING* ▽

(Continued)

Boring Designation **MHVBC-54-19**

DRILLING LOG (Cont. Sheet)	INSTALLATION: Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM: State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL: NAD83	VERTICAL: MLLW
LOCATION COORDINATES: X = 1,801,283 Y = 237,331	ELEVATION TOP OF BORING: -45.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
			At El. -57.0 Ft., light gray	100	1		Vibracore	At El. -56 Ft. -200= 1%, Cu= 2.35, Cc= 1.04, MC= 20%, Gs= 2.77		
-61.0	16.0									

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

Project I.D. | Boring Designation **MHVBC-55-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 2 **SHEETS**

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.65640928 LONG = -88.03134114	
		STATE PLANE COORDINATES X = 1,801,429 Y = 239,119	
DATE OF BORING	***STARTED*** 01-23-20 / ***COMPLETED*** 01-23-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** -48.0 Feet / ***GROUND WATER*** Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 1 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 17.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-48.0	0.0									
			(SP) SAND, poorly-graded, wet, light gray, fine grained							
			At El. -50.0 Ft. fine to coarse grained							
								At El. -51 Ft. -200= 1%, Cu= 2.26, Cc= 0.99, MC= 21%, Gs= 2.78		
				100	1		Vibracore			
			At El. -56.0 Ft. fine to coarse grained, trace gravel					At El. -56 Ft. -200= 1%, Cu= 2.30, Cc= 0.97, MC= 22%, Gs= 2.77		

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL NAD83	VERTICAL MLLW
LOCATION COORDINATES X = 1,801,429 Y = 239,119	ELEVATION TOP OF BORING -48.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
				100	1		Vibracore			
-65.0	17.0									
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.							

10 11 12 13 14 15 16 17 18 19 20 21 22 23

Project I.D. | Boring Designation **MHVBC-56-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 2 **SHEETS**

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.66693359 LONG = -88.03134486	
		STATE PLANE COORDINATES X = 1,801,446 Y = 242,947	
DATE OF BORING	***STARTED*** 01-23-20 / ***COMPLETED*** 01-23-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** -44.0 Feet / ***GROUND WATER*** Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 1 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 18.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-44.0	0.0									
			(SM) SAND, silty, low plasticity, very soft consistency, wet, dark gray							
-46.0	2.0									
			(SP) SAND, poorly-graded, wet, light gray, fine to coarse grained							
				100	1		Vibracore	At El. -48 Ft. -200= 2%, Cu= 2.22, Cc= 1.15, MC= 21%, Gs= 2.72		

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL NAD83	VERTICAL MLLW
LOCATION COORDINATES X = 1,801,446 Y = 242,947	ELEVATION TOP OF BORING -44.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
			At El. -55.0 Ft. fine to coarse grained, trace gravel					At El. -55 Ft. -200= 1%, Cu= 2.12, Cc= 0.99, MC= 19%, Gs= 2.75		
			At El. -58.0 Ft., red and tan	100	1		Vibracore			
			At El. -59.0 Ft. medium gravel 15' to 16'							
-62.0	18.0									
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.							

10 11 12 13 14 15 16 17 18 19 20 21 22 23

Project I.D. | Boring Designation **MHVBC-57-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 2 **SHEETS**

PROJECT 2020 Geotechnical Investigation		**LAT/LONG COORDINATES** LAT = 30.671202 LONG = -88.033420	
		STATE PLANE COORDINATES X = 1,800,801 Y = 244,503	
DATE OF BORING	***STARTED*** 01-23-20 / ***COMPLETED*** 01-23-20	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Alabama West - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** MLLW
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** -40.0 Feet / ***GROUND WATER*** Underwater
NAME & TITLE OF FIELD INSPECTOR C. Long, Geotechnical Engineer	**NAME OF DRILLER** CSI	**MANUFACTURER'S DESIGNATION OF DRILL** Vibrocore	☐ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 1 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 20.0 Feet		**TOTAL RECOVERY FOR BORING** 100 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
-40.0	0.0									
			(MH) SILT, inorganic-H, high plasticity, very soft consistency, wet, dark gray, trace wood							
			At El. -43.0 Ft., soft consistency trace wood							
				100	1		Vibracore			
								At El. -46 Ft. -200= 95%, PL= 39, LL= 59, PI= 20, MC= 136%		
-50.0	10.0									

0 1 2 3 4 5 6 7 8 9 10

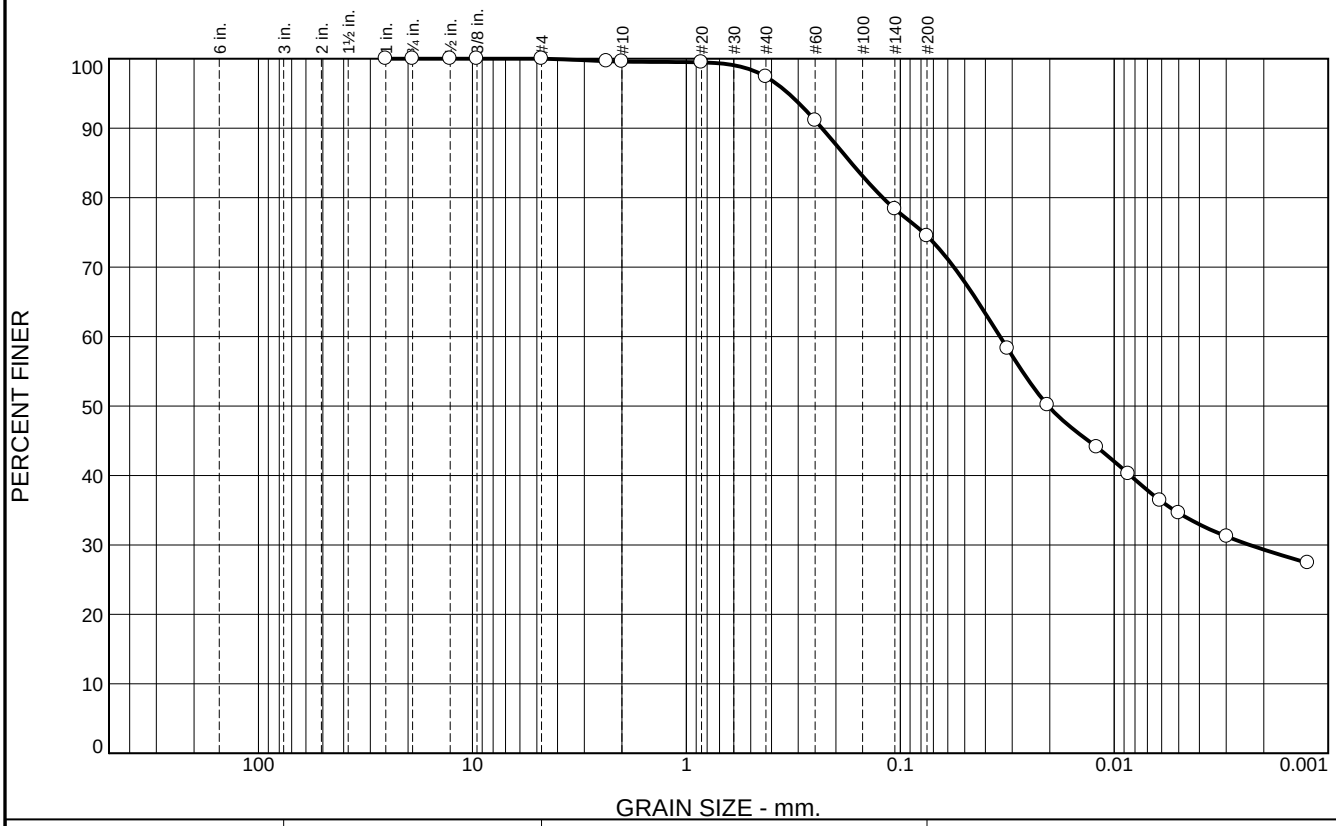
DRILLING LOG (Cont. Sheet)	INSTALLATION Mobile District		SHEET 2 OF 2 SHEETS
PROJECT	COORDINATE SYSTEM/DATUM State Plane - Alabama West - U.S. Survey Ft.	HORIZONTAL NAD83	VERTICAL MLLW
LOCATION COORDINATES X = 1,800,801 Y = 244,503	ELEVATION TOP OF BORING -40.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 1 FT.	N-VALUE
			(SP-SM) SAND, poorly-graded with silt, wet, light gray, fine to coarse grained	100	1		Vibracore	At El. -51 Ft. -200= 7%, Cu= 3.52, Cc= 1.27, MC= 27%, Gs= 2.70		
-57.0	17.0		(SP) SAND, poorly-graded, wet, light gray, fine to coarse grained					At El. -57 Ft. -200= 0%, Cu= 1.92, Cc= 1.04, MC= 22%, Gs= 2.72		
-60.0	20.0									

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	2.2	22.9	39.9	34.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.6		
#10	99.6		
#20	99.5		
#40	97.4		
#60	91.1		
#140	78.3		
#200	74.5		

* (no specification provided)

Material Description

GRAY CLAY W/ SAND

Atterberg Limits

PL= 15 LL= 28 PI= 13

Coefficients

D_{90}= 0.2326 D_{85}= 0.1695 D_{60}= 0.0342
D_{50}= 0.0203 D_{30}= 0.0023 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(7)

Remarks

MOISTURE CONTENT: 30.5%

Source of Sample: MHVBC-50-19 **Depth:** 3'-4'

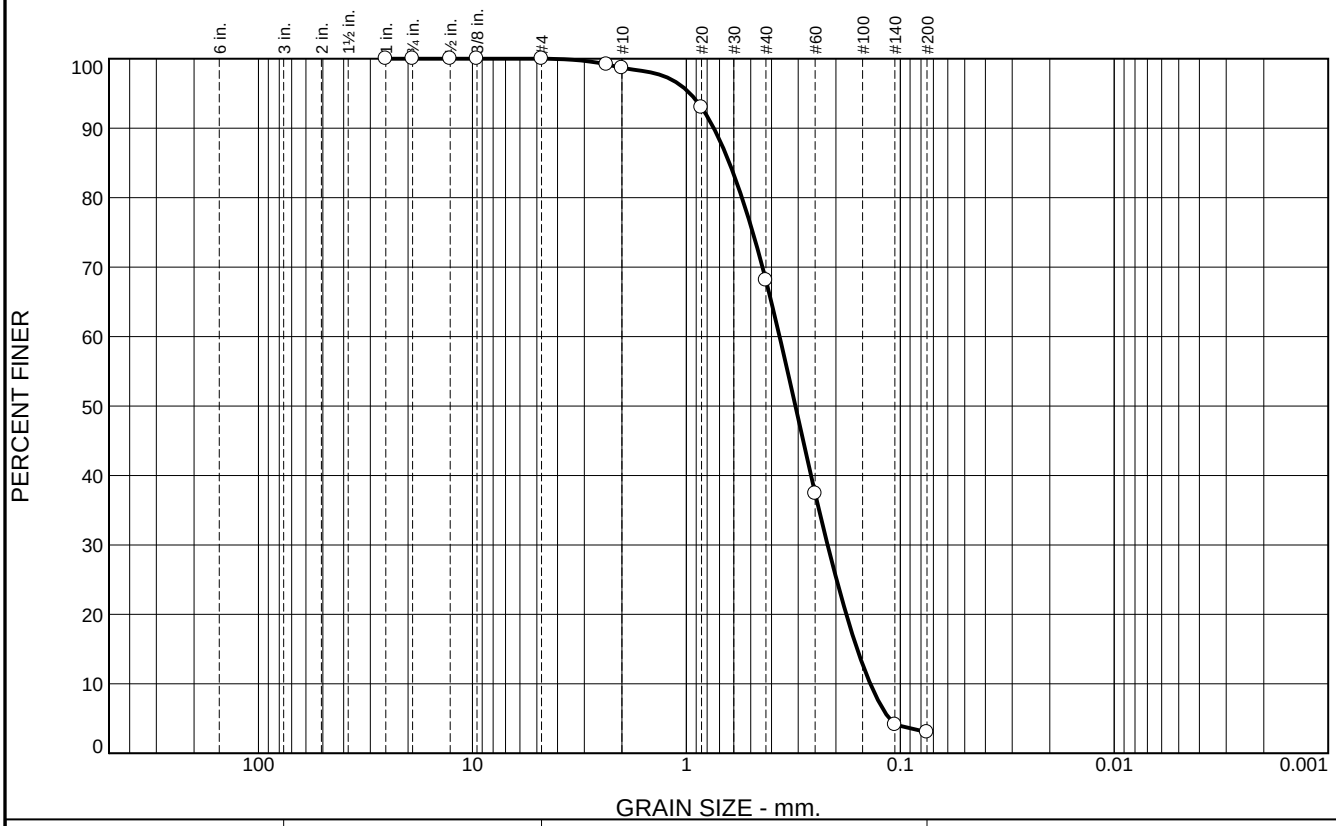
Date: 2/5/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.3	30.6	65.0	3.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.2		
#10	98.7		
#20	93.0		
#40	68.1		
#60	37.4		
#140	4.1		
#200	3.1		

* (no specification provided)

Material Description

GRAY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7445 D_{85}= 0.6293 D_{60}= 0.3666
D_{50}= 0.3093 D_{30}= 0.2188 D_{15}= 0.1590
D_{10}= 0.1381 C_u= 2.65 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 20.4%
SPECIFIC GRAVITY: 2.75

Source of Sample: MHVBC-50-19 **Depth:** 8'-9'

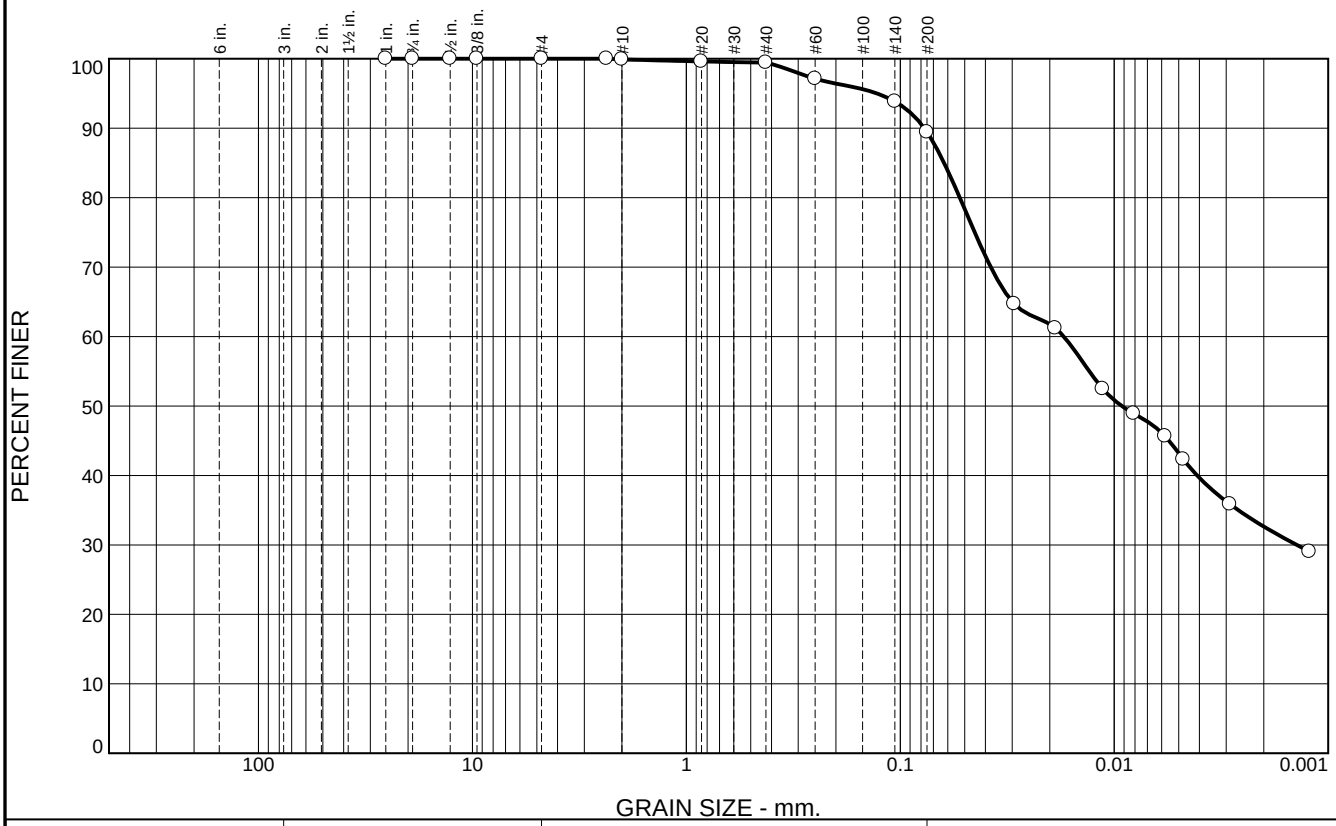
Date: 2/5/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.5	10.0	46.2	43.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	99.9		
#20	99.6		
#40	99.4		
#60	97.1		
#140	93.8		
#200	89.4		

* (no specification provided)

Material Description

BLACK SILTY SAND

Atterberg Limits

PL= 26 LL= PI=

Coefficients

D_{90}= 0.0773 D_{85}= 0.0624 D_{60}= 0.0172
D_{50}= 0.0092 D_{30}= 0.0014 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Source of Sample: MHVBC-51-19 **Depth:** 2'-3'

Date: 2/5/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report

% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	8.7	89.7	1.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.6		
#10	99.4		
#20	97.8		
#40	90.7		
#60	37.0		
#140	1.3		
#200	1.0		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= 26 LL= 48 PI= 22

Coefficients

D_{90}= 0.4208 D_{85}= 0.3947 D_{60}= 0.3098
D_{50}= 0.2833 D_{30}= 0.2311 D_{15}= 0.1844
D_{10}= 0.1649 C_u= 1.88 C_c= 1.05

Classification

USCS= SP AASHTO= A-2-7(0)

Remarks

MOISTURE CONTENT: 22.9%
SPECIFIC GRAVITY: 2.86

Source of Sample: MHVBC-51-19 **Depth:** 8'-9'

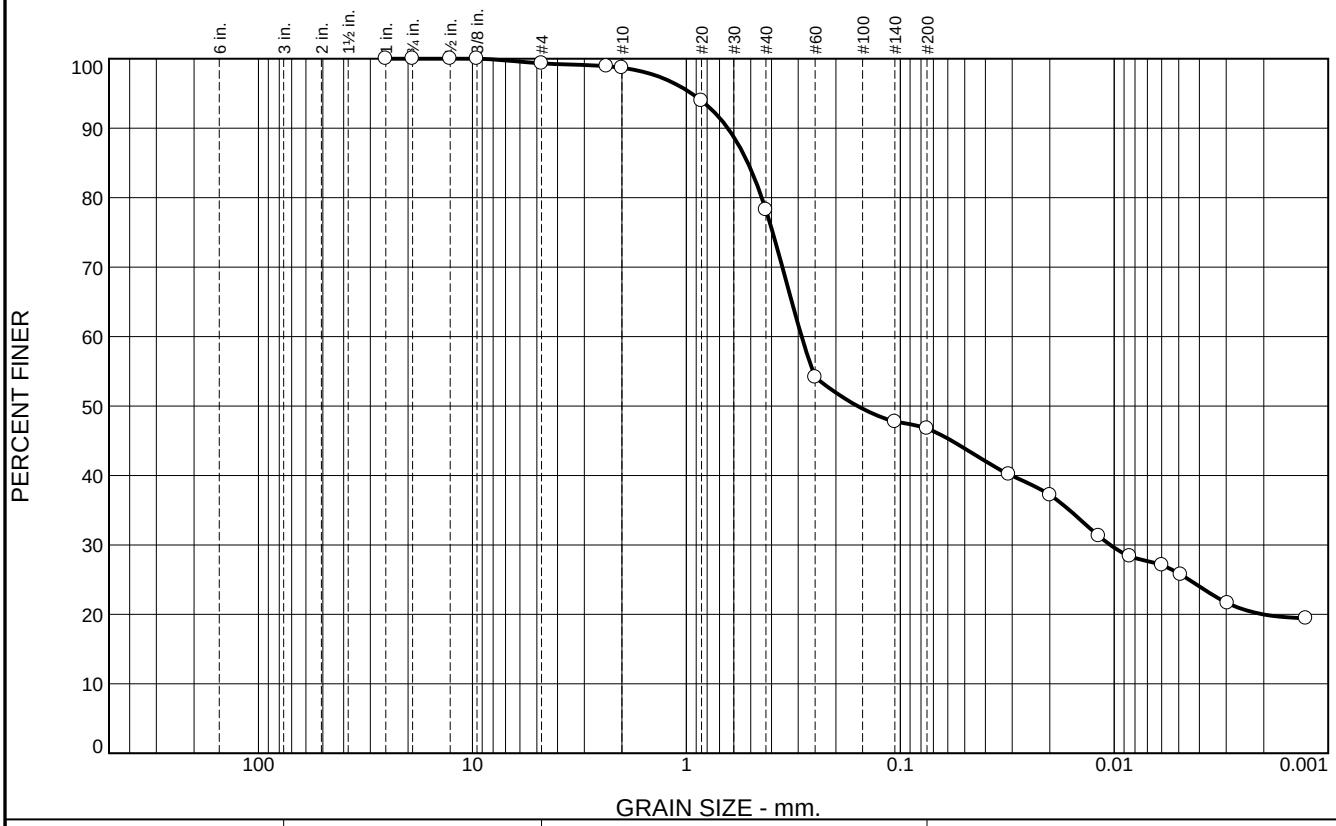
Date: 2/5/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	0.6	20.5	31.4	20.9	25.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	99.3		
#8	98.9		
#10	98.7		
#20	93.9		
#40	78.2		
#60	54.1		
#140	47.7		
#200	46.8		

* (no specification provided)

Material Description

GRAY CLAYEY SAND

Atterberg Limits

PL= 12 LL= 25 PI= 13

Coefficients

D_{90}= 0.6400 D_{85}= 0.5159 D_{60}= 0.2894
D_{50}= 0.1585 D_{30}= 0.0105 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SC AASHTO= A-6(2)

Remarks

MOISTURE CONTENT: 20.8%
ASSUMED SPEC. GRAVITY: 2.7

Source of Sample: MHVBC-52-19 **Depth:** 2'-3'

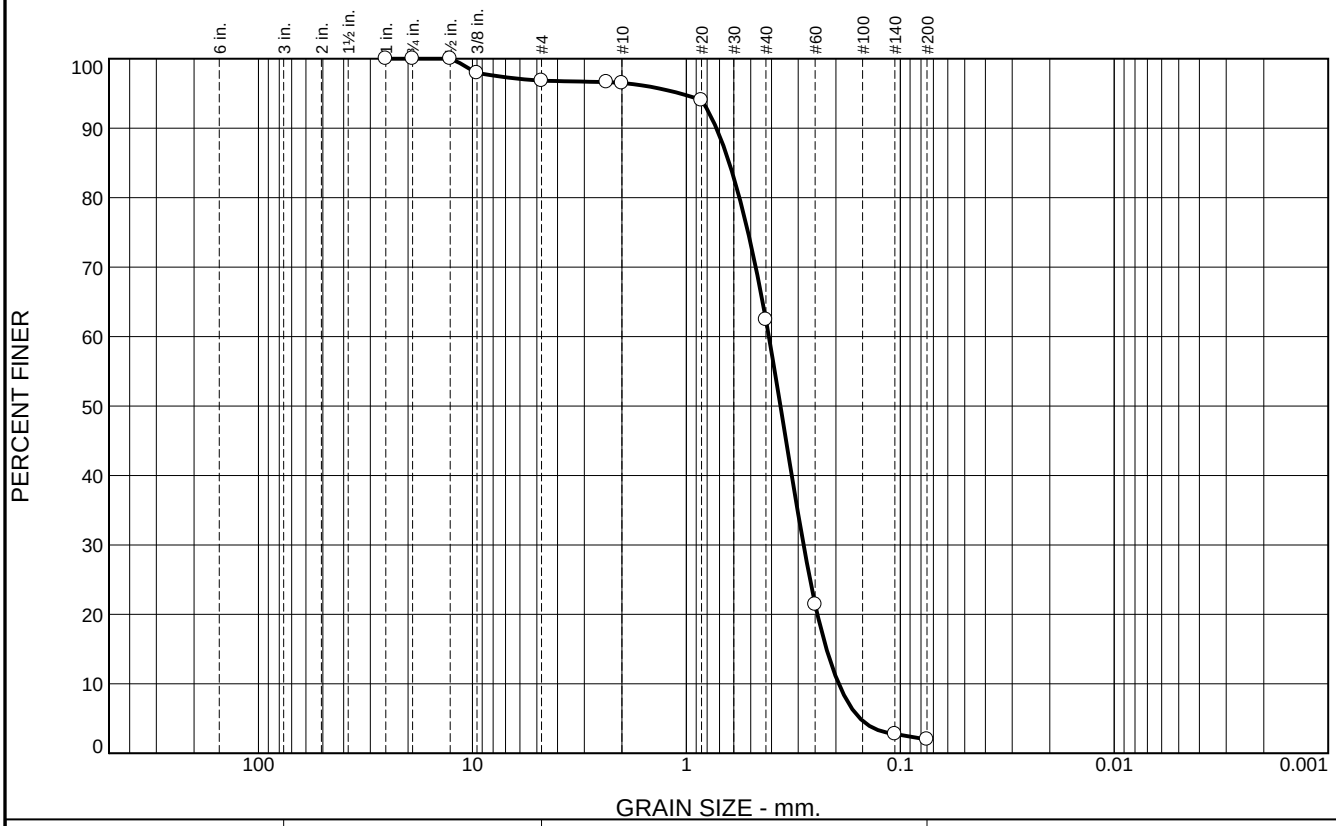
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.2	0.3	34.1	60.4	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	97.9		
#4	96.8		
#8	96.6		
#10	96.5		
#20	94.0		
#40	62.4		
#60	21.4		
#140	2.8		
#200	2.0		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7237 D_{85}= 0.6301 D_{60}= 0.4114
D_{50}= 0.3631 D_{30}= 0.2834 D_{15}= 0.2214
D_{10}= 0.1942 C_u= 2.12 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 25.5%
SPECIFIC GRAVITY: 2.74

Source of Sample: MHVBC-52-19 **Depth:** 9'-10'

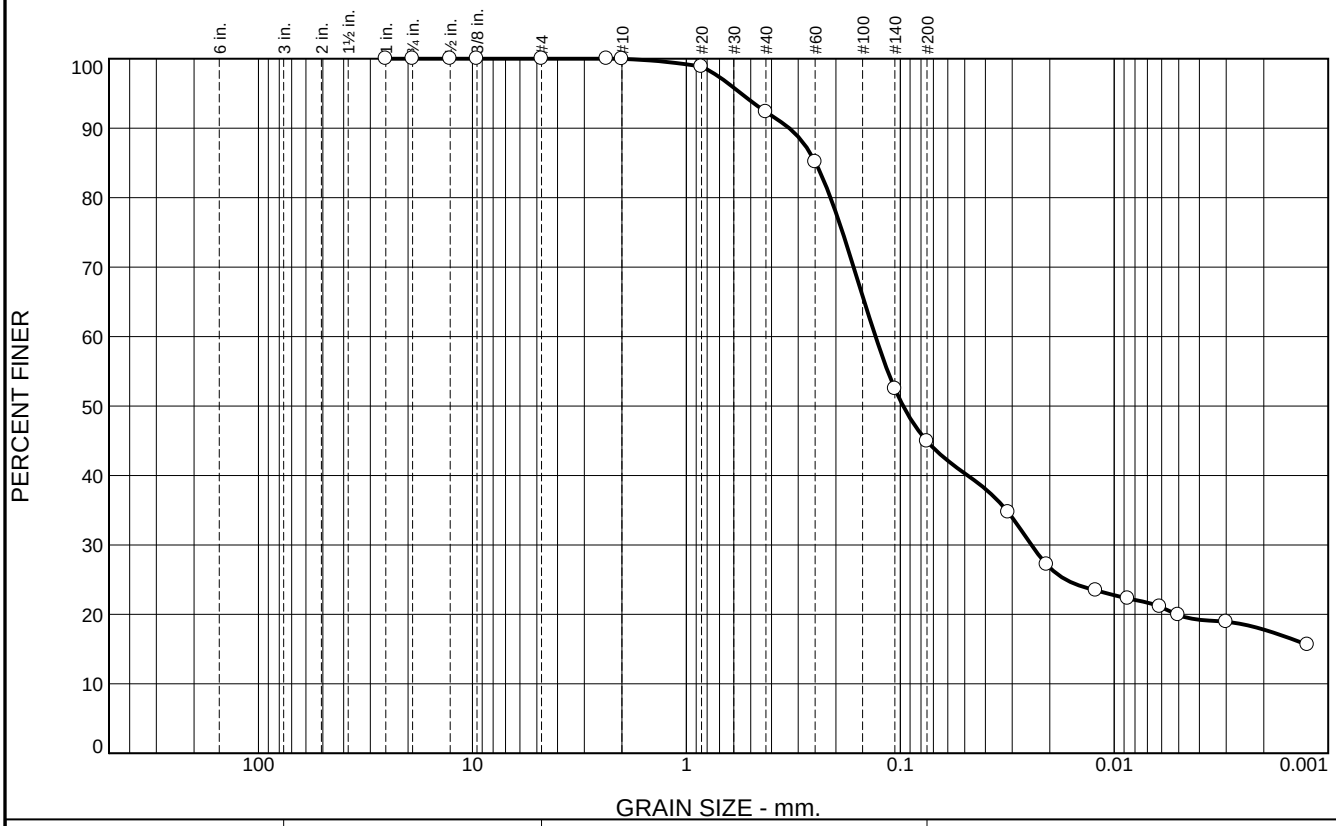
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.7	47.4	25.0	19.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#20	98.9		
#40	92.3		
#60	85.1		
#140	52.5		
#200	44.9		

* (no specification provided)

Material Description

WHITE SILTY SAND

Atterberg Limits

PL= 19 LL= 14 PI= NP

Coefficients

D_{90}= 0.3305 D_{85}= 0.2487 D_{60}= 0.1306
D_{50}= 0.0970 D_{30}= 0.0244 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

MOISTURE CONTENT: 29.1%
ASSUMED SPEC. GRAVITY: 2.7

Source of Sample: MHVBC-53-19 **Depth:** 5'-6'

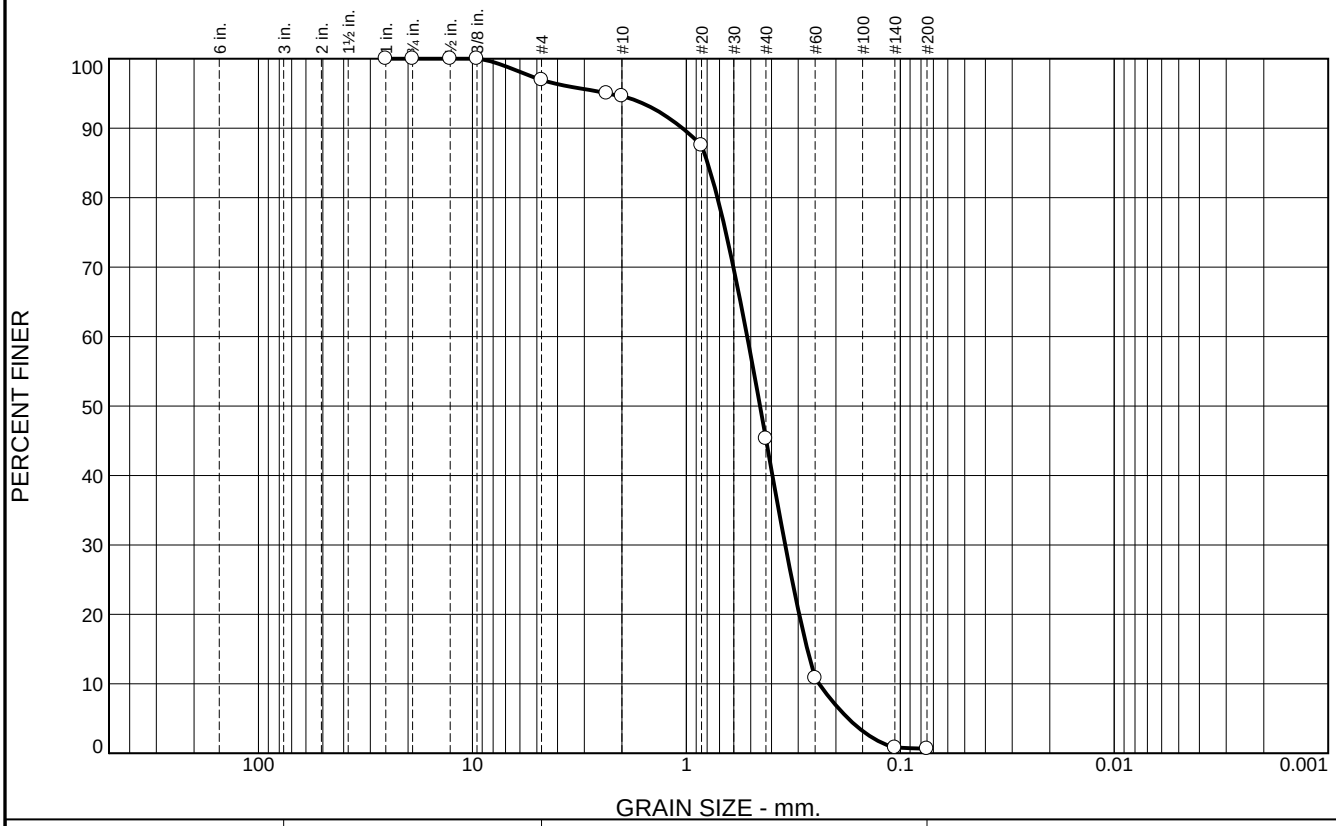
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.1	2.3	49.3	44.6	0.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	96.9		
#8	95.0		
#10	94.6		
#20	87.5		
#40	45.3		
#60	10.8		
#140	0.8		
#200	0.7		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.0436 D_{85}= 0.7960 D_{60}= 0.5196
D_{50}= 0.4527 D_{30}= 0.3452 D_{15}= 0.2723
D_{10}= 0.2395 C_u= 2.17 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 18.7%
SPECIFIC GRAVITY: 2.79

Source of Sample: MHVBC-53-19 **Depth:** 11'-12'

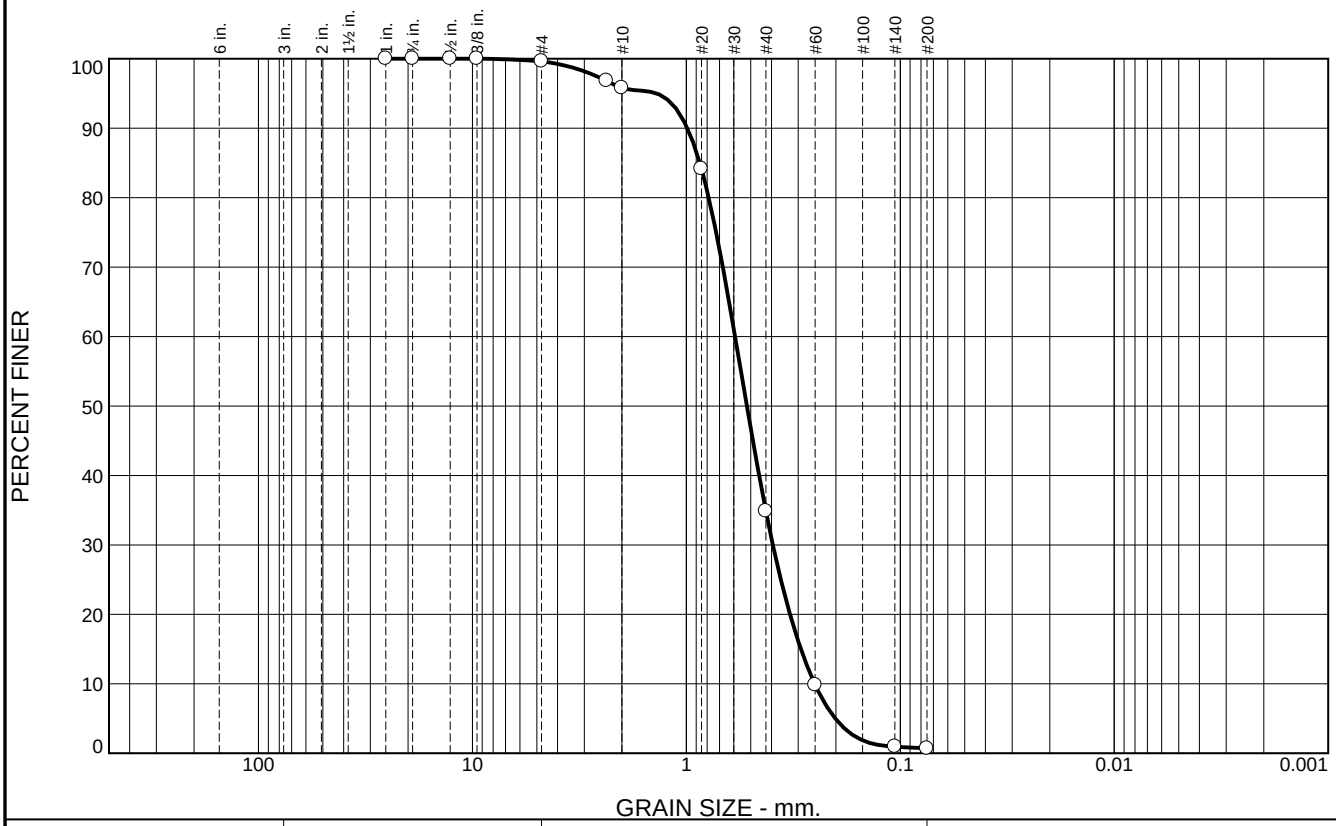
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	3.8	60.9	34.2	0.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	99.6		
#8	96.8		
#10	95.8		
#20	84.2		
#40	34.9		
#60	9.8		
#140	1.0		
#200	0.7		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9895 D_{85}= 0.8654 D_{60}= 0.5919
D_{50}= 0.5212 D_{30}= 0.3942 D_{15}= 0.2917
D_{10}= 0.2515 C_u= 2.35 C_c= 1.04

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 20.1%
SPECIFIC GRAVITY: 2.77

Source of Sample: MHVBC-54-19 **Depth:** 11'-12'

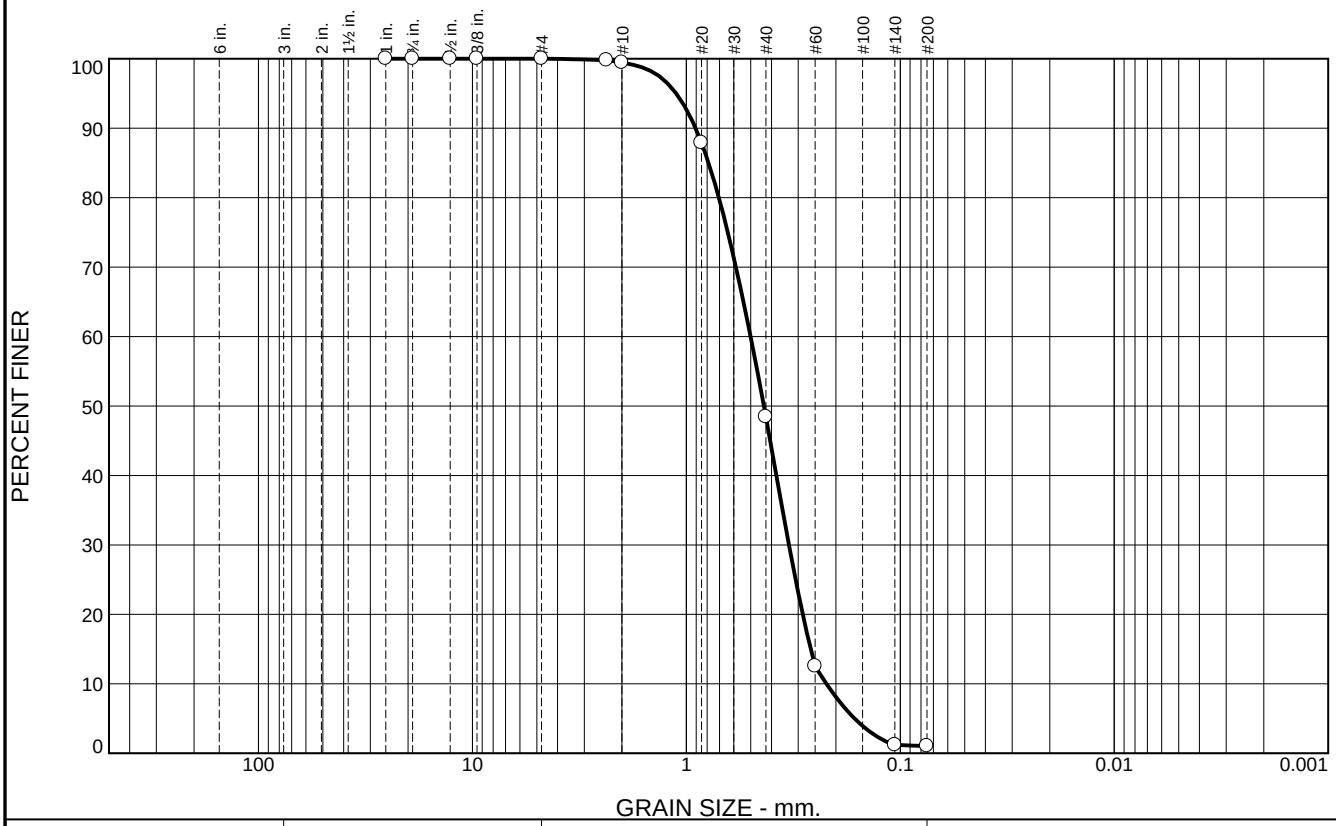
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	51.0	47.4	1.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.8		
#10	99.4		
#20	87.9		
#40	48.4		
#60	12.5		
#140	1.2		
#200	1.0		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9057 D_{85}= 0.7880 D_{60}= 0.5010
D_{50}= 0.4342 D_{30}= 0.3315 D_{15}= 0.2624
D_{10}= 0.2215 C_u= 2.26 C_c= 0.99

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 21.3%
SPECIFIC GRAVITY: 2.78

Source of Sample: MHVBC-55-19 **Depth:** 3'-4'

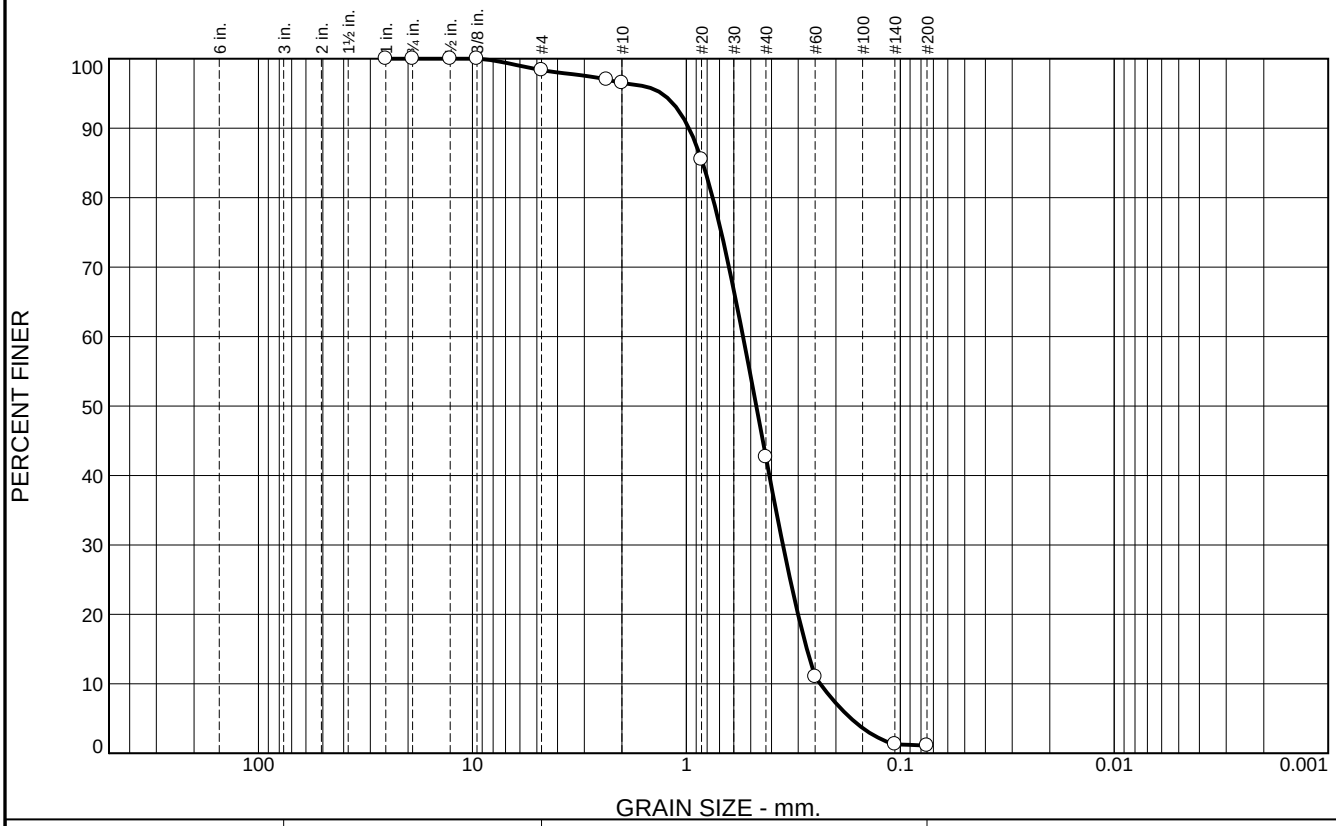
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.6	1.9	53.9	41.5	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	98.4		
#8	97.0		
#10	96.5		
#20	85.5		
#40	42.6		
#60	11.0		
#140	1.3		
#200	1.1		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9725 D_{85}= 0.8393 D_{60}= 0.5432
D_{50}= 0.4712 D_{30}= 0.3537 D_{15}= 0.2734
D_{10}= 0.2367 C_u= 2.30 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 22.4%
SPECIFIC GRAVITY: 2.77

Source of Sample: MHVBC-55-19 **Depth:** 8'-9'

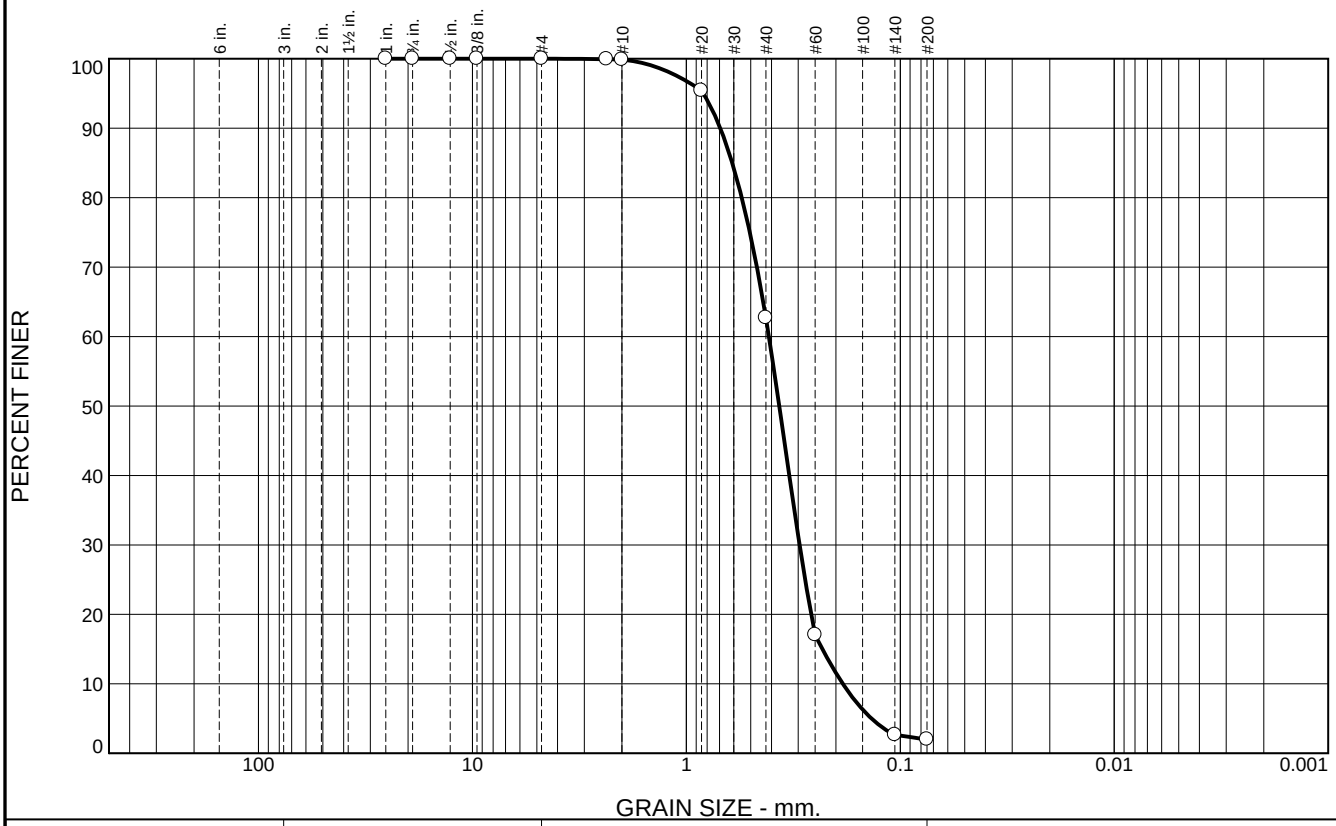
Date: 3/4/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	37.2	60.7	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.9		
#10	99.9		
#20	95.4		
#40	62.7		
#60	17.0		
#140	2.7		
#200	2.0		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6942 D_{85}= 0.6102 D_{60}= 0.4114
D_{50}= 0.3677 D_{30}= 0.2958 D_{15}= 0.2313
D_{10}= 0.1856 C_u= 2.22 C_c= 1.15

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 20.6%
SPECIFIC GRAVITY: 2.72

Source of Sample: MHVBC-56-19 **Depth:** 4'-5'

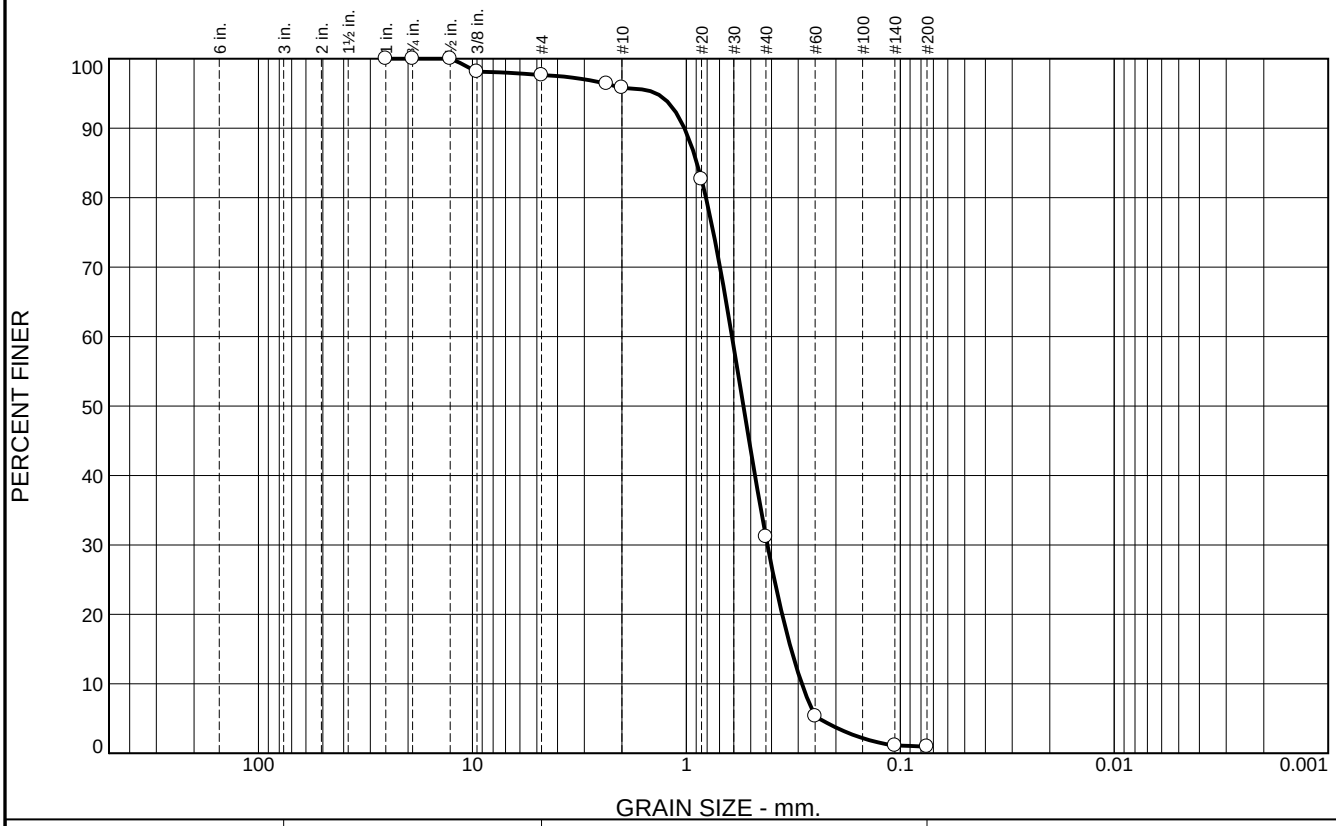
Date: 2/17/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.4	1.8	64.6	30.2	1.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	98.1		
#4	97.6		
#8	96.4		
#10	95.8		
#20	82.7		
#40	31.2		
#60	5.3		
#140	1.1		
#200	1.0		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.0211 D_{85}= 0.8922 D_{60}= 0.6118
D_{50}= 0.5411 D_{30}= 0.4180 D_{15}= 0.3240
D_{10}= 0.2887 C_u= 2.12 C_c= 0.99

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 19.3%
SPECIFIC GRAVITY: 2.75

Source of Sample: MHVBC-56-19 **Depth:** 11'-12'

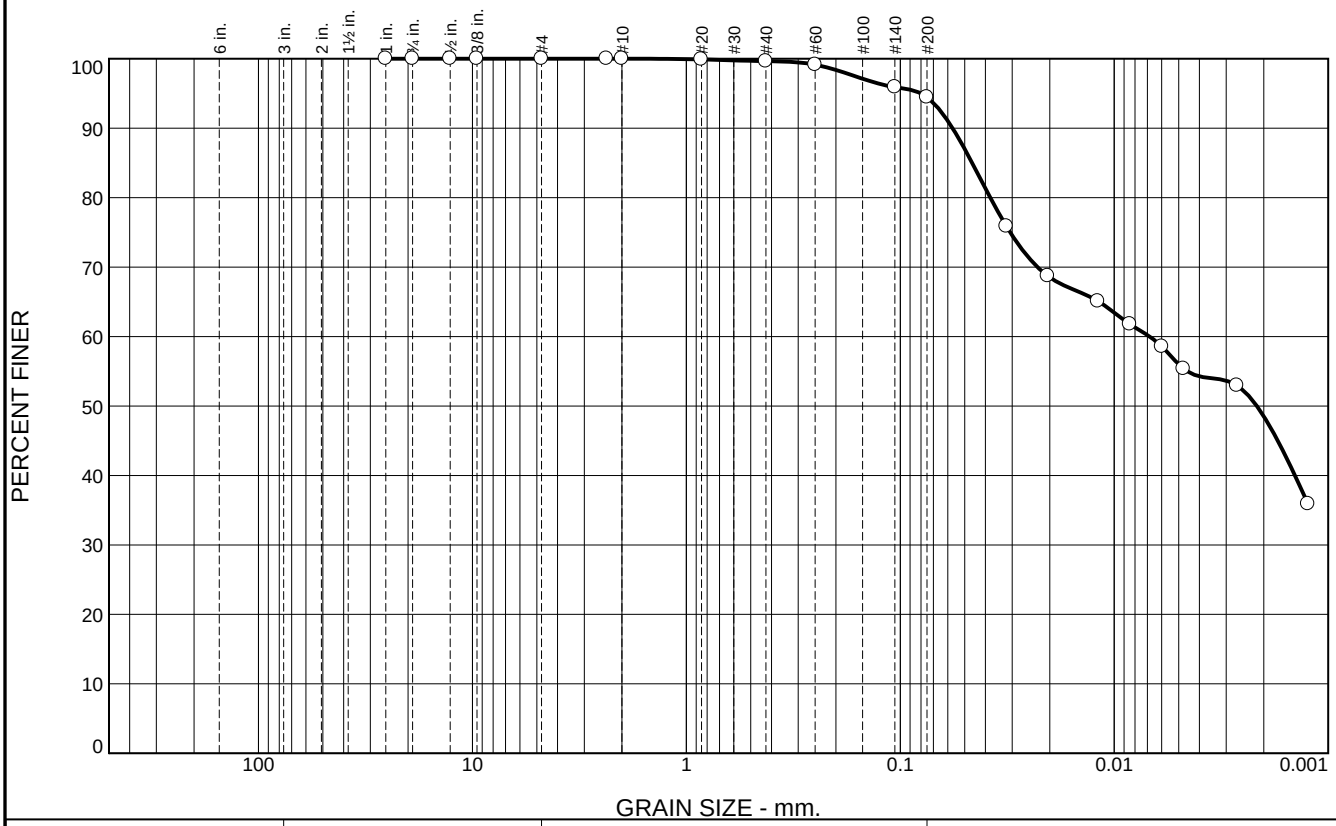
Date: 2/17/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.4	5.1	38.5	56.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#20	99.9		
#40	99.6		
#60	99.1		
#140	95.9		
#200	94.5		

* (no specification provided)

Material Description

BROWN SILT

Atterberg Limits

PL= 39 LL= 59 PI= 20

Coefficients

D_{90}= 0.0570 D_{85}= 0.0462 D_{60}= 0.0068
D_{50}= 0.0022 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= MH AASHTO= A-7-5(25)

Remarks

MOISTURE CONTENT: 135.5%
ASSUMED SPEC. GRAVITY: 2.7

Source of Sample: MHVBC-57-19 **Depth:** 6'-7'

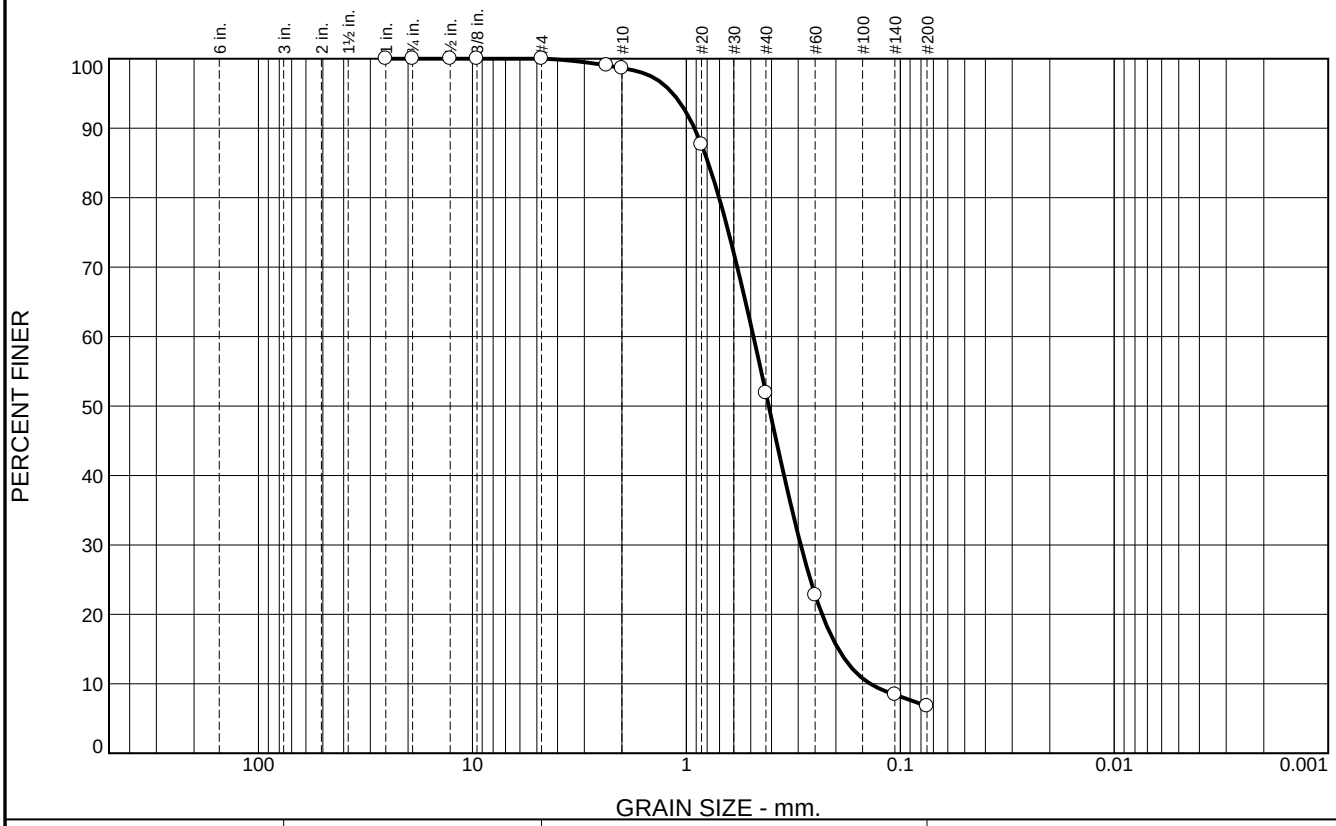
Date: 2/17/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.4	46.7	45.1	6.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.0		
#10	98.6		
#20	87.6		
#40	51.9		
#60	22.8		
#140	8.4		
#200	6.8		

* (no specification provided)

Material Description

BLACK & TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9167 D_{85}= 0.7906 D_{60}= 0.4858
D_{50}= 0.4121 D_{30}= 0.2921 D_{15}= 0.1948
D_{10}= 0.1380 C_u= 3.52 C_c= 1.27

Classification

USCS= AASHTO=

Remarks

MOISTURE CONTENT: 26.7%
SPECIFIC GRAVITY: 2.70

Source of Sample: MHVBC-57-19 **Depth:** 11'-12'

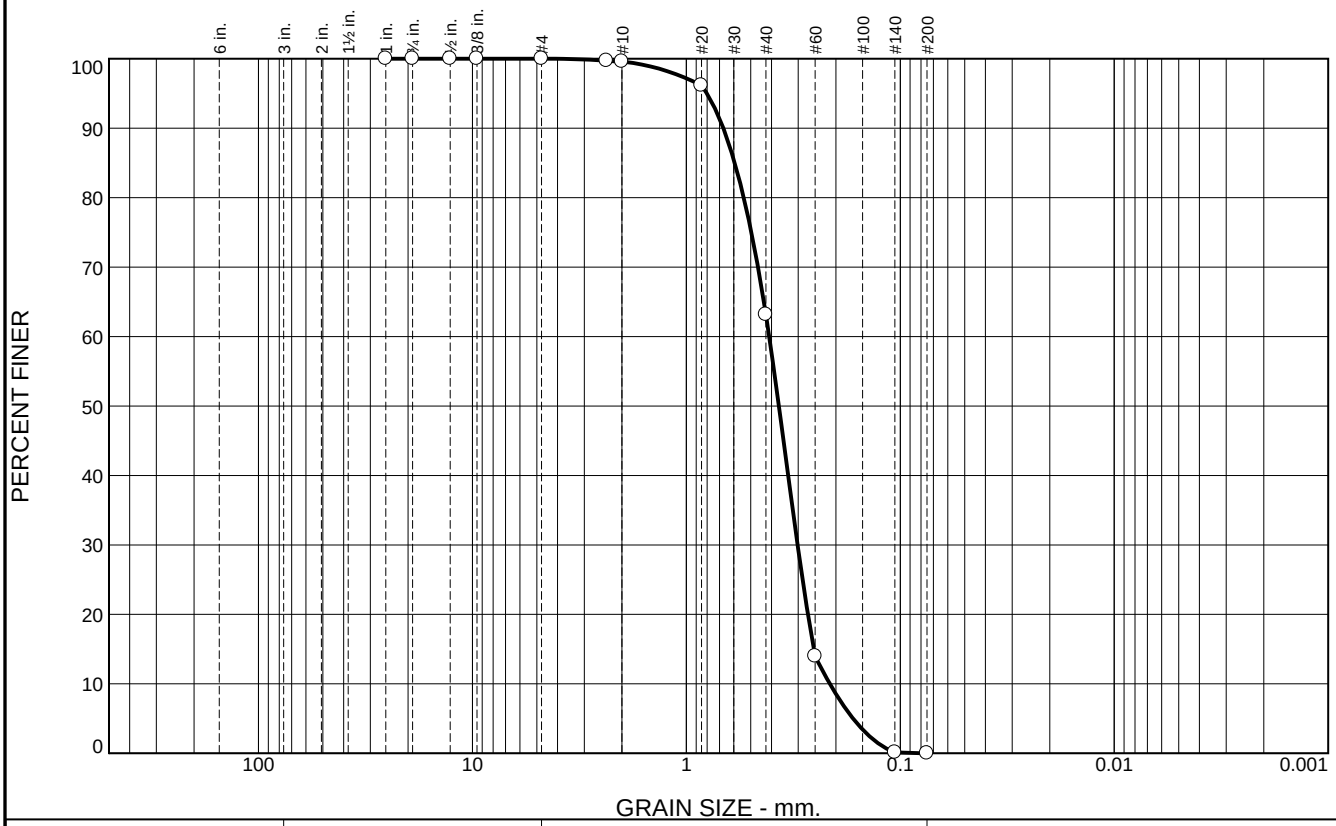
Date: 2/17/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	36.4	63.2	0.0	0.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.7		
#10	99.6		
#20	96.2		
#40	63.2		
#60	14.0		
#140	0.1		
#200	0.0		

* (no specification provided)

Material Description

TAN SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6719 D_{85}= 0.5940 D_{60}= 0.4100
D_{50}= 0.3693 D_{30}= 0.3022 D_{15}= 0.2536
D_{10}= 0.2136 C_u= 1.92 C_c= 1.04

Classification

USCS= SP AASHTO=

Remarks

MOISTURE CONTENT: 22.3%
SPECIFIC GRAVITY: 2.72

Source of Sample: MHVBC-57-19 **Depth:** 17'-18'

Date: 2/17/2020

SOUTHERN EARTH SCIENCES
Mobile, Alabama

Client: ARCHWAY SOLUTIONS
Project: USACOE - MOBILE HARBOR W91278-19-D-0045

Project No: M20-069 **Figure**

X-D301-06 Borings

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. 1-D301-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 243377' E 1801780'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	1-D301-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	34.5'
10. SIZE AND TYPE OF BIT	STD SPT / 140 LB HAMMER
11. ELEVATION DATUM	MLLW. FEET
COORDINATE DATUM	ALW STATE PLANE. NAD83. FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 11 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 30 SEP 2006 / COMPLETED 30 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -25.5'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER — DRAFTED BEM / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-25.5	0.0					MARINE BORING	WR
						BOH: 34.5'	
					JAR-1	WATER DEPTH: 25.8' TIDE: +1.35' START TIME: 1143 FINISH TIME: 1325 COORDINATES BY GPS	WR
	3.0						
							WR
					JAR-2		WR
	6.0						
			SOFT SILTY MATERIAL (ML). DK. GRAY				WR
					JAR-3	JAR-3 d.7.5 - 9.0 CLAY (CL) W/ TRACE OF SAND. GRAY	WR
	9.0						
							WR
					JAR-4		WR
	12.0						
							WR
					JAR-5		WR
	15.0						
			SOFT SILTY MATERIAL (ML). GRAY & DK. GRAY				WR
					JAR-6		WR
	18.0						
			SOFT SILTY MATERIAL (ML). DK. GRAY				WR
			SOFT SILTY MATERIAL (ML) W/ LITTLE FINE GRAIN SAND. DK. GRAY				
-46.0	20.5		FAT CLAY (CH) W/ LITTLE FINE GRAIN SAND. GRAY		JAR-7		3
-46.5	21.0						

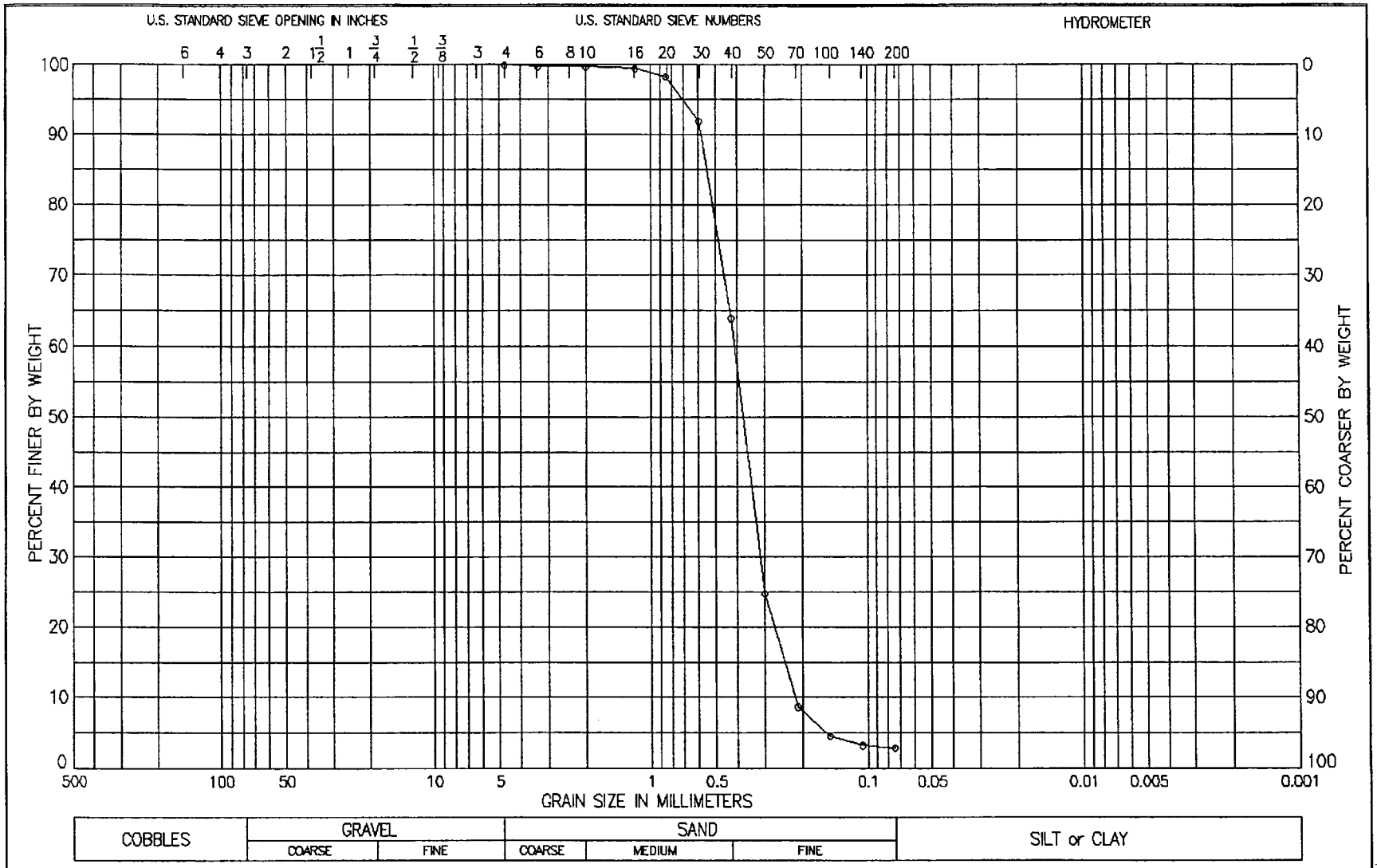
ENG FORM 1836 (Facsimile)

PROJECT MOBILE HARBOR TURNING BASIN MOBILE HARBOR

HOLE NO. 1-D301-06

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -25.5'	Hole No. 1-D301-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-46.5	21.0						
-47.5	22.0		CLAYEY FINE GRAIN SAND (SC), LT. BROWN		JAR-8		11
-49.5	24.0		POORLY GRADED FINE GRAIN SAND (SP), YELLOWISH BROWN POORLY GRADED FINE GRAIN SAND (SP), LT. BROWN & LT. YELLOW		JAR-9	JAR-9 d.22.5 - 24.0, FINES=2.9%, D50=0.38mm MA SAND (SP), GRAY	12
-53.5	27.0 28.0		NO SAMPLE				
-55.0	29.5		POORLY GRADED FINE GRAIN SAND (SP), LT. YELLOW		JAR-10		28
-58.5	30.0 33.0		NO SAMPLE				
-60.0	34.5		POORLY GRADED FINE GRAIN SAND (SP), LT. GRAY		JAR-11	B.O.H.	12



LL	PL	PI	GS	NAT W,%	ORG,%

CLASSIFICATION
SAND (SP), GRAY

GRADATION CURVE | LABORATORY USA ERDC – STF/GSL

PROJECT MOBILE HARBOR TURNING BASIN

BORING NO. 1–D301–06 SAMPLE NO. 9

DEPTH/ELEV 22.5–24.0 DATE 31 OCT 06

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. 13-D301-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 242405' E 1801858'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	13-D301-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	37.5'
10. SIZE AND TYPE OF BIT	STD SPT / 140 LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 11 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 25 SEP 2006 / COMPLETED 25 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -22.5'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER — DRAFTED BEM / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-22.5	0.0						
			SOFT SILTY MATERIAL (ML) W/ LITTLE FINE GRAIN SAND, GRAY		JAR-1	MARINE BORING BOH: 37.5' WATER DEPTH: 23.6' TIDE: +1.1' START TIME: 1410 FINISH TIME: 1645 COORDINATES BY GPS	WR
	3.0						WR
-27.0	4.5						WR
			SOFT CLAYEY FINE GRAIN SAND (SC), GRAY		JAR-2	JAR-2 d.4.5 - 6.0, FINES=29.5%, D50=0.083mm +/-200 SILTY SAND (SM), GRAY	WR
	6.0						WR
-30.0	7.5						
			FINE GRAIN SANDY CLAY (CL), GRAY		JAR-3	JAR-3 d.7.5 - 9.0, L.C.=SM, FINES=18.3%, D50=0.086mm +/-200	4
-31.5	9.0						
			SILTY FINE GRAIN SAND (SM) W/ LITTLE CLAY, GRAY		JAR-4	JAR-4 d.9.0 - 10.5, FINES=7.4%, D50=0.088mm +/-200 SILTY SAND (SP-SM), GRAY	4
	12.0						4
					JAR-5		8
	15.0						30
					JAR-6		34
-40.5	18.0		SILTY FINE GRAIN SAND (SM) W/ LITTLE CLAY, LT. GRAY		JAR-7	JAR-7 d.16.5 - 18.0, L.C.=SP-SM, FINES=8.3%, D50=0.088mm +/-200	5
-43.5	21.0		NO SAMPLE			NOTE: BEGAN ALTERNATE SAMPLING AFTER 18.0'.	

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -22.5'	Hole No. 13-D301-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-43.5	21.0						
-45.0	22.5		POORLY GRADE FINE GRAIN SAND (SP) W/ TRACE OF CLAY, LT. GRAY		JAR-8	JAR-8 d.21.0 - 22.5 SILTY SAND (SM), GRAY	8
-48.5	24.0 26.0		NO SAMPLE				
-50.0	27.5		POORLY GRADE FINE GRAIN SAND (SP), LT. BROWN & WHITE		JAR-9		19
-53.5	30.0 31.0		NO SAMPLE				
-55.0	32.5		POORLY GRADE FINE GRAIN SAND (SP), LT. BROWN & WHITE		JAR-10		29
-58.5	33.0 36.0		NO SAMPLE				
-60.0	37.5		POORLY GRADE FINE-MED. GRAIN SAND (SP), LT. BROWN & WHITE		JAR-11	B.O.H.	22

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. 28-D301-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 241612' E 1801836'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	28-D301-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	33.0'
10. SIZE AND TYPE OF BIT	STD SPT / 140 LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 14 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 9 SEP 2006 / COMPLETED 9 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -28.3'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER — DRAFTED JCB / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-28.3	0.0						
					J-1	MARINE BORING	WR
			LOOSE FINE GRAIN SAND(SM) W/ SOME SILT, GRAY		J-2	BOH: 33.0' WATER DEPTH: 29.1' TIDE: +0.84' START TIME: 0850 FINISH TIME: 1210 COORDINATES BY GPS	WR
	3.0						
-32.8	4.5				J-3	J-3 d.3.0 - 4.5 SILTY SAND (SM), GRAY	WR
-34.3	6.0		SILTY CLAY (CL) W/ SOME DECAYED WOODY MATERIAL, LITTLE FINE GRAIN SAND, GRAY & DK. GRAY		J-4	J-4 d.4.5 - 6.0 SILTY SAND (SM), GRAY	9
			MED. STIFF FAT CLAY (CH) W/ LITTLE SILT, LT. GRAY		J-5	J-5 d.6.0 - 7.5 SILTY SAND (SM), GRAY	4
			STIFF FAT CLAY (CH) W/ LITTLE SILT & FINE GRAIN SAND, LT. GRAY		J-6		9
-37.3	9.0						
-37.8	9.5		MED. PLASTIC SILTY CLAY (CL), LT. GRAY				
			POORLY GRADED FINE GRAIN SAND (SP) W/ TRACE OF CLAY, LT. BROWN		J-7		19
			POORLY GRADED FINE GRAIN SAND (SP) W/ TRACE OF CLAY, LT. GRAY		J-8		15
-40.3	12.0						
-41.8	13.5		NO SAMPLE				
			POORLY GRADED FINE GRAIN SAND (SP), LT. GRAY		J-9	NOTE: BEGAN 3' CENTERS	42
-43.3	15.0						
-44.8	16.5		NO SAMPLE				
			POORLY GRADED FINE GRAIN SAND (SP), LT. GRAY		J-10		33
-46.3	18.0						
-47.8	19.5		NO SAMPLE				
			POORLY GRADED FINE GRAIN SAND (SP), LT. GRAY				29
-49.3	21.0						

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -28.3'	Hole No. 28-D301-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-49.3	21.0						
-50.8	22.5		NO SAMPLE				
-52.3	24.0		POORLY GRADED FINE - MED. GRAIN SAND (SP). LT. GRAY		J-11		19
-53.8	25.5		NO SAMPLE				
-55.3	27.0		POORLY GRADED FINE - MED. GRAIN SAND (SP). LT. GRAY		J-12		11
-56.8	28.5		NO SAMPLE				
-58.3	30.0		POORLY GRADED FINE - MED. GRAIN SAND (SP) W/ TRACE OF COARSE GRAIN SAND. LT. BROWN		J-13		15
-59.8	31.5		NO SAMPLE				
-61.3	33.0		POORLY GRADED FINE - MED. GRAIN SAND (SP) W/ TRACE OF COARSE GRAIN SAND. LT. BROWN		J-14	B.O.H.	18

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. 29-D301-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 241275' E 1801878'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	29-D301-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	36.0'
10. SIZE AND TYPE OF BIT	STD SPT / 140 LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 17 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 8 SEP 2006 / COMPLETED 8 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -25.2'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	D YOUNG — DRAFTED JCB / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-25.2	0.0						
-26.7	1.5		SILTY SAND, MOST FINE SAND & SILT (SM), TRACE ORGANICS, VERY LOOSE, VERY DARK GRAY, 5/Y-3/1		JAR-1	MARINE BORING	WH
	3.0		POORLY GRADED FINE GRAIN SAND (SP) W/ LITTLE SILT, TRACE ORGANICS & SHELL FRAG., VERY LOOSE, VERY DARK GRAY		JAR-2	BOH: 36.0' WATER DEPTH: 25.5' TIDE: +0.3 START TIME: 1035 FINISH TIME: 1635 COORDINATES BY GPS	WR
			POORLY GRADED FINE GRAIN SAND (SP) W/ LITTLE SILT, TRACE ORGANICS, LOOSE, VERY DARK GRAY		JAR-3		7
	6.0		POORLY GRADED FINE GRAIN SAND (SP) W/ LITTLE SILT, TRACE ORGANICS, VERY LOOSE, VERY DARK GRAY		JAR-4		4
-32.7	7.5				JAR-5	JAR-5 d.6.0 - 7.5 CLAY (CH), GRAY	3
-34.2	9.0		HIGH PLASTICITY SILT (MH) W/ TRACE FINE SAND, MOIST, VERY DARK GRAY & BLACK, 5/Y-2.5/1		JAR-6	JAR-6 d.7.5 - 9.0, FINES=40.9%, D50=0.079mm +/-200 CLAYEY SAND (SC) W/ TRACE OF WOOD, GRAY	6
-35.7	10.5		PEAT (PT) W/ WOOD FRAG. & SILT, MOIST, VERY DARK GRAY & BLACK		JAR-7		3
	12.0		HIGH PLASTICITY (MH) W/ TRACE ORGANICS, MOIST, DARK GRAY, 5/Y-4/1		JAR-8		2
					JAR-9		2
	15.0				JAR-10	JAR-10 d.13.5 - 15.0, FINES=98.8% +/-200 CLAY (CH), GRAY LOI=1.8%	5
					JAR-11	NOTE: SAMPLE FALLS APART IN WATER.	5
	18.0				JAR-12		4
-44.7	19.5						3
-46.2	21.0		SILTY FINE GRAIN SAND (SM) W/ TRACE ORGANICS, WET, LOOSE, GRAY		JAR-13	JAR-13 d.19.5 - 21.0 CLAYEY SAND (SC), GRAY	6

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -25.2'	Hole No. 29-D301-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-46.2	21.0						
			POORLY GRADED FINE GRAIN SAND (SP) W/ TRACE SILT, MOIST, MED. DENSE, GRAY, 5/Y-6/1		JAR-14		19
					JAR-15		21
	24.0						27
			POORLY GRADED FINE GRAIN SAND (SP) W/ TRACE ORGANICS, WET, MED. DENSE, OLIVE YELLOW, 5/Y-6/1				26
	27.0						27
					JAR-16		19
	30.0						18
			POORLY GRADED COARSE GRAIN SAND (SP), WET, MED. DENSE, OLIVE YELLOW, 5/Y-6/4				17
	33.0						10
					JAR-17		15
-61.2	36.0					B.O.H.	

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. 30-D301-06

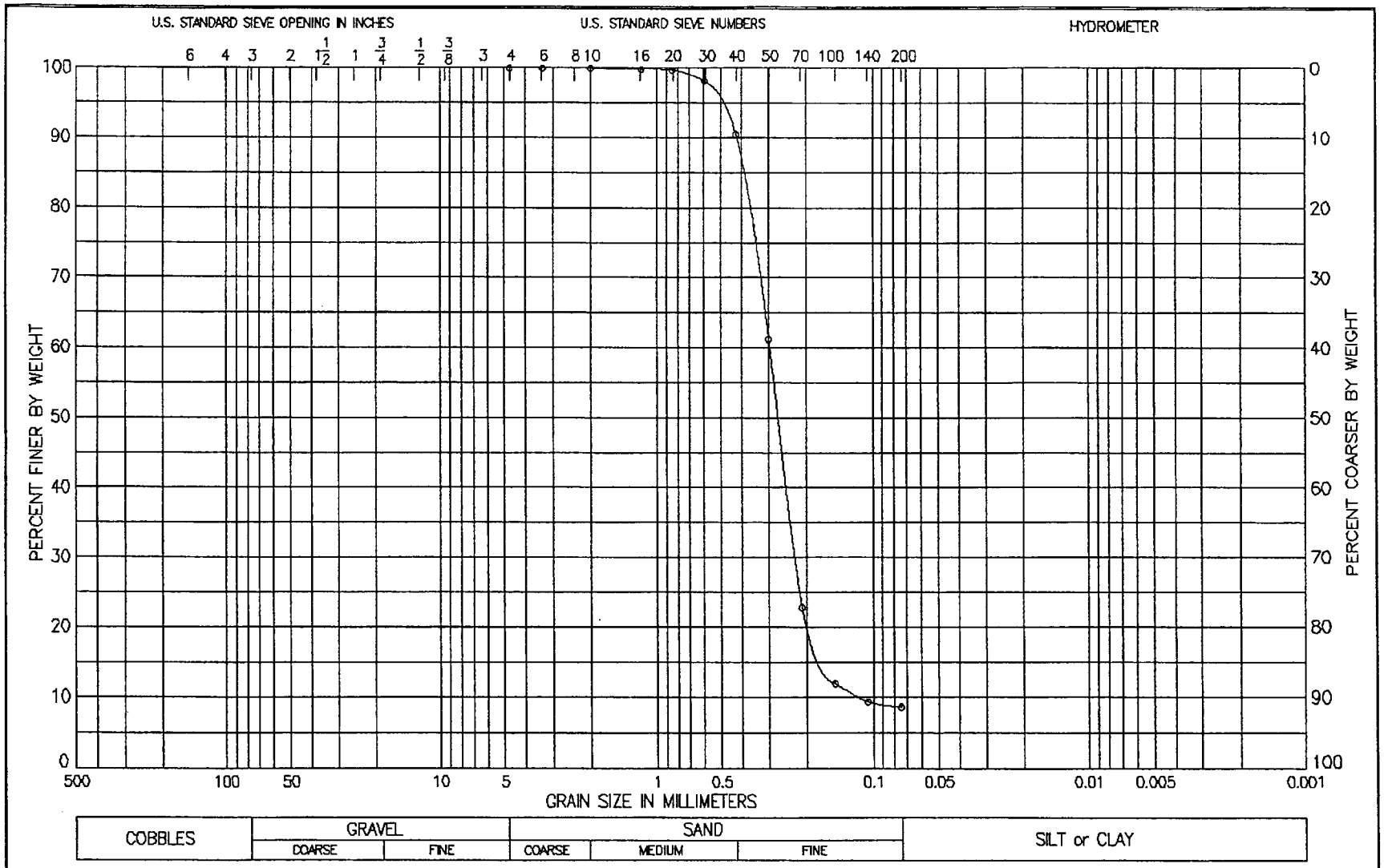
DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 240113' E 1801756'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	30-D301-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	36.0'
10. SIZE AND TYPE OF BIT	STD SPT / 140 LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 12 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 5 OCT 2006 / COMPLETED 5 OCT 2006
17. ELEVATION TOP OF HOLE	EL. -25.3'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	TS COOPER — DRAFTED BEM / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-25.3	0.0						
						MARINE BORING	WR
					JAR-1	BOH: 36.5' WATER DEPTH: 25.3' TIDE: +0.6' START TIME: 0803 FINISH TIME: 1045 COORDINATES BY GPS	WR
	3.0						
							WR
					JAR-2	JAR-2 d.4.5 - 6.0. FINES=8.7%. D50=0.27mm MA SILTY SAND (SP-SM). GRAY	WR
	6.0		LOOSE SILTY FINE GRAIN SAND (SM). GRAY			NOTE: POLY SAL @ 6.0'.	
							WH
					JAR-3		WH
	9.0						
							WR
					JAR-4		WR
-37.3	12.0						
							WH
			SOFT SILTY MATERIAL (MH) W/ TRACE OF FINE GRAIN SAND. DK. GRAY		JAR-5		WH
	15.0						
							WR
			SOFT SILTY MATERIAL (MH) W/ SAND LENSES. DK. GRAY		JAR-6	JAR-6 d.16.5 - 18.0. FINES=77.3% +/-200 SANDY CLAY (CL). GRAY	5
	18.0						
			SOFT SILTY MATERIAL (MH). DK. GRAY				WR
			SOFT SILTY MATERIAL (MH) W/ SAND LENSES. DK. GRAY		JAR-7		1
-46.3	21.0						

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -25.3'	Hole No. 30-D301-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-46.3	21.0						
			SOFT SILTY MATERIAL (MH) W/ TRACE OF SAND, DK. GRAY				WR
			SOFT SILTY MATERIAL (MH) W/ SAND LENSES, DK. GRAY		JAR-8		WR
	24.0						
							WR
			SOFT SILTY MATERIAL (MH), DK. GRAY		JAR-9		WR
	27.0						
							WR
-54.3	29.0						
-55.3	30.0		SILTY FINE GRAIN SAND (SM), GRAY		JAR-10		3
			POORLY GRADED MED. GRAIN SAND (SP), LT. YELLOW		JAR-11		4
							2
-58.3	33.0						
			NO SAMPLE				
-59.8	34.5						
			POORLY GRADED FINE-MED. GRAIN SAND (SP), LT. YELLOW		JAR-12		30
-61.3	36.0					B.O.H.	



LL	PL	PI	GS	NAT W,%	ORG,%

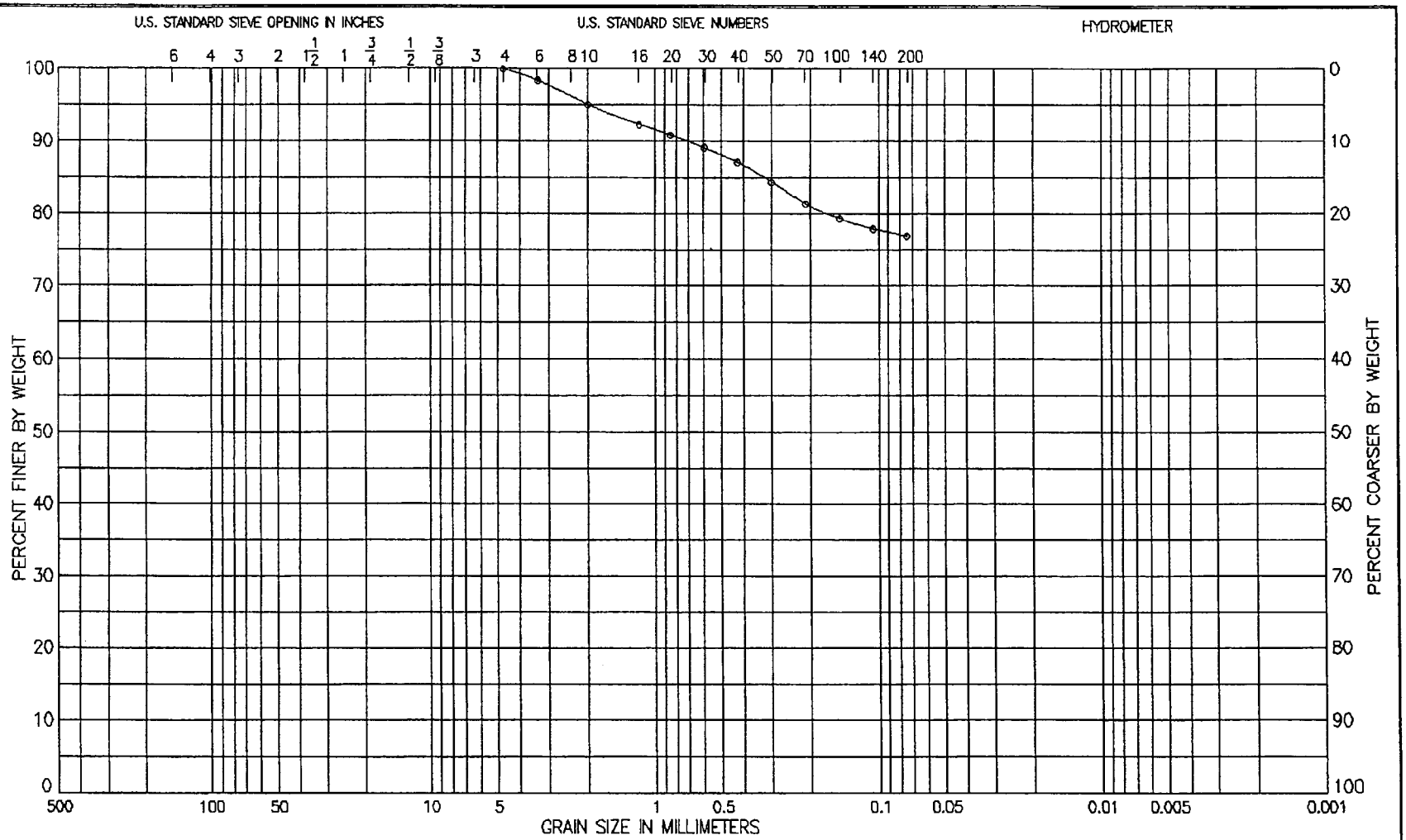
CLASSIFICATION
SILTY SAND (SP–SM), GRAY VISUAL

GRADATION CURVE | LABORATORY USA ERDC – STF/GSL

PROJECT MOBILE HARBOR TURNING BASIN

BORING NO. 30–D301–06 SAMPLE NO. 2

DEPTH/ELEV 4.5–6.0 DATE 31 OCT 06



LL	PL	PI	GS	NAT W,%	ORG,%

CLASSIFICATION
SANDY CLAY (CL), GRAY VISUAL

GRADATION CURVE | LABORATORY USA ERDC – STF/GSL

PROJECT MOBILE HARBOR TURNING BASIN

BORING NO. 30-D301-06 SAMPLE NO. 6

DEPTH/ELEV . 16.5-18.0 DATE . 31 OCT 06

CHEM-X-06 Borings

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. CHEM-1-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 242805' E 1801859'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	CHEM-1-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	28.0'
10. SIZE AND TYPE OF BIT	3" SPLITSPOON / 140 LB HAM
11. ELEVATION DATUM	MLLW. FEET
COORDINATE DATUM	ALW STATE PLANE. NAD83. FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 14 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 16 SEP 2006 / COMPLETED 16 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -25.6'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER — DRAFTED JCB / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-25.6	0.0					MARINE BORING	
			SOFT SILTY MATERIAL (ML-SM) W/ SILTY SAND. GRAY		1	BOH: 28.0' WATER DEPTH: 26.3' TIDE: +0.7' START TIME: 0810 FINISH TIME: 1230 3.0" SPLITSPOON 2.0' DRIVES COORDINATES BY GPS	WR
	3.0				2		WR
-29.6	4.0						
			SOFT SILTY MATERIAL (ML). GRAY		3		WR
	6.0				4		WR
-33.6	8.0						
	9.0		SOFT SILTY MATERIAL (MH). GRAY		5		WR
-36.6	11.0				6		10
	12.0		POORLY GRADED SAND (SP). GRAY				
			POORLY GRADED SAND (SP). LT. BROWN & YELLOWISH BROWN		7		82
	15.0				8		79
			POORLY GRADED SAND (SP). YELLOW		9		46
	18.0				10		30
-46.6	21.0				11		30

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -25.6'	Hole No. CHEM-1-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-46.6	21.0						
			POORLY GRADED SAND (SP), YELLOW		11		30
					12		51
	24.0						
			POORLY GRADED SAND (SP), YELLOWISH WHITE		13		53
	27.0				14		29
-53.6	28.0					B.O.H.	

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. CHEM-2-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 241896' E 1801921'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	CHEM-2-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	30.0'
10. SIZE AND TYPE OF BIT	3" SPT W/ 140LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 15 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 19 SEP 2006 / COMPLETED 19 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -23.7'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER / DRAFTED BEM / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-23.7	0.0				1	MARINE BORING BOH: 30' WATER DEPTH: 24.1' TIDE: +0.45' START TIME: 0811 FINISH TIME: 1138 3.0" SPLITSPOON 2.0' DRIVES COORDINATES BY GPS	WH
	3.0		SILTY SAND (SM), GRAY		2		5
-29.7	6.0				3		10
-31.7	8.0		SILT, SAND W/ DECAYING WOODY MATERIAL (MH-OL), GRAY		4		5
	9.0		STIFF FAT SANDY CLAY (CH), GRAY		5		9
-33.7	10.0				6		41
	12.0		CLAYEY SAND (SC), GRAY		7		39
-37.7	14.0				8		56
	15.0				9		63
	18.0		POORLY GRADED SAND (SP), YELLOWISH		10		49
-44.7	21.0				11		91

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -23.7'	Hole No. CHEM-2-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-44.7	21.0						
					11		91
					12		88
	24.0						
			POORLY GRADED SAND (SP), YELLOWISH		13		101
	27.0				14		154
					15		79
-53.7	30.0					B.O.H.	

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. CHEM-3-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 242249' E 1802804'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	CHEM-3-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	42.0'
10. SIZE AND TYPE OF BIT	3" SPT W/ 140LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 21 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 20 SEP 2006 / COMPLETED 20 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -11.5'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER — DRAFTED BEM / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-11.5	0.0				1	MARINE BORING BOH: 42' WATER DEPTH: 11.9' TIDE: +0.4' START TIME: 0805 FINISH TIME: 1231 3.0" SPLITSPOON 2.0' DRIVES COORDINATES BY GPS	WR
	3.0				2		WR
			SOFT SILTY MATERIAL (ML), GRAY		3		WR
	6.0				4		WR
-19.5	8.0						
	9.0		SILTY SAND (SM), GRAY		5		5
-21.5	10.0						
					6		WR
	12.0				7		WR
	15.0		SOFT SILTY MATERIAL (MH-ML), GRAY		8		WR
					9		WR
	18.0				10		WR
-32.5	21.0				11		WR

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -11.5′	Hole No. CHEM-3-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-32.5	21.0						
			SOFT SILTY MATERIAL (MH-ML), GRAY		11		WR
					12		WR
-35.5	24.0						
			SOFT SILTY MATERIAL (MH), GRAY		13		WR
-37.5	26.0						
	27.0		SOFT SILTY MATERIAL & POORLY GRADED SAND (MH-SP), GRAY & YELLOWISH		14		57
-39.5	28.0						
					15		58
	30.0						
					16		71
	33.0				17		78
			POORLY GRADED SAND (SP), YELLOWISH		18		76
	36.0						
					19		82
	39.0				20		81
					21		92
-53.5	42.0					B.O.H.	

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. CHEM-4-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 240110' E 1801680'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	CHEM-4-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	28.0'
10. SIZE AND TYPE OF BIT	3" SPT W/ 140LB HAMMER
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 14 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 18 SEP 2006 / COMPLETED 18 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -24.4'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER — DRAFTED BEM / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-24.4	0.0				1	MARINE BORING BOH: 28.0' WATER DEPTH: 25.4' TIDE: +1.0' START TIME: 1005 FINISH TIME: 1320 3.0" SPLITSPOON 2.0' DRIVES COORDINATES BY GPS	4
	3.0				2		10
					3		40
	6.0				4		12
	9.0				5		10
			SILTY SAND (SM), GRAY		6		2
	12.0				7		9
	15.0				8		10
	18.0				9		11
-44.4	20.0				10		10
-45.4	21.0		SOFT SILTY MATERIAL (ML-MH), GRAY		11		WR

ENG FORM 1836 (Facsimile)

PROJECT MOBILE HARBOR TURNING BASIN MOBILE HARBOR

HOLE NO. CHEM-4-06

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -24.4'	Hole No. CHEM-4-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-45.4	21.0						
-46.4	22.0		SOFT SILTY MATERIAL (ML-MH), GRAY		11		WR
-48.4	24.0		SOFT SILTY MATERIAL (SM-MH) W/ SILTY SAND, GRAY		12		11
-50.4	26.0		SILTY MATERIAL (SP-MH) W/ POORLY GRADED SAND, GRAY & YELLOWISH		13		25
-52.4	27.0 28.0		POORLY GRADED SAND (SP), YELLOWISH		14	B.O.H.	27

Proj. No.: ALW00204 Alt. Proj. No.: CH05D301 Hole No. CHEM-6-06

DRILLING LOG	DIVISION MOBILE DISTRICT	INSTALLATION MOBILE DISTRICT	SHEET 1 OF 2 SHEETS

1. PROJECT	MOBILE HARBOR TURNING BASIN MOBILE HARBOR
2. LOCATION (Coordinates or Station)	N 238418' E 1801621'
3. DRILLING AGENCY	MOBILE DISTRICT / EA ENGINEERING
4. HOLE NO. (As shown on drawing title and file number)	CHEM-6-06
5. NAME OF DRILLER	E WOODS
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED DEG. FROM VERTICAL
7. THICKNESS OF OVERBURDEN	-
8. DEPTH DRILLED INTO ROCK	-
9. TOTAL DEPTH OF HOLE	22.0'
10. SIZE AND TYPE OF BIT	3" SPLITSPOON / 140 LB HAM
11. ELEVATION DATUM	MLLW, FEET
COORDINATE DATUM	ALW STATE PLANE, NAD83, FEET
12. MANUFACTORER'S DESIGNATION OF DRILL	FAILING 314
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 11 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUNDWATER	N/A
16. DATE HOLE	STARTED 14 SEP 2006 / COMPLETED 14 SEP 2006
17. ELEVATION TOP OF HOLE	EL. -31.0'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	T COOPER / DRAFTED JCB / CHECKED SVF

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-31.0	0.0				1	MARINE BORING BOH: 22.0' WATER DEPTH: 32.3' TIDE: +1.3' START TIME: 0858 FINISH TIME: 1123 3.0" SPILTSPOON 2.0' DRIVES COORDINATES BY GPS	WR
	3.0				2		WR
			SOFT SILTY MATERIAL (ML), GRAY		3		WR
	6.0				4		WR
	9.0				5		WR
-41.0	10.0						
					6		WR
	12.0		SOFT SILTY MATERIAL (MH), GRAY		7		WR
	15.0				8		WR
-47.0	16.0						
					9		13
	18.0		SANDY MATERIAL (SM), GRAY		10		16
-52.0	21.0				11		42

DRILLING LOG (Cont Sheet)	ELEVATION TOP OF HOLE EL. -31.0'	Hole No. CHEM-6-06
PROJECT MOBILE HARBOR MOBILE HARBOR TURNING BASIN	INSTALLATION MOBILE DISTRICT	SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY OR W.C. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	SPT BLOWS/FT
-52.0	21.0						
-53.0	22.0		SANDY MATERIAL (SM), GRAY		11	B.O.H.	42

VC-X-84 Borings

Hole No. VC - 1A - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT: MOBILE HARBOR CHANNEL DEEPENING
2. LOCATION (Coordinates or Station): N 240,891 E 393,064
3. DRILLING AGENCY: MDO
4. HOLE NO. (As shown on drawing title and file number): VC - 1A - 84
5. NAME OF DRILLER: C. FULLER
6. DIRECTION OF HOLE: [X] VERTICAL [ ] INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 26.75' (EL. -67.75)
10. SIZE AND TYPE OF BIT: 4" VIBRACORE
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW & 3 FT.
12. MANUFACTURER'S DESIGNATION OF DRILL: BARGE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: 0
15. ELEVATION GROUND WATER
16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
17. ELEVATION TOP OF HOLE: -41.0
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: H. GATES

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W.C.	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-41.0	0		(CH) DARK GRAY FAT CLAY, VERY SOFT			
	2			118	1	DEPTH 2.5'-3.0'
	4					
-46.0						
	6		(SC) & (SM) ALTERNATING POCKETS OF LIGHT GRAY CLAYEY SAND & SILTY SAND		2	DEPTH 5.5'-6.0'
	8				3	DEPTH 8.5'-9.0'
	10					
	12					
-54.0						
	14		(SM) GRAY & YELLOW POORLY GRADED SILTY SAND		4	DEPTH 14.5'-15.0'
	16					
	18					
-61.0	20					

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE -41.0 | Hole No. VC-1A-84

PROJECT MOBILE HARBOR CHANNEL DEEPENING | INSTALLATION MDO | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~% CORE RECOVERY~~ W&C	~~BOX OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-61.0	20					
	22		(SM) YELLOW & GRAY POORLY GRADED SILTY SAND			
	24					
	26					
-67.75						
			BOTTOM OF HOLE			
	28					

LAB DATA :

SAM #	CLASS	LL	PL	PI
1	CH	97	30	67
2	SM	NP	NP	NP
3	SM	-	-	-
4	SP	NP	NP	NP

SAM #	LOI (%)	-200 (%)
1	16.2	86.8

Hole No. VC - 1 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT 4" VIBRACORE
2. LOCATION (Coordinates or Station) N 237,801 E 392,881	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLLW ± 9 FT.
3. DRILLING AGENCY MDO	12. MANUFACTURER'S DESIGNATION OF DRILL BARGE
4. HOLE NO. (As shown on drawing title and file number) VC - 1 - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN — DISTURBED 5 — UNDISTURBED 0
5. NAME OF DRILLER C. FULLER	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE — STARTED AUG. 1984 — COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -42.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 26.0' (EL. -68.0)	19. SIGNATURE OF INSPECTOR H. GATES DH

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~% CORE RECOVERY~~ W.C	~~BOX OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-42.0	0					
	2		(CH) BLACK FAT CLAY, VERY SOFT, WITH ORGANIC MATERIAL			
	4			104	1	DEPTH 4.5'-5.0'
-48.6	6		LIGHT GRAY, VERY SOFT			
	8		(SC) LIGHT GRAY CLAYEY SAND, SOFT			
-52.5	10				2	DEPTH 9.5'-10.0'
	12		(SP) YELLOW POORLY GRADED SAND, COARSE GRAINED			
	14				3	DEPTH 14.5'-15.0'
	16		WHITE, COARSE GRAINED			
	18					
-62.0	20				4	DEPTH 19.5'-20.0'

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE -42.0 Hole No. VC-1-84

PROJECT MOBILE HARBOR CHANNEL DEEPENING INSTALLATION MDO SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~[illegible]~~ W.C.	~~[illegible]~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-62.0	20					
	22		(SP) WHITE POORLY GRADED SAND, COARSE GRAINED			
	24					
					5	DEPTH 24.5'-25.0'
-68.0	26		BOTTOM OF HOLE			

LAB DATA :

SAM #	CLASS	LL	PL	PI
2	CL	36	17	19
3	SP	NP	NP	NP
4	SP	NP	NP	NP
5	SP	NP	NP	NP

SAM #	LOI (%)	-200 (%)
1	10.5	95.0
2	-	58.8

Hole No. VC - 2 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT: MOBILE HARBOR CHANNEL DEEPENING
2. LOCATION (Coordinates or Station): N 235,086 E 932,809
3. DRILLING AGENCY: MDO
4. HOLE NO. (As shown on drawing title and file number): VC - 2 - 84
5. NAME OF DRILLER: C. FULLER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 24.33' (EL. -65.33)
10. SIZE AND TYPE OF BIT: 4" VIBRACORE
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW ± 0 FT.
12. MANUFACTURER'S DESIGNATION OF DRILL: BARGE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: 0
15. ELEVATION GROUND WATER
16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
17. ELEVATION TOP OF HOLE: -41.0
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: H. GATES

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~% CORE RECOVERY~~ ~~RUN NO.~~ W.C.	~~BOX NO.~~ SAMPLE NO. i	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-41.0	0					
	2		(CH) BLACK FAT CLAY, VERY SOFT, WITH ORGANIC MATERIAL	118	1	DEPTH 2.5'-3.0'
	4					
	6		LIGHT GRAY, SOFT TO MEDIUM		2	DEPTH 6.5'-7.0'
	8					
-49.8						
	10		(SC) LIGHT GRAY CLAYEY SAND, SOFT		3	DEPTH 9.5'-10.0'
-52.4						
	12					
	14		(SP) LIGHT GRAY & WHITE POORLY GRADED SAND, COARSE GRAINED		4	DEPTH 14.5'-15.0'
	16					
	18					
-61.0	20				5	DEPTH 19.5'-20.0'

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HOLE NO. VC - 2 - 84

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE -41.0 Hole No. VC-2-84

PROJECT MOBILE HARBOR CHANNEL DEEPENING INSTALLATION MDO SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W-C	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) k
-61.0	20		(SP) LIGHT GRAY & WHITE POORLY GRADED SAND, COARSE GRAINED			
	22					
-65.33	24					
			BOTTOM OF HOLE			LAB DATA :

SAM #	CLASS	LL	PL	PI
3	CL-ML	22	17	5
4	SP	NP	NP	NP
5	SP	NP	NP	NP

SAM #	LOI (%)	-200 (%)
1	10.6	92.1
2	-	97.9
3	-	41.4

Hole No. VC - 3 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 1 SHEETS

1. PROJECT: MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT: 4" VIBRACORE
2. LOCATION (Coordinates or Station): N 232,605 E 332,619	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW ± 9 FT.
3. DRILLING AGENCY: MDO	12. MANUFACTURER'S DESIGNATION OF DRILL: BARGE
4. HOLE NO. (As shown on drawing title and file number): VC - 3 - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 3; UNDISTURBED 0
5. NAME OF DRILLER: C. FULLER	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
7. THICKNESS OF OVERBURDEN	16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
8. DEPTH DRILLED INTO ROCK	17. ELEVATION TOP OF HOLE: -40.0
9. TOTAL DEPTH OF HOLE: 19.8' (EL. -59.8)	18. TOTAL CORE RECOVERY FOR BORING: N/A
	19. SIGNATURE OF INSPECTOR: H. GATES

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~BLOWS PER 6 INCHES~~ W.C.	~~TYPE OF SAMPLE~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) e
-40.0	0		(CH) DARK GRAY FAT CLAY, VERY SOFT, WITH ORGANIC MATERIAL			
	2					
-43.9	4		(SC) DARK GRAY TO GRAY CLAYEY SAND		1	DEPTH 4.5'-5.0'
	6					
	8		GRAY & BEIGE WITH A TRACE OF POORLY GRADED SAND			
	10				2	DEPTH 9.5'-10.0'
-52.0	12					
	14					
			(SP) WHITE & BEIGE POORLY GRADED SAND, MEDIUM GRAINED, WITH A TRACE OF GRAVEL		3	DEPTH 14.5'-15.0'
	16					
	18					
-59.8	20		BOTTOM OF HOLE			

LAB DATA :

SAM #	CLASS	LL	PL	PI
1	CL	47	16	31
2	CL	-	-	-
3	SP	NP	NP	NP

SAM #	LOI (%)	-200 (%)
1	-	67.6

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295 ROUELLE HASTINGS

HOLE NO. VC - 3 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 1 SHEETS

1. PROJECT: MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT: 4" VIBRACORE
2. LOCATION (Coordinates or Station): N 231,545 E 332,570	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW ± 3 FT.
3. DRILLING AGENCY: MDO	12. MANUFACTURER'S DESIGNATION OF DRILL: BARGE
4. HOLE NO. (As shown on drawing title and file number): VC - 4 - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 2; UNDISTURBED 0
5. NAME OF DRILLER: C. FULLER	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE: -42.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING: N/A %
9. TOTAL DEPTH OF HOLE: 20.0' (EL. -62.0)	19. SIGNATURE OF INSPECTOR: H. GATES DH

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~CORE RECOVERY~~ W+C	~~BOX OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-42.0	0		(CH) BLACK TO DARK GRAY FAT CLAY WITH ORGANIC MATERIAL			
-44.3	2		(SM) LIGHT GRAY SILTY SAND			
-45.3						
	4		(SM) LIGHT GRAY POORLY GRADED SILTY SAND, MEDIUM TO FINE GRAINED		1	DEPTH 4.5'-5.0'
	6					
	8		LIGHT GRAY, FINE GRAINED			
-52.0	10				2	DEPTH 9.5'-10.0'
	12		(SP) LIGHT GRAY POORLY GRADED SAND, MEDIUM GRAINED			
	14					
	16					
	18		LIGHT GRAY, FINE GRAINED			
-62.0	20					

LAB DATA :

SAM #	CLASS	LL	PL	PI
1	SP	NP	NP	NP
2	SP	NP	NP	NP

NOTE: BOTTOM OF HOLE AT DEPTH 20.0'.

Hole No. VC - 5 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT 4" VIBRACORE
2. LOCATION (Coordinates or Station) N 229,581 E 332,505	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLLW ± 3 FT.
3. DRILLING AGENCY MDO	12. MANUFACTURER'S DESIGNATION OF DRILL BARGE
4. HOLE NO. (As shown on drawing title and file number) VC - 5 - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN — DISTURBED 3 — UNDISTURBED 0
5. NAME OF DRILLER C. FULLER	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE — STARTED AUG. 1984 — COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -42.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 25.0' (EL. -67.0)	19. SIGNATURE OF INSPECTOR H. GATES

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~% CORE RECOVERY~~ W.C	~~RQD-BIT~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-42.0	0		(CH) BLACK TO DARK GRAY FAT CLAY			
-44.3	2					
			(SP) GRAY POORLY GRADED SAND			
	4					
					1	DEPTH 4.5'-5.0'
	6					
	8					
	10		GRAY & YELLOW, WITH GRAVEL, (1" MAX.)			
	12					
	14					
					2	DEPTH 14.5'-15.0'
	16					
	19					
-62.0	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT)

297 MOBILE HARBOR

HOLE VC - 5 - 84

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE +42.0 Hole No. VC-5-84

PROJECT: MOBILE HARBOR CHANNEL DEEPENING INSTALLATION: MDO SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W.C.	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) k
+62.0	20		(SP) GRAY & YELLOW POORLY GRADED SAND WITH GRAVEL, (1" MAX.)			
	22					
	24		WHITE			
+57.0					3	DEPTH 24.5'-25.0'
			BOTTOM OF HOLE			LAB DATA :
	26					

SAM #	CLASS	LL	PL	PI
1	SP	NP	NP	NP
2	SP	NP	NP	NP

Hole No. VC - 6 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT 4" VIBRACORE
2. LOCATION (Coordinates or Station) N 227,470 E 392,365	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLLW & 9 FT.
3. DRILLING AGENCY MDO	12. MANUFACTURER'S DESIGNATION OF DRILL BARGE
4. HOLE NO. (As shown on drawing title and file number) VC - 6 - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
5. NAME OF DRILLER C. FULLER	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -42.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 28.0' (EL. - 70.0)	19. SIGNATURE OF INSPECTOR H. GATES

DW

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W.C.	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-42.0	0		(CH) DARK GRAY FAT CLAY, VERY SOFT, WITH SOME ORGANIC MATERIAL			
	2					
	4				1	DEPTH 4.5'-5.0'
	6					
-49.0						
	8		(SM) LIGHT GRAY POORLY GRADED SILTY SAND, FINE GRAINED			
	10				2	DEPTH 9.5'-10.0'
-54.5	12					
	14					
					3	DEPTH 14.5'-15.0'
	16		(SP) WHITE POORLY GRADED SAND, MEDIUM GRAINED			
	18					
-62.0	20				4	DEPTH 19.5'-20.0'

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE -42.0 Hole No. VC-6-84

PROJECT MOBILE HARBOR CHANNEL DEEPENING INSTALLATION MDO SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W.C.	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-62.0	20					
	22		(SP) WHITE POORLY GRADED SAND, MEDIUM GRAINED			
	24					
	26		WHITE, MEDIUM GRAINED, WITH GRAVEL, (1" MAX.)			
-70.0	28		BOTTOM OF HOLE			

LAB DATA :

SAM #	CLASS	LL	PL	PI
2	CL	-	-	-
3	SP	NP	NP	NP
4	SP	NP	NP	NP

SAM #	LOI (%)	-200 (%)
1	8.3	91.6

Hole No. VC - T - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT 4" VIBRACORE
2. LOCATION (Coordinates or Station) N 224,393 E 332,591	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLLW ± 3 FT.
3. DRILLING AGENCY MDO	12. MANUFACTURER'S DESIGNATION OF DRILL BARGE
4. HOLE NO. (As shown on drawing title and file number) VC - T - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN — DISTURBED 4 — UNDISTURBED 0
5. NAME OF DRILLER C. FULLER	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE — STARTED AUG. 1984 — COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE = 37.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 27.2' (EL. -64.2)	19. SIGNATURE OF INSPECTOR H. GATES

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W.C.	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-37.0	0		(CH) LIGHT GRAY FAT CLAY, VERY SOFT			
	2					
	4		DARK GRAY, VERY SOFT TO SOFT	104	1	DEPTH 4.5'-5.0'
-43.5	6					
	8					
	10				2	DEPTH 9.5'-10.0'
	12		(SP) WHITE POORLY GRADED SAND, MEDIUM GRAINED			
	14					
	16					
	18					
-57.0	20				3	DEPTH 19.5'-20.0'

DRILLING LOG (Cont Sheet). ELEVATION TOP OF HOLE -37.0 Hole No. VC-7-84

PROJECT MOBILE HARBOR CHANNEL DEEPENING | INSTALLATION MDO | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~BLOWS PER 6 IN~~ W.C.	~~BOX OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-57.0	20					
	22		(SP) WHITE POORLY GRADED SAND, MEDIUM GRAINED			
	24				4	DEPTH 24.5'-25.0'
	26					
-64.2						
	28		BOTTOM OF HOLE			

LAB DATA :

SAM #	CLASS	LL	PL	PI
1	CH	82	26	56
3	SP	NP	NP	NP

SAM #	LOI (%)	-200 (%)
1	9.2	82.3

Hole No. VC - 8 - 84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT: MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT: 4" VIBRACORE
2. LOCATION (Coordinates or Station): N 220,533 E 332,740	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW ± 3 FT
3. DRILLING AGENCY: MDO	12. MANUFACTURER'S DESIGNATION OF DRILL: BARGE
4. HOLE NO. (As shown on drawing title and file number): VC - 8 - 84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
5. NAME OF DRILLER: C. FULLER	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER:
	16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN:	17. ELEVATION TOP OF HOLE: -44.0
8. DEPTH DRILLED INTO ROCK:	18. TOTAL CORE RECOVERY FOR BORING: N/A %
9. TOTAL DEPTH OF HOLE: 22.0' (EL. -66.0)	19. SIGNATURE OF INSPECTOR: H. GATES

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~% CORE RECOVERY~~ W.C.	~~BOX OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-44.0	0		(CH) DARK TO LIGHT GRAY FAT CLAY, VERY SOFT, WITH ORGANIC MATERIAL			
	2					
	4					
-50.2	6		LIGHT GRAY, SOFT, WITH A TRACE OF ROOTS			
-52.0	8		(SC) LIGHT GRAY CLAYEY SAND		1	DEPTH 6.5'-7.0'
-55.0	10		(SP) LIGHT GRAY POORLY GRADED SAND		2	DEPTH 9.5'-10.0'
-57.0	12		(SC) LIGHT GRAY CLAYEY SAND			
	14				3	DEPTH 14.5'-15.0'
	16		(SP) WHITE POORLY GRADED SAND			
	18					
-64.0	20				4	DEPTH 19.5'-20.0'

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE -44.0 | Hole No. VC-8-84

PROJECT: MOBILE HARBOR CHANNEL DEEPENING | INSTALLATION: MDO | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~AS-CORR. ALLOWED~~ ~~CRY~~ W.C.	~~BLW-OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-64.0	20		(SP) WHITE POORLY GRADED SAND			
-66.0	22		BOTTOM OF HOLE			LAB DATA :

LAB DATA :

SAM #	CLASS	LL	PL	PI
1	CL	49	16	33
2	SP	NP	NP	NP
3	SP	NP	NP	NP

SAM #	SPG
1	2.69

Hole No. VC-9-84

DRILLING LOG	DIVISION SAD	INSTALLATION MDO	SHEET 1 OF 2 SHEETS

1. PROJECT: MOBILE HARBOR CHANNEL DEEPENING	10. SIZE AND TYPE OF BIT: 4" VIBRACORE
2. LOCATION (Coordinates or Station): N 217,922 E 333,099	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW ± 3 FT.
3. DRILLING AGENCY: MDO	12. MANUFACTURER'S DESIGNATION OF DRILL: BARGE
4. HOLE NO. (As shown on drawing title and file number): VC-9-84	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
5. NAME OF DRILLER: C. FULLER	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE: STARTED AUG. 1984; COMPLETED AUG. 1984
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE: -42.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING: N/A %
9. TOTAL DEPTH OF HOLE: 24.0' (EL. -66.0)	19. SIGNATURE OF INSPECTOR: H. GATES

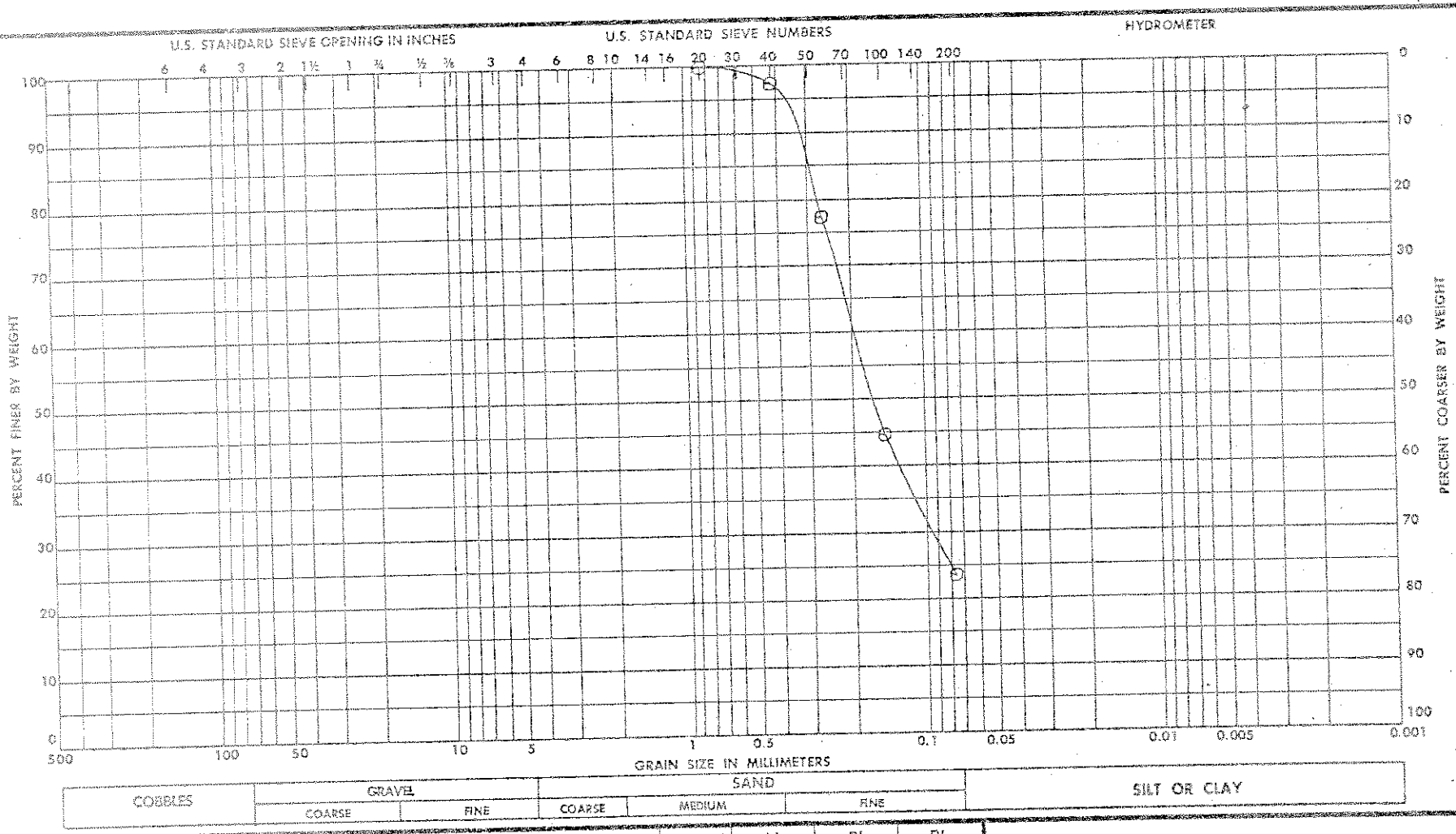
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	~~CORE RECOVERY~~ W.C.	~~BOX OR~~ SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-42.0	0		(CH) DARK TO LIGHT GRAY FAT CLAY, VERY SOFT, WITH ORGANIC MATERIAL			
-44.0	2					
	4		(SM) LIGHT GRAY POORLY GRADED SILTY SAND		1	DEPTH 4.5'-5.0'
	6					
	8					
-50.8						
	10		(SP) YELLOW POORLY GRADED SAND		2	DEPTH 9.5'-10.0'
	12		WHITE			
	14				3	DEPTH 14.5'-15.0'
	16		WHITE WITH GRAVEL, (1" MAX.)			
	18					
-62.0	20					

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE -42.0 | Hole No. VC-9-84

PROJECT MOBILE HARBOR CHANNEL DEEPENING | INSTALLATION MDO | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	W.C.	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-62.0	20					
	22		(SP) WHITE POORLY GRADED SAND WITH GRAVEL, (1" MAX.)			
-66.0	24				4	DEPTH 23.5'-24.0'
			BOTTOM OF HOLE			LAB DATA :

SAM #	CLASS	LL	PL	PI
1	SM	NP	NP	NP
2	SP	NP	NP	NP
3	SP	NP	NP	NP
4	SP	NP	NP	NP



Sample No.	~~Peak~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
2	6.0'	SILTY SAND (SM)	--	NP	NP	NP
		LT. GRAY				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1101
Boring No. VC-1A-84 SAMPLE NO. 2
Date 11/27/84

GRADATION CURVES

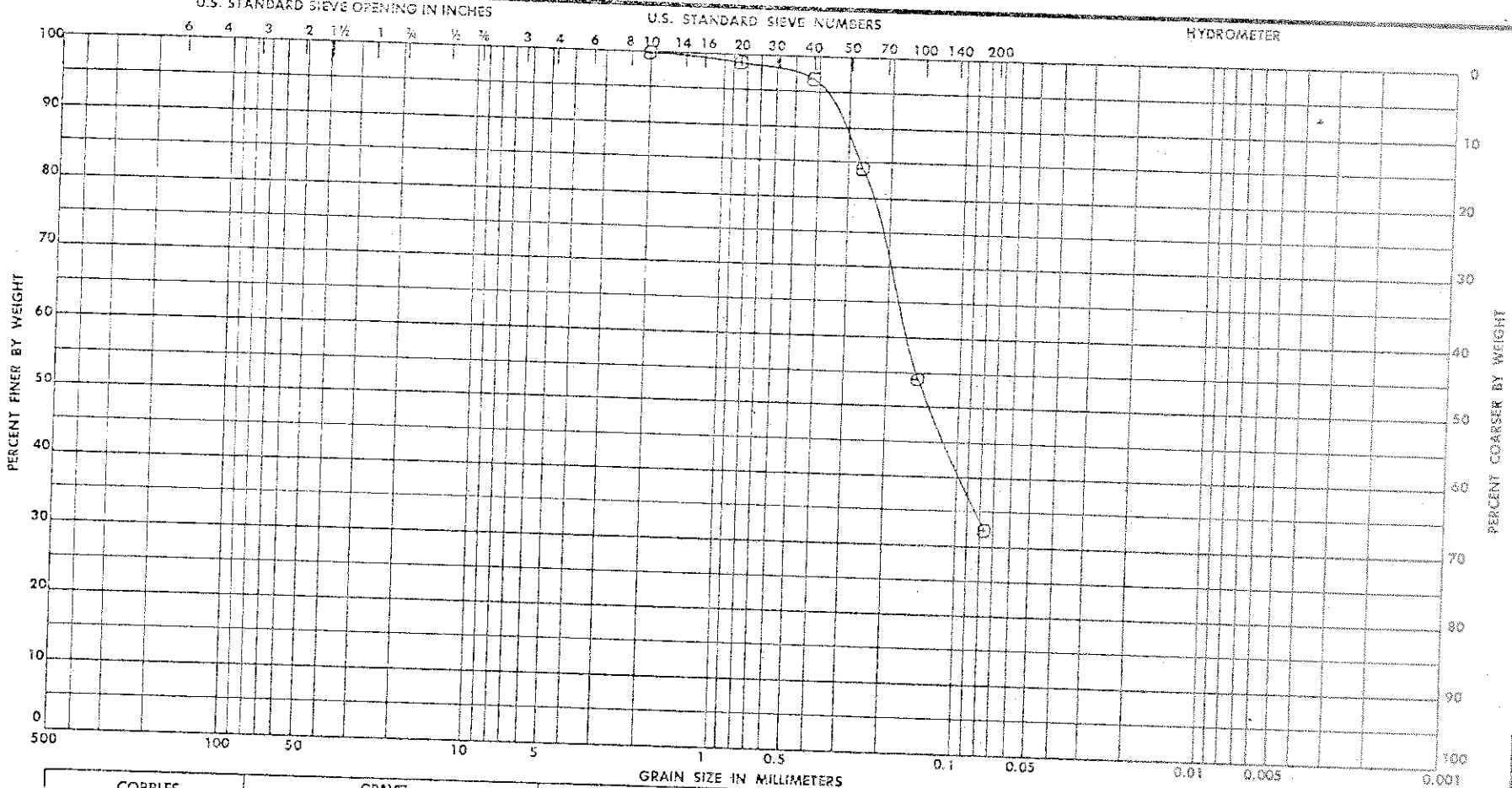
CHART NO. 516

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

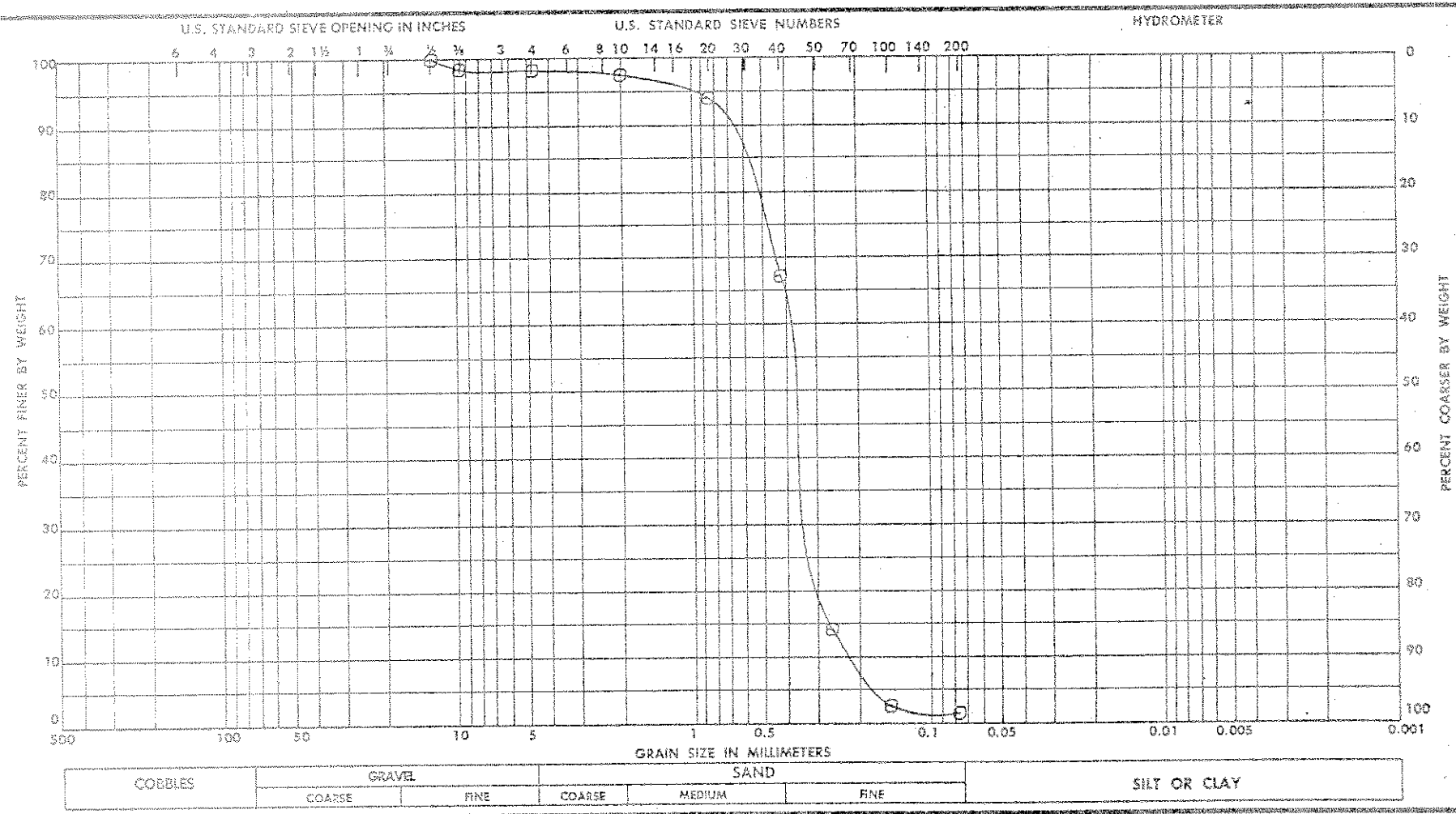
Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
3	9.0'	SILTY SAND (SM)	--	--	--	--
		LT.GRAY WITH OCCASIONAL POCKETS				
		OF FAT CLAY (CH)				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1102
Boring No. VC-1A-84 SAMPLE NO. 3
Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 517



Sample No.	~~XXX~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
4	15.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT.TAN WITH A TRACE OF GRAVEL				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1103
Boring No. VC-1A-84 SAMPLE NO. 4
Date 11/27/84

GRADATION CURVES

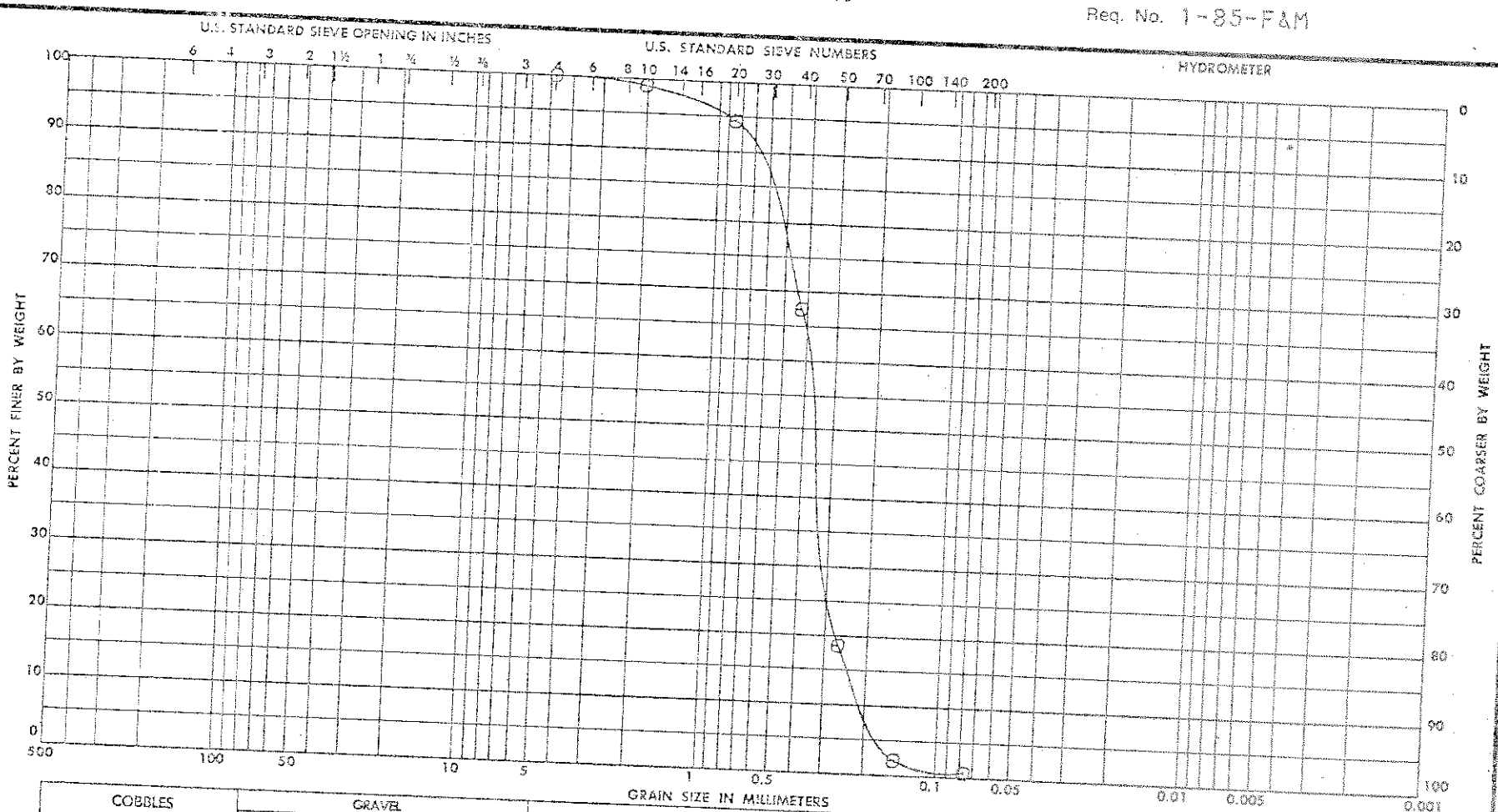
CHART NO. 518

ENG FORM 1 MAY 63 2037

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



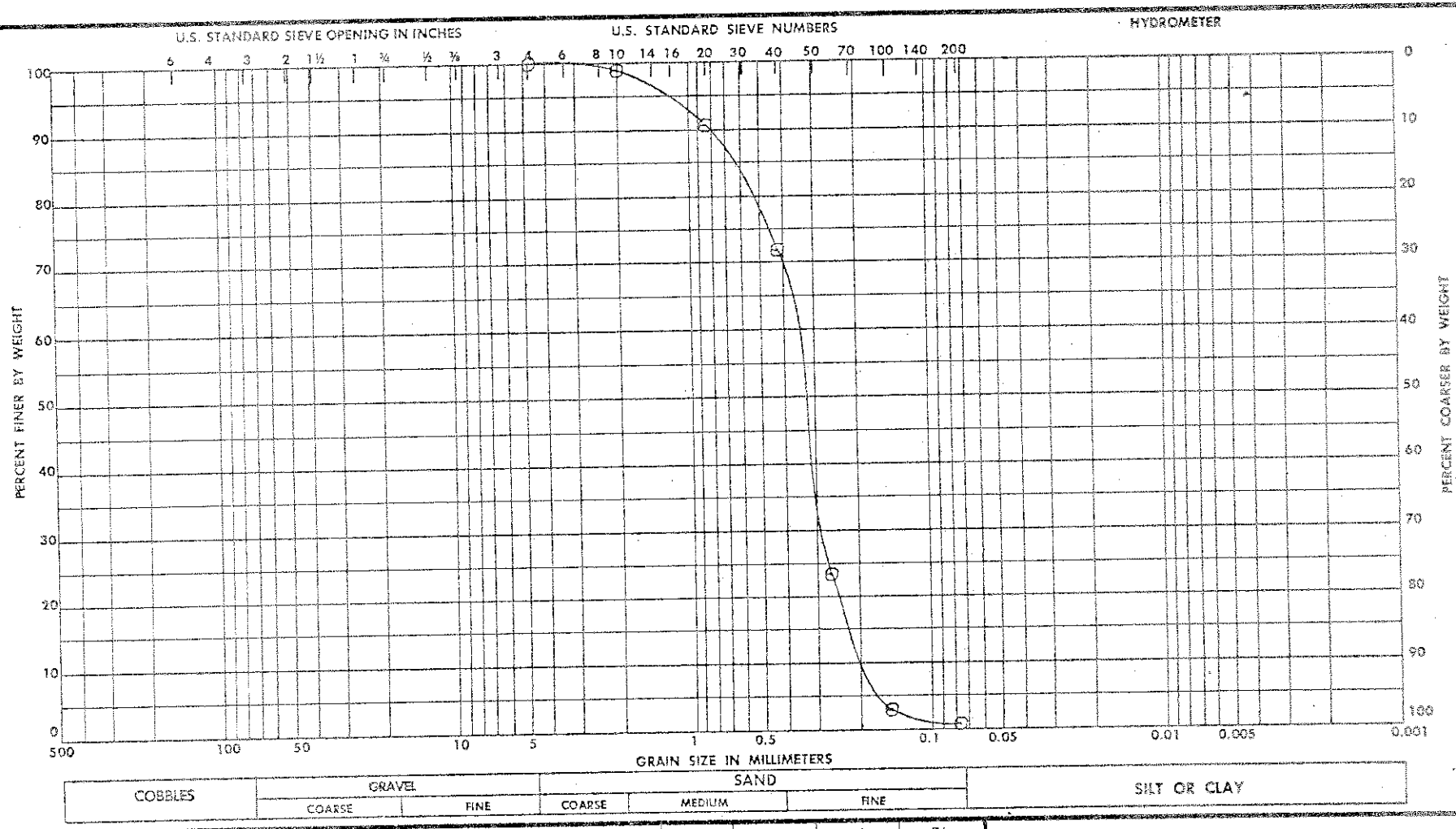
Sample No.	~~XXX~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
3	15.0'	POORLY GRADED SAND (SP) LT-TAN	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1106
Boring No. VC-1-84 SAMPLE NO. 3
Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 519



Sample No.	~~Elev~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
4	20.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT. GRAY				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1107
Boring No. VC-1-84 SAMPLE NO. 4
Date 11/27/84

GRADATION CURVES

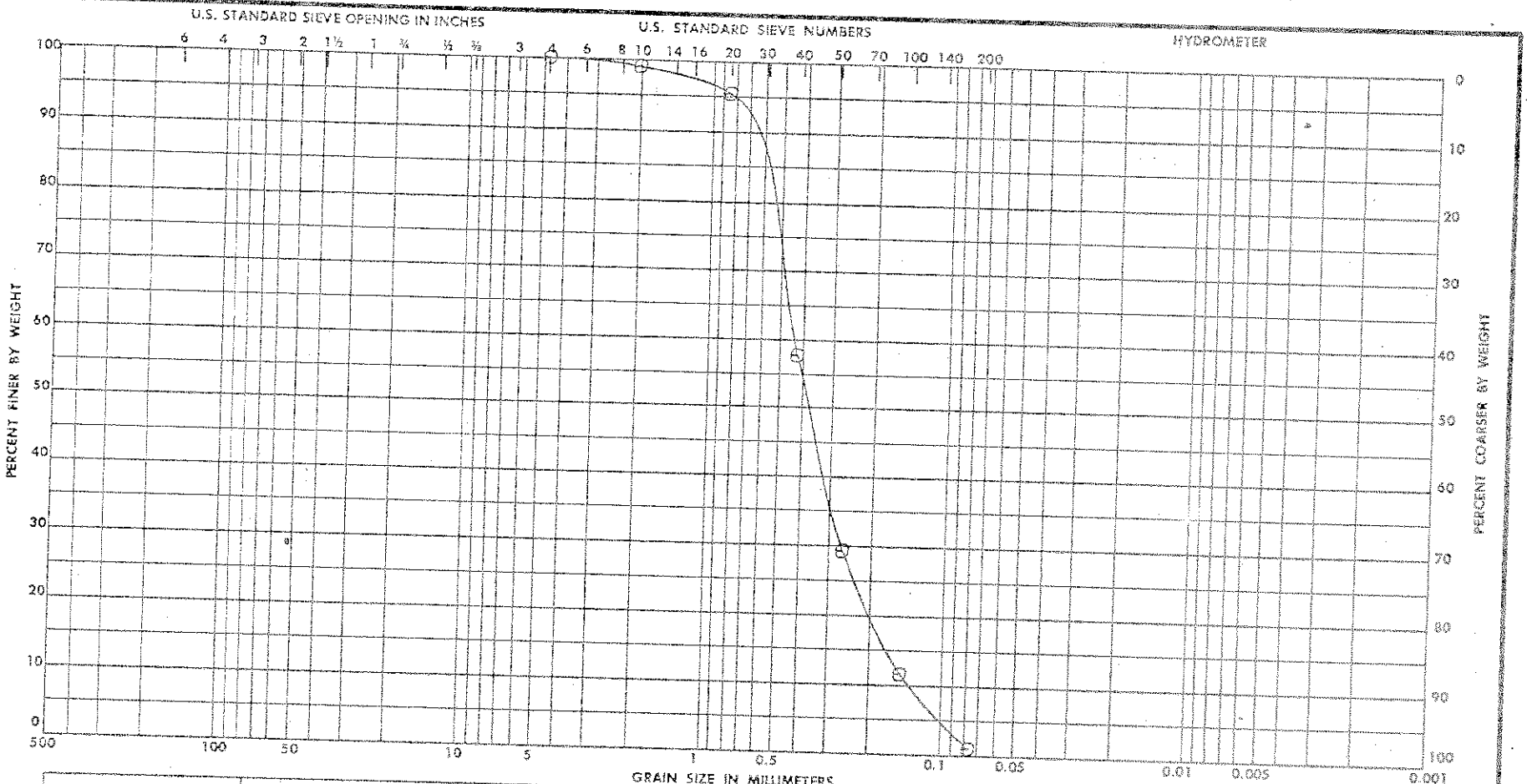
CHART NO. 520

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



Sample No.	~~XXXX~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
5	25.0'	POORLY GRADED SAND (SP) LT. GRAY	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING

Area LAB NO. 57/1108

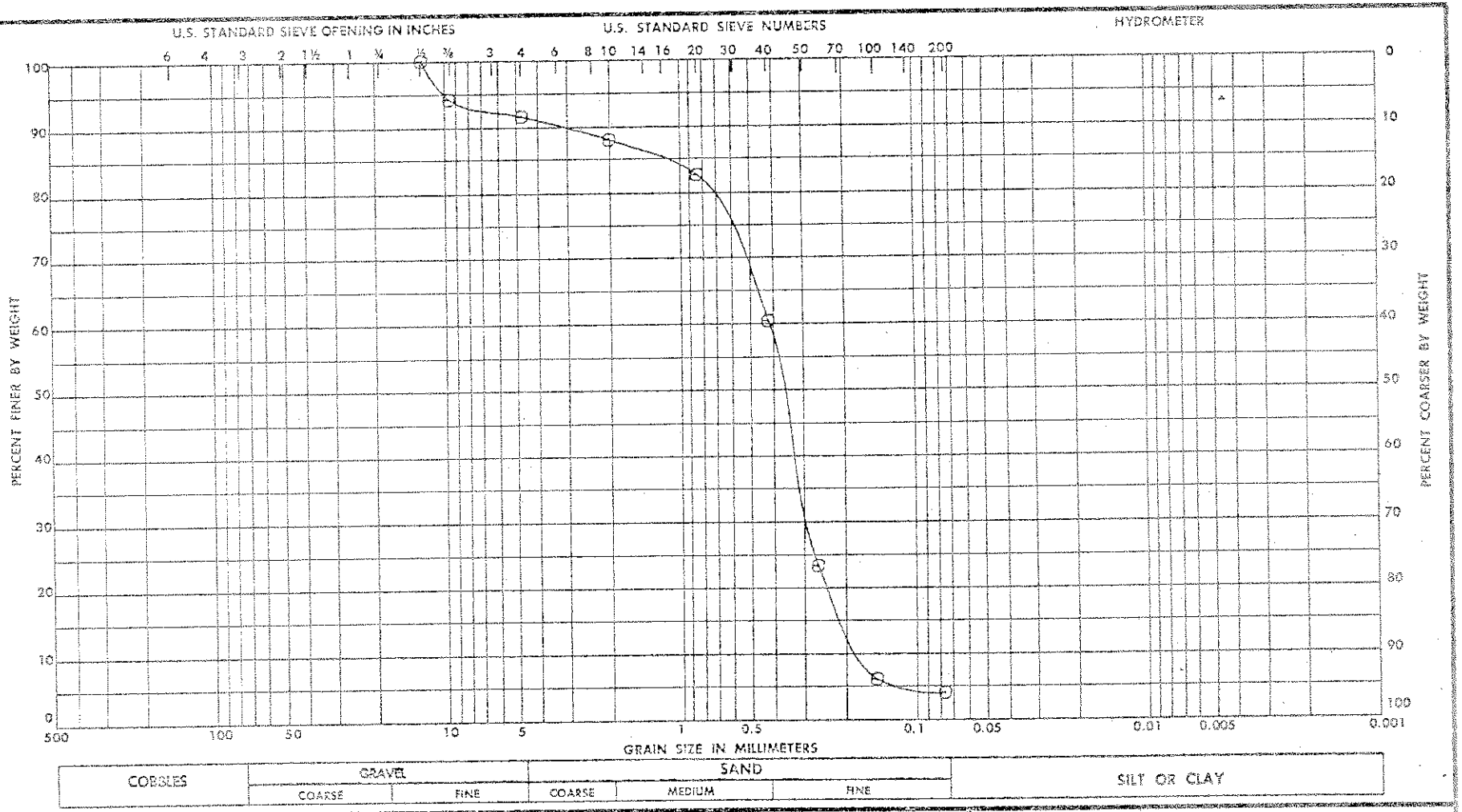
Boring No. VC-1-84 SAMPLE NO. 5

Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 521



Sample No.	~~XXXX~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
4	15.0'	POORLY GRADED SAND (SP)	---	NP	NP	NP
		LT.GRAY WITH A TRACE OF GRAVEL				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1112
Boring No. VC-2-84 SAMPLE NO. 4
Date 11/27/84

GRADATION CURVES

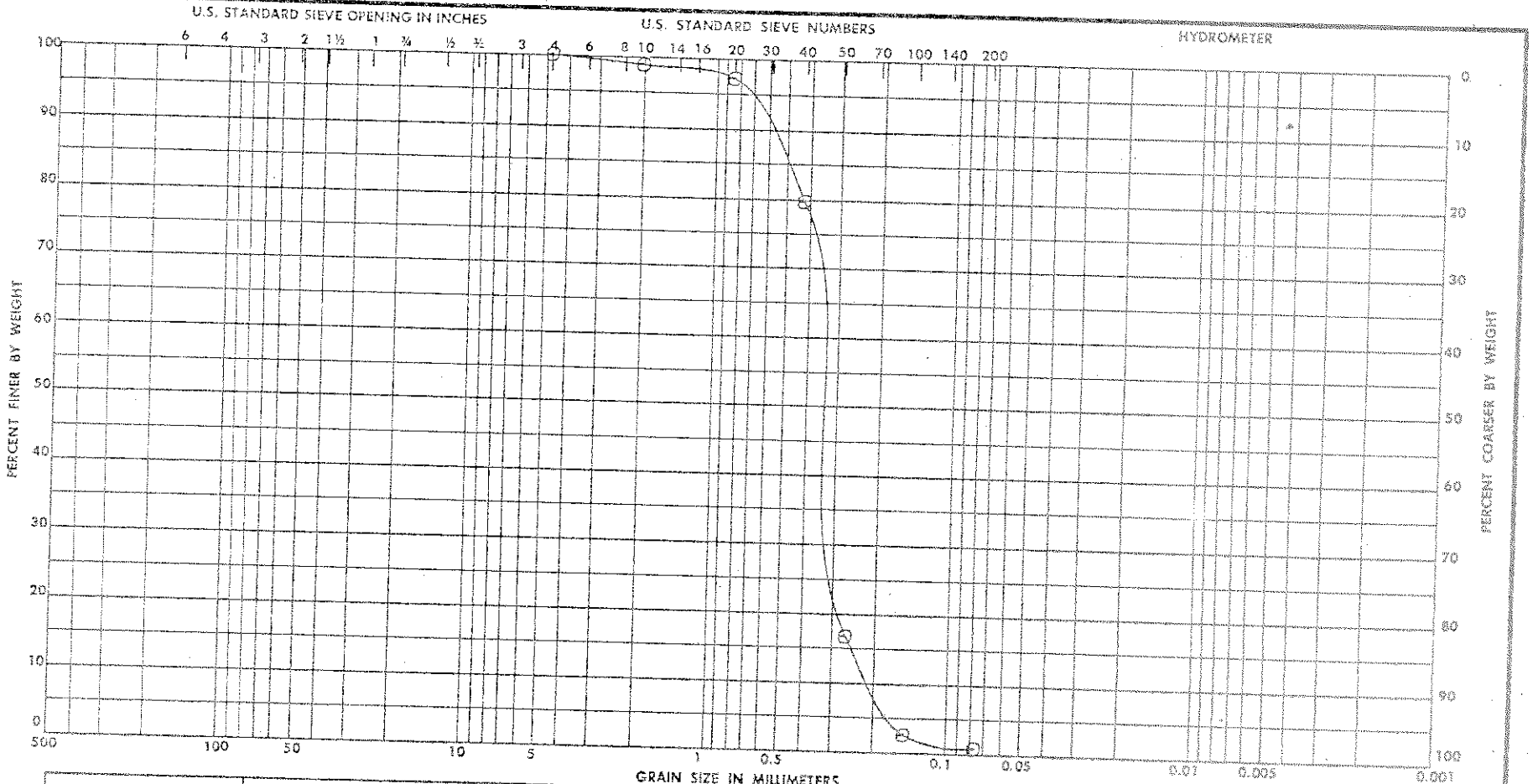
CHART NO. 522

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-FAM



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

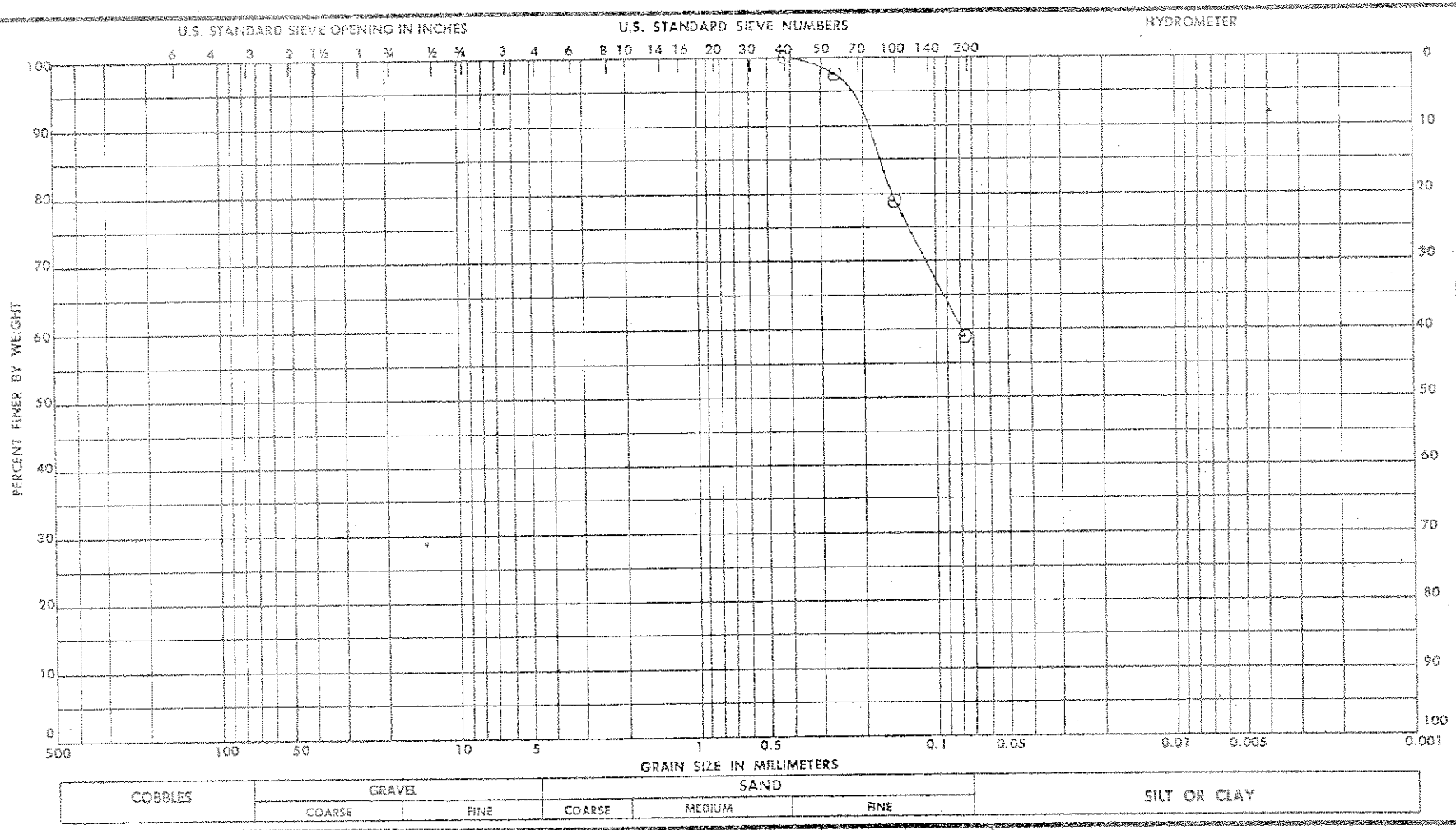
Sample No.	~~XXXX~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
5	20.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT. TAN				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1113
Boring No. VC-2-84 SAMPLE NO. 5
Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 523



Sample No.	XXXXX Depth	VISUAL Classification	Nat w %	LL	PL	PI
2	10.0'	LEAN CLAY (CL), LT. GRAY, SANDY	--	--	--	--

Project: MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area: LAB NO. 57/1115
Boring No. VC-3-84 SAMPLE NO. 2
Date: 11/27/84

GRADATION CURVES

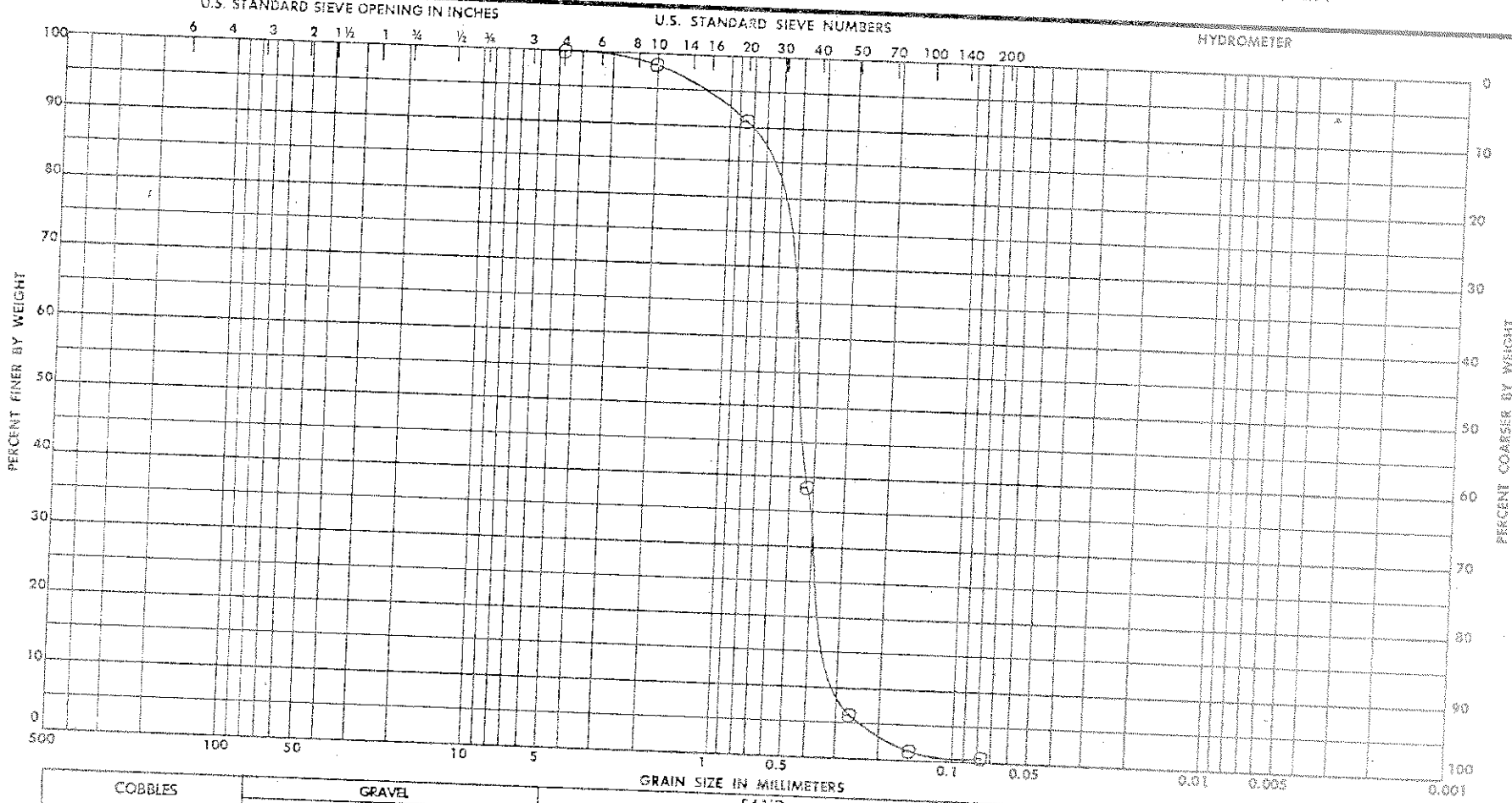
CHART NO. 524

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
3	15.0'	POORLY GRADED SAND (SP) LT. TAN	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING

Area LAB NO. 57/1116

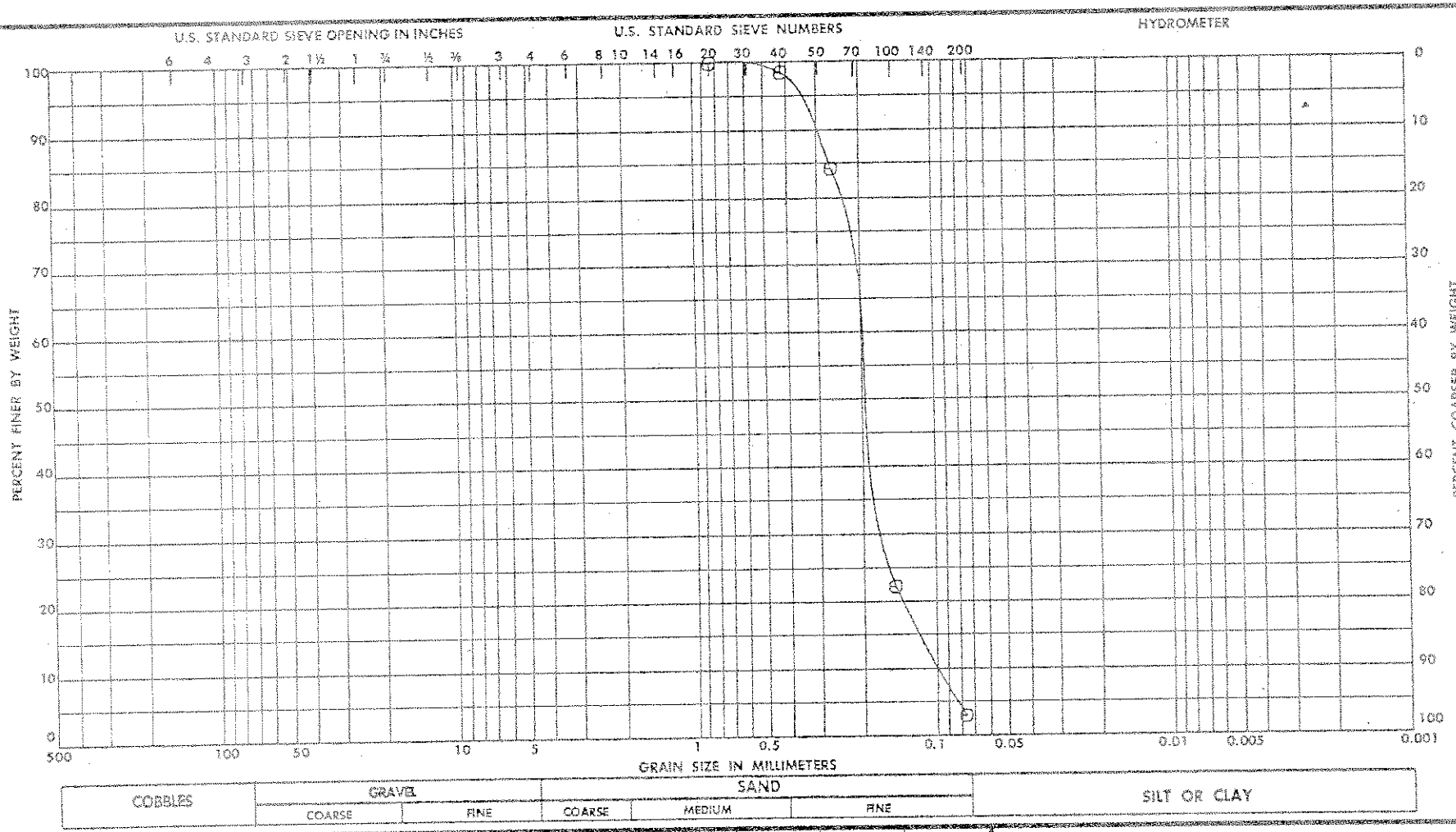
Boring No. VC-3-84 SAMPLE NO. 3

Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 525



Sample No.	~~XXX~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
1	5.0	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT. GRAY				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1117
Boring No. VC-4-84 SAMPLE NO. 1
Date 11/27/84

GRADATION CURVES

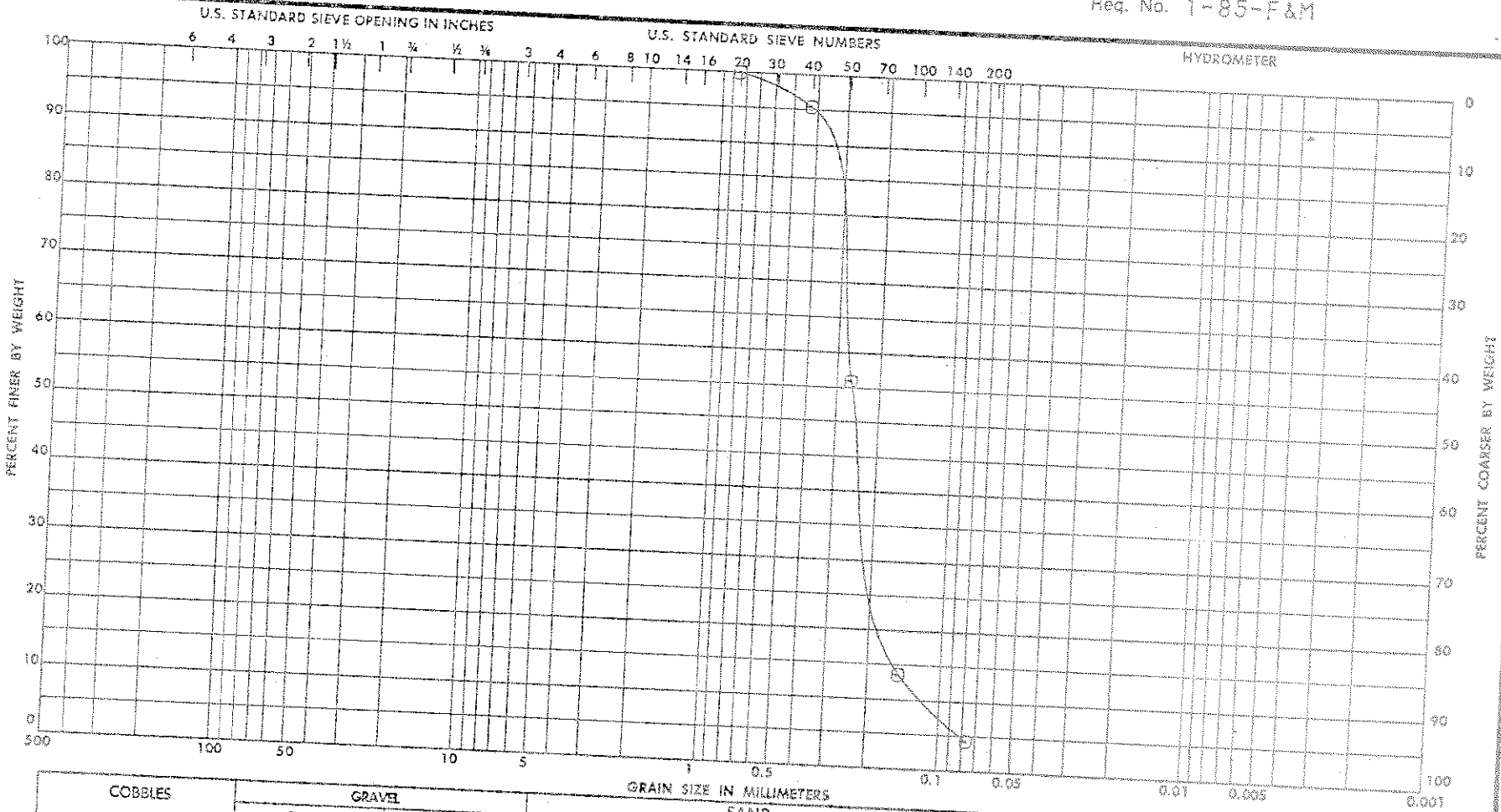
ENG FORM 1 MAY 53 2087

CHART NO. 526

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



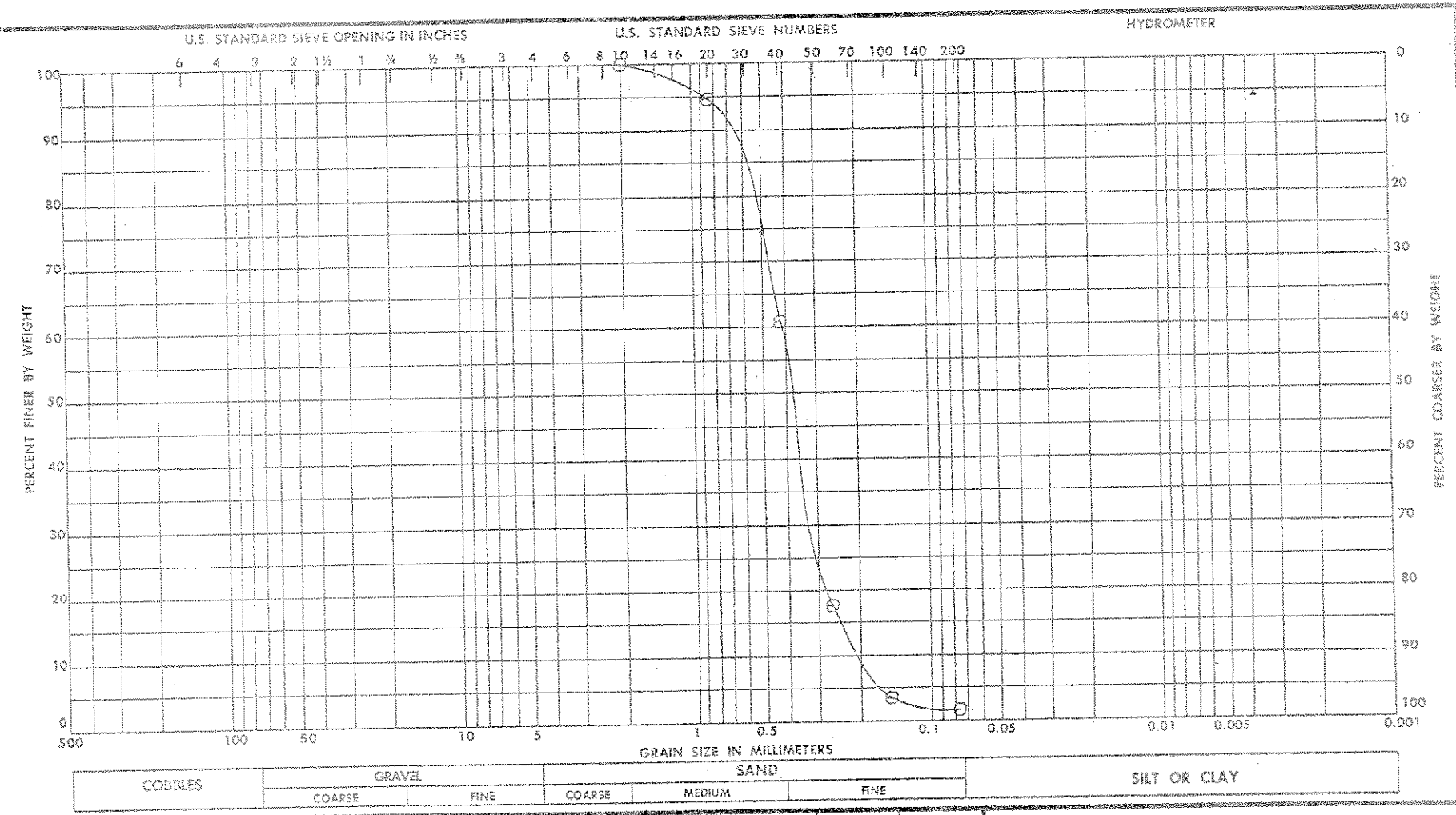
Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
2	10.0'	POORLY GRADED SAND (SP) LT. TAN	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1118
Boring No. VC-4-84 SAMPLE NO. 2
Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 527



Sample No.	Depth	VISUAL Classification	Nat w %	LL	PL	PI
1	5.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT. GRAY				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1119
Boring No. VC-5-84 SAMPLE NO. 1
Date 11/27/84

GRADATION CURVES

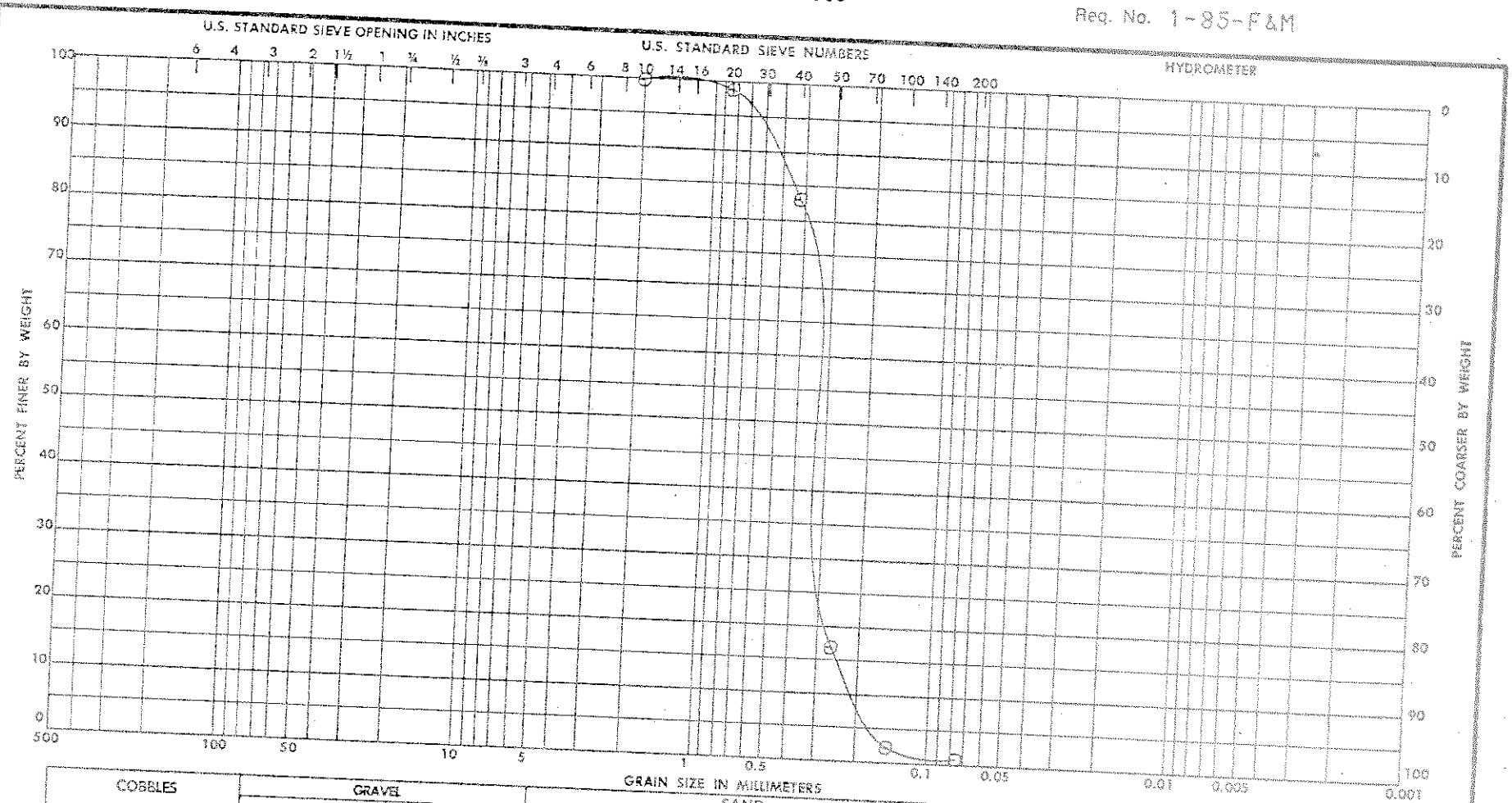
CHART NO. 528

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



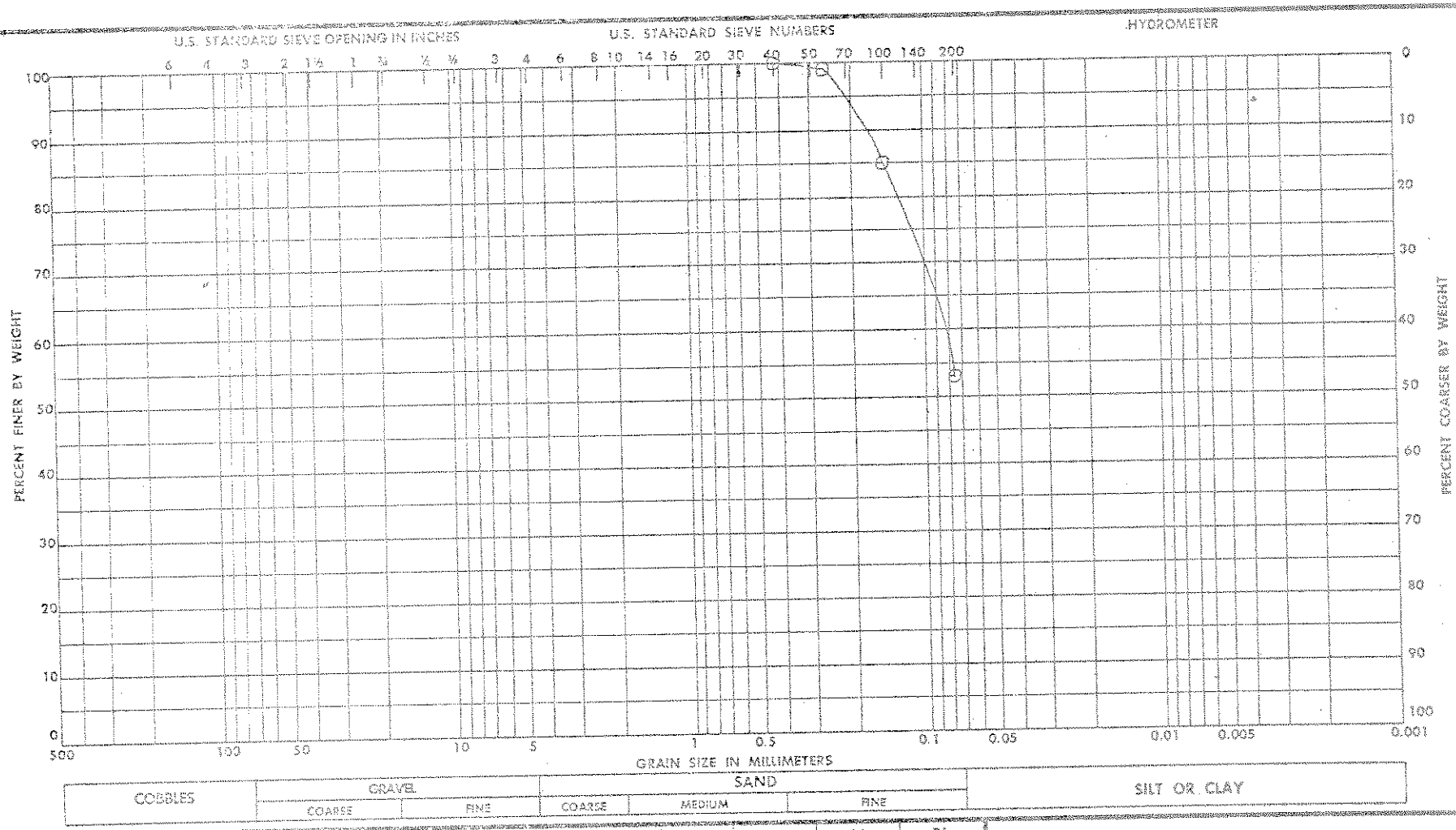
Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
2	15.0'	POORLY GRADED SAND (SP) LT. GRAY	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1120
Boring No. VC-5-84 SAMPLE NO. 2
Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 529



Sample No.	~~Elev.~~ Depth	VISUAL Classification	Nat. w %	LL	PL	PI
2	10.0'	LEAN CLAY (CL), LT. GRAY, SANDY	--	--	--	--

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1122
Boring No. VC-6-84 SAMPLE NO. 2
Date 11/27/84

GRADATION CURVES

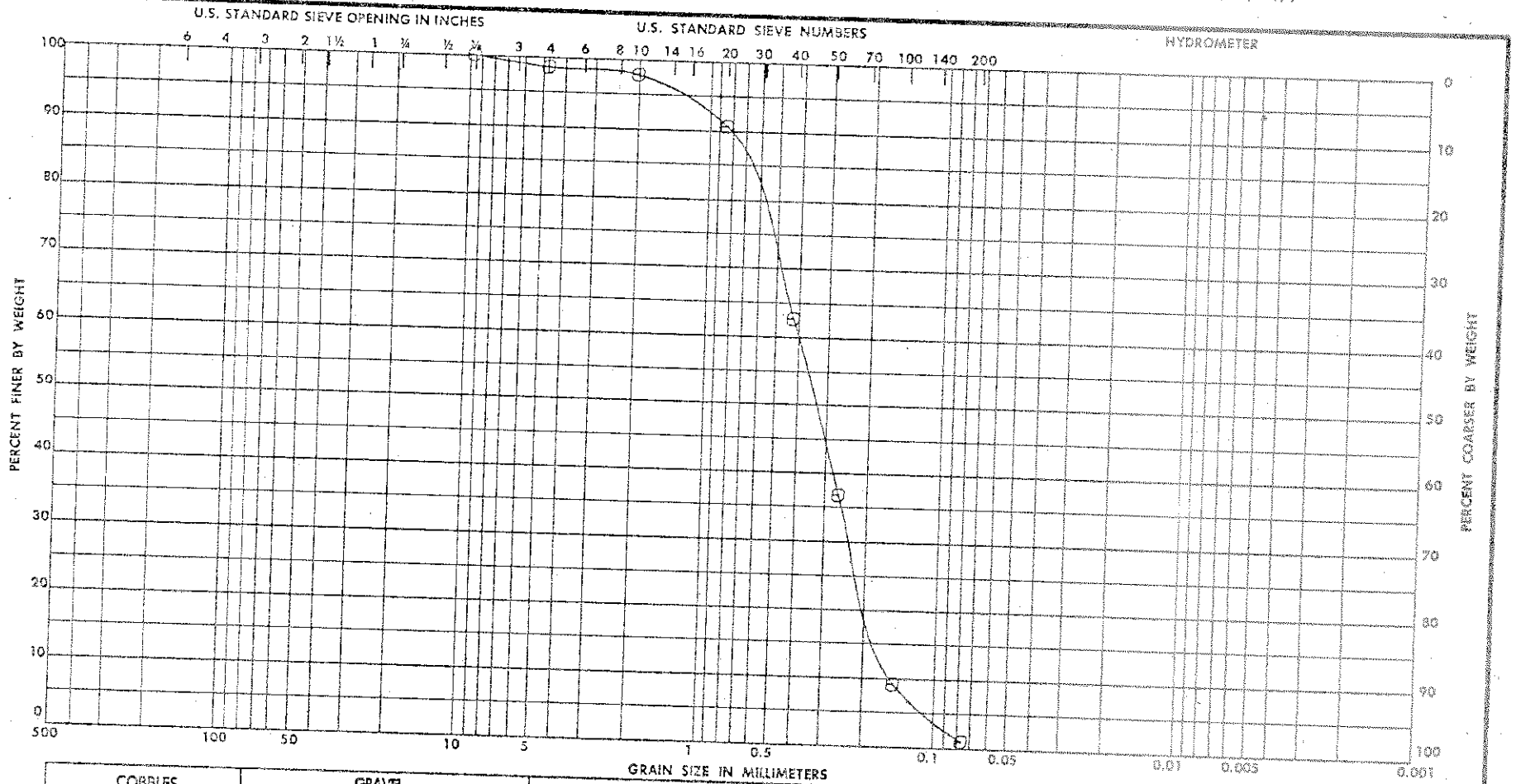
CHART NO. 530

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

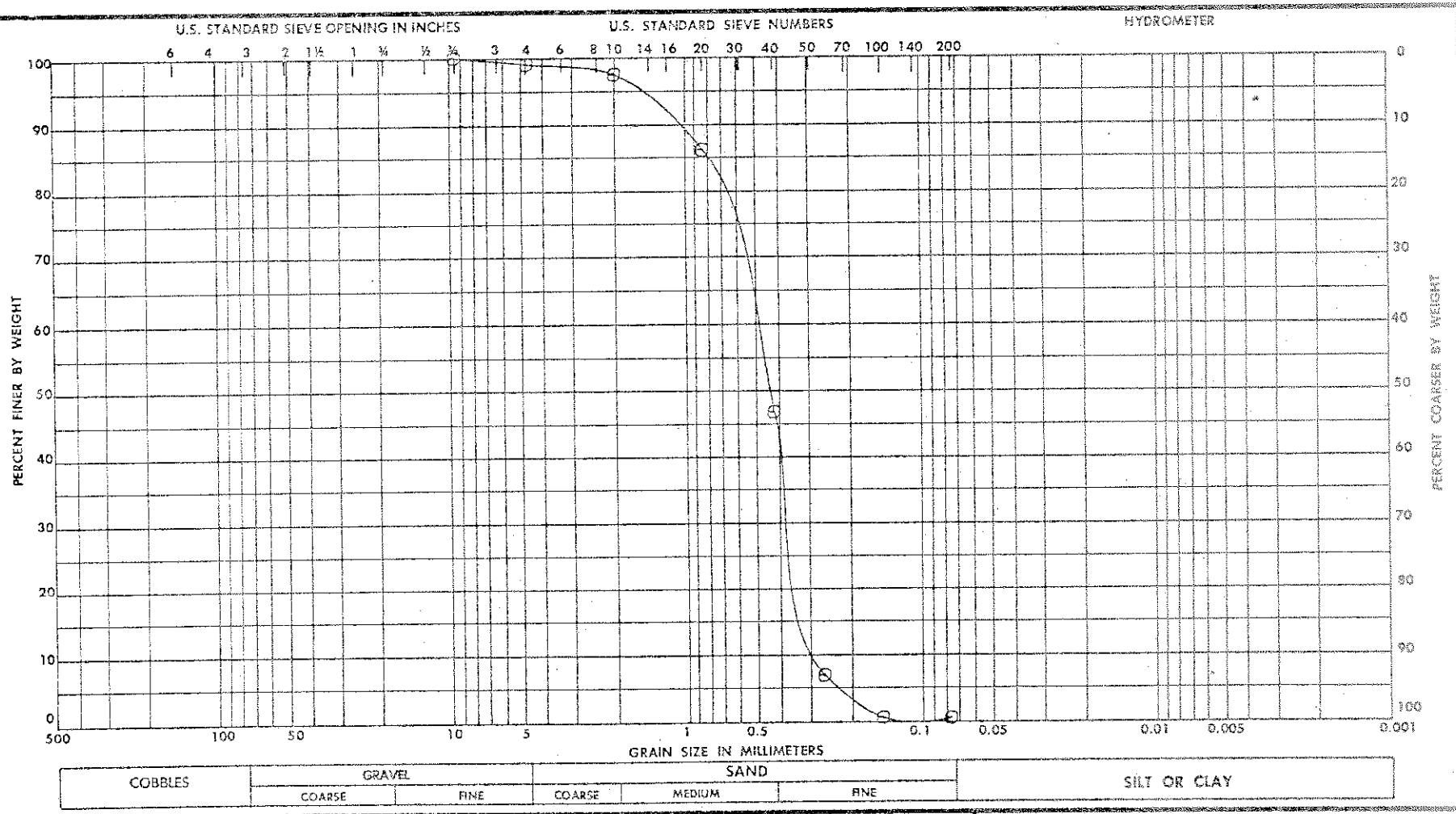
Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
3	15.0'	POORLY GRADED SAND (SP) LT.TAN WITH A TRACE OF GRAVEL	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1123
Boring No. VC-6-84 SAMPLE NO. 3
Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 531



Sample No.	Depth	VISUAL Classification	Nat w %	LL	PL	PI
4	20.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT.TAN WITH A TRACE OF GRAVEL				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1124
Boring No. VC-6-84 SAMPLE NO. 4
Date 11/27/84

GRADATION CURVES

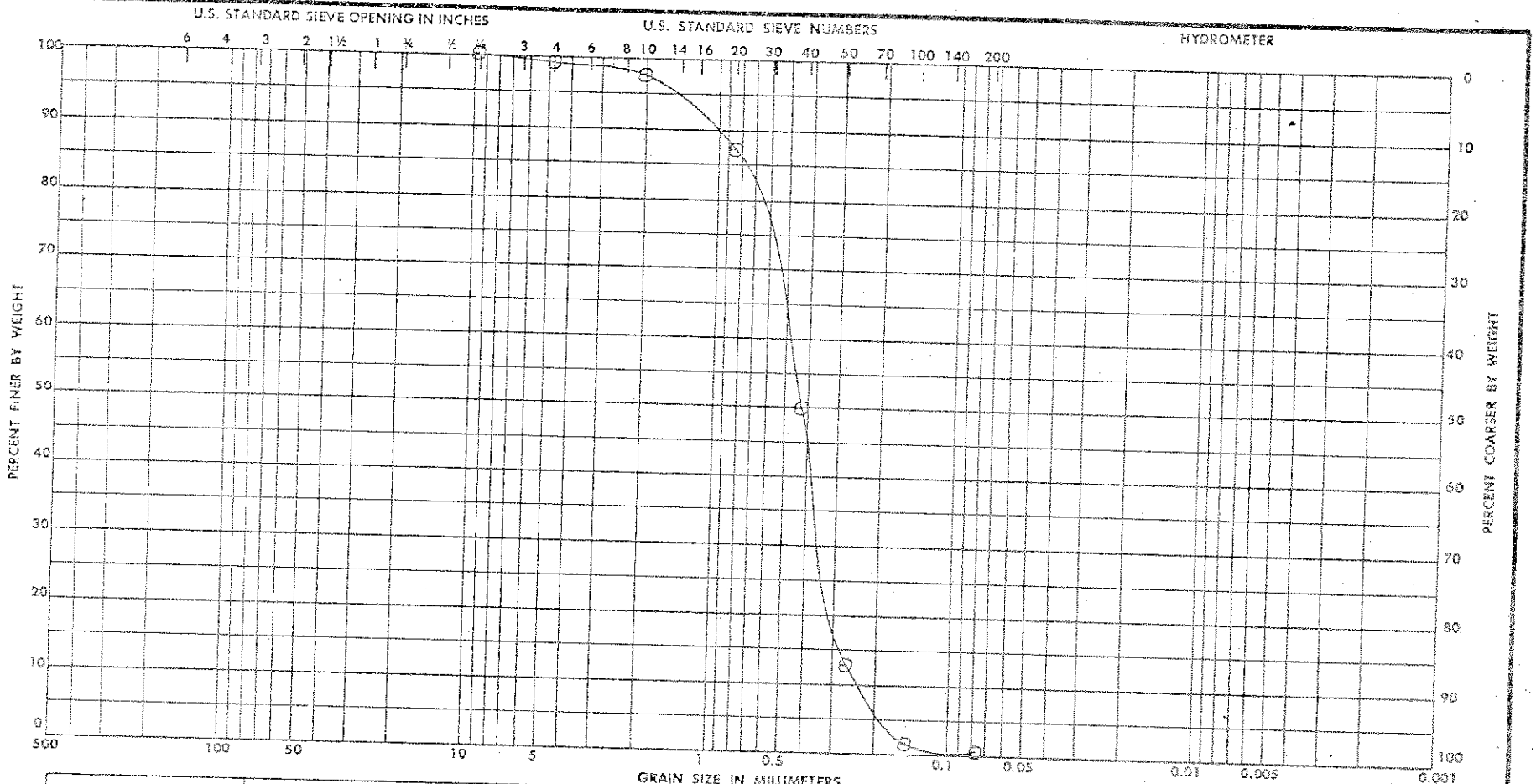
CHART NO. 532

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



Sample No.	~~Elev~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
3	20.0'	POORLY GRADED SAND (SP) LT-TAN WITH A TRACE OF GRAVEL	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING

Area LAB NO.57/1126

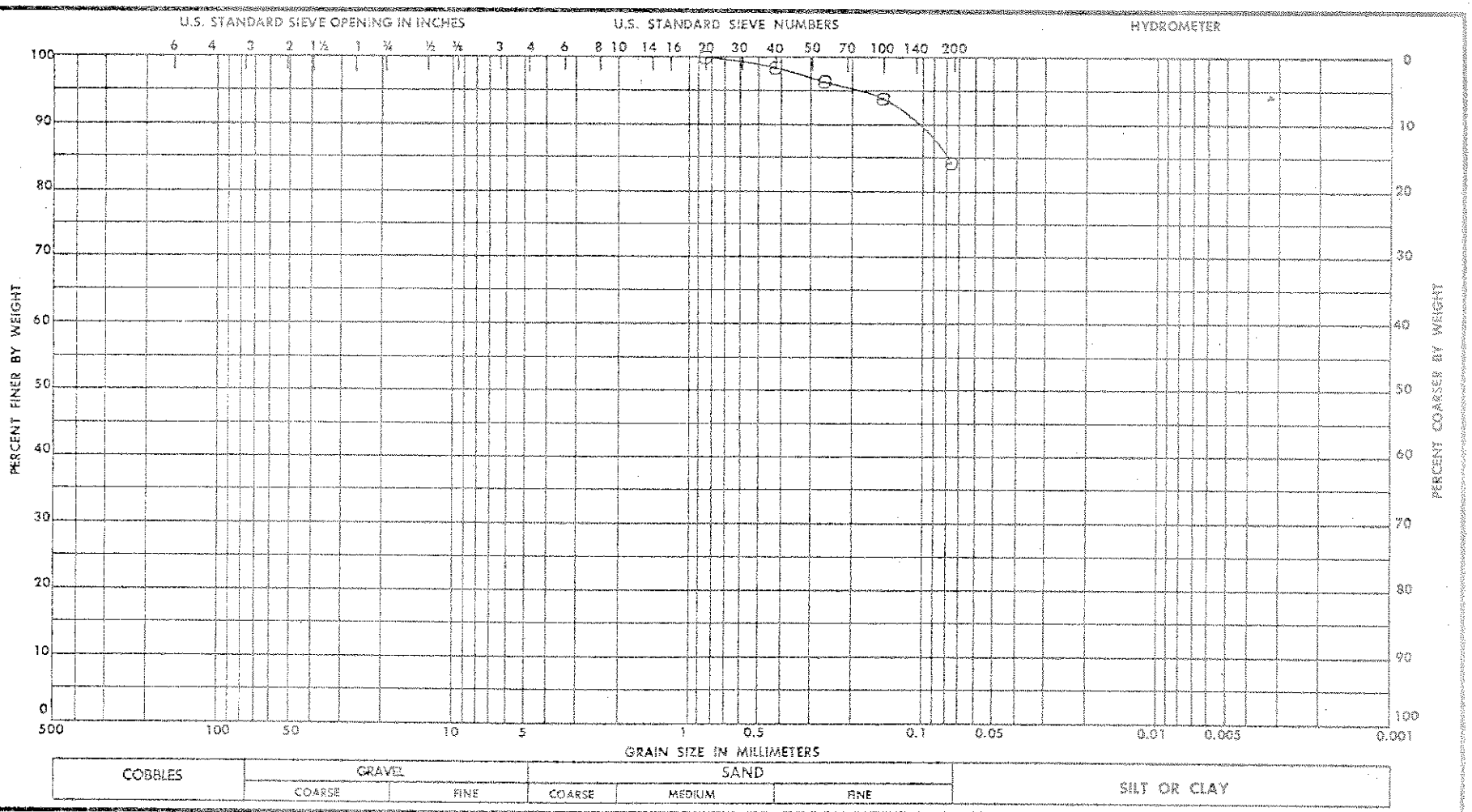
Boring No. VC-7-84 SAMPLE NO. 3

Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2037

CHART NO. 533



Sample No.	~~Elev or~~ Depth	Classification	Nat w %	LL	PL	PI
1	7.0'	LEAN CLAY (CL)	--	49	16	33
		GREENISH GRAY WITH A LITTLE				
		SAND. SPECIFIC GRAVITY ~ 2.69				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING

Area LAB NO.57/1127

Boring No. VC-8-84 SAMPLE NO. 1

Date 11/27/84

GRADATION CURVES

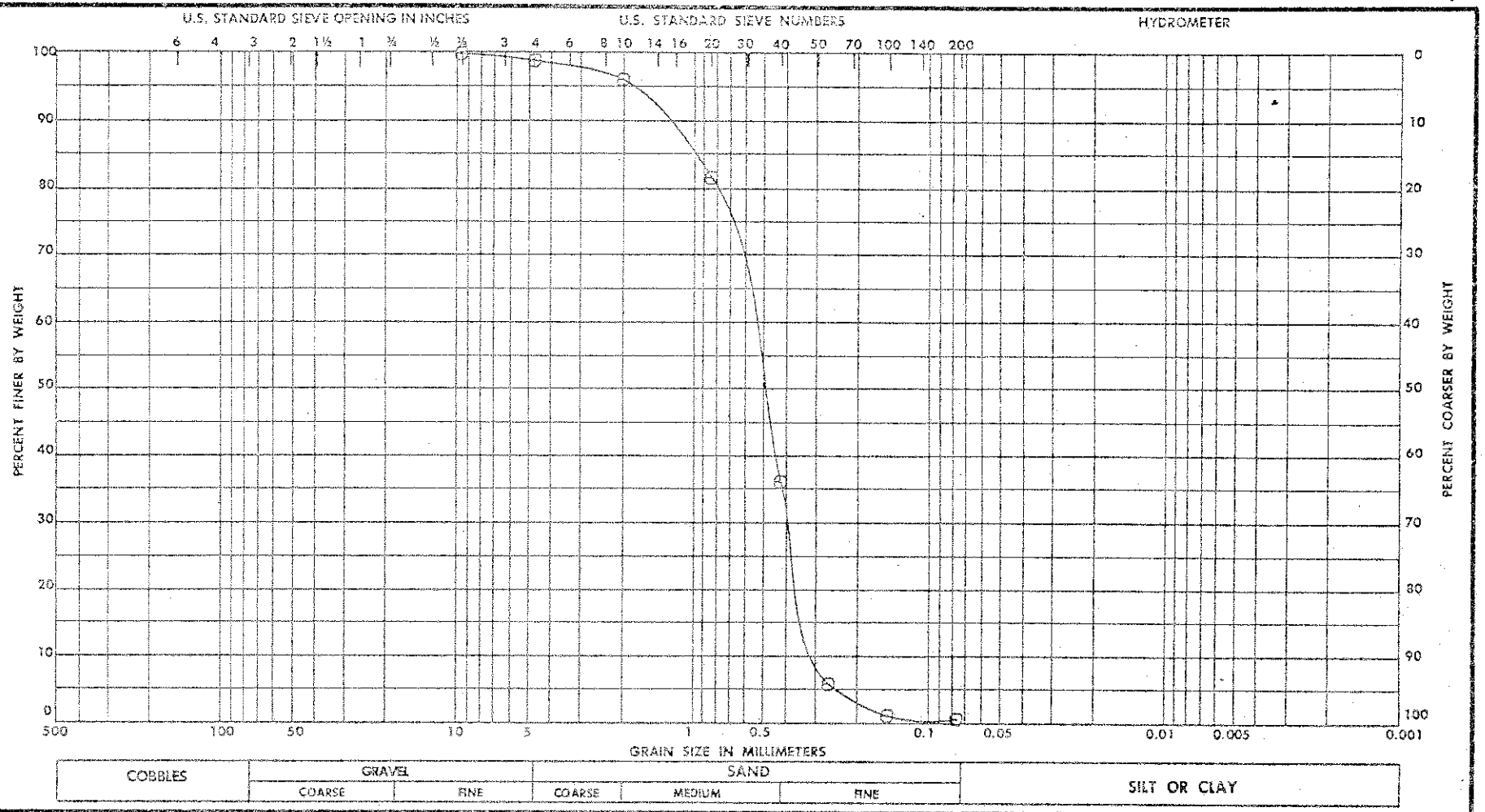
ENG FORM 1 MAY 63 2087

CHART NO. 534

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



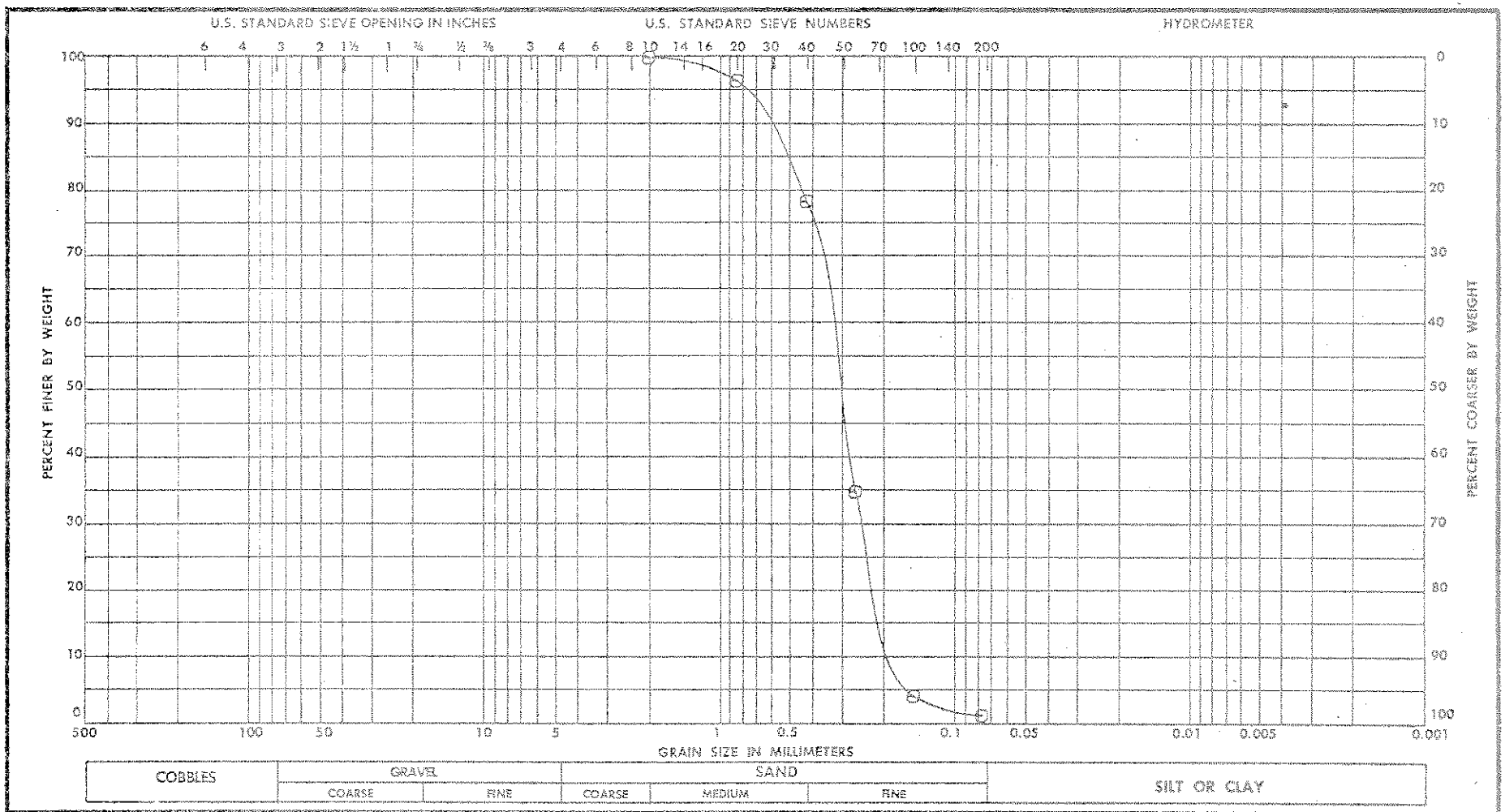
Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
2	10.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT.GRAY WITH A TRACE OF GRAVEL				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1128
Boring No. VC-8-84 SAMPLE NO. 2
Date 11/27/84

GRADATION CURVES

CHART NO. 535

ENG FORM 1 MAY 63 2087



Sample No.	Elev or Depth	VISUAL Classification	Nat w %	LL	PL	PI
3	15.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		LT. TAN				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO. 57/1129
Boring No. VC-8-84 SAMPLE NO. 3
Date 11/27/84

GRADATION CURVES

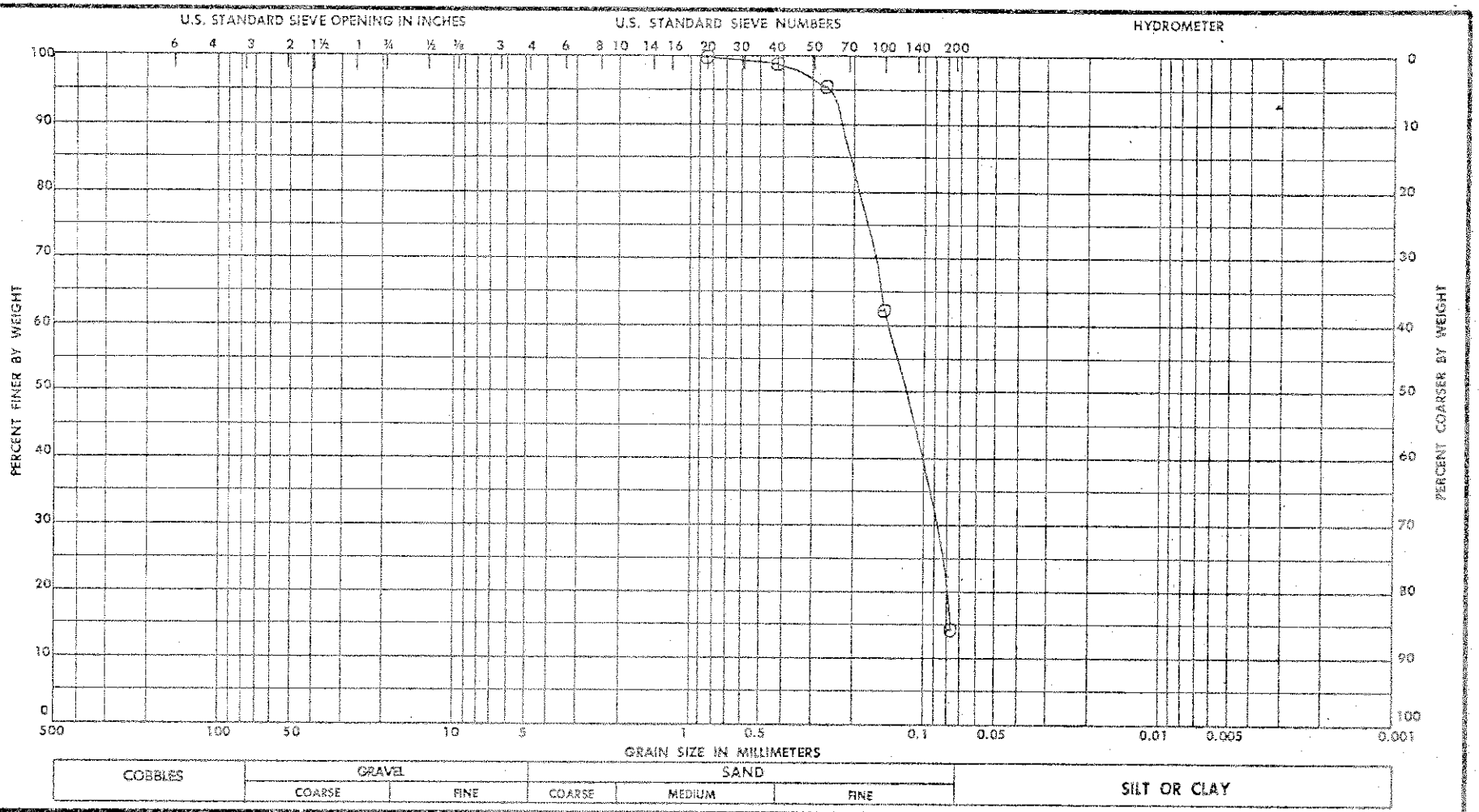
ENG FORM 1 MAY 63 2087

CHART NO. 536

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



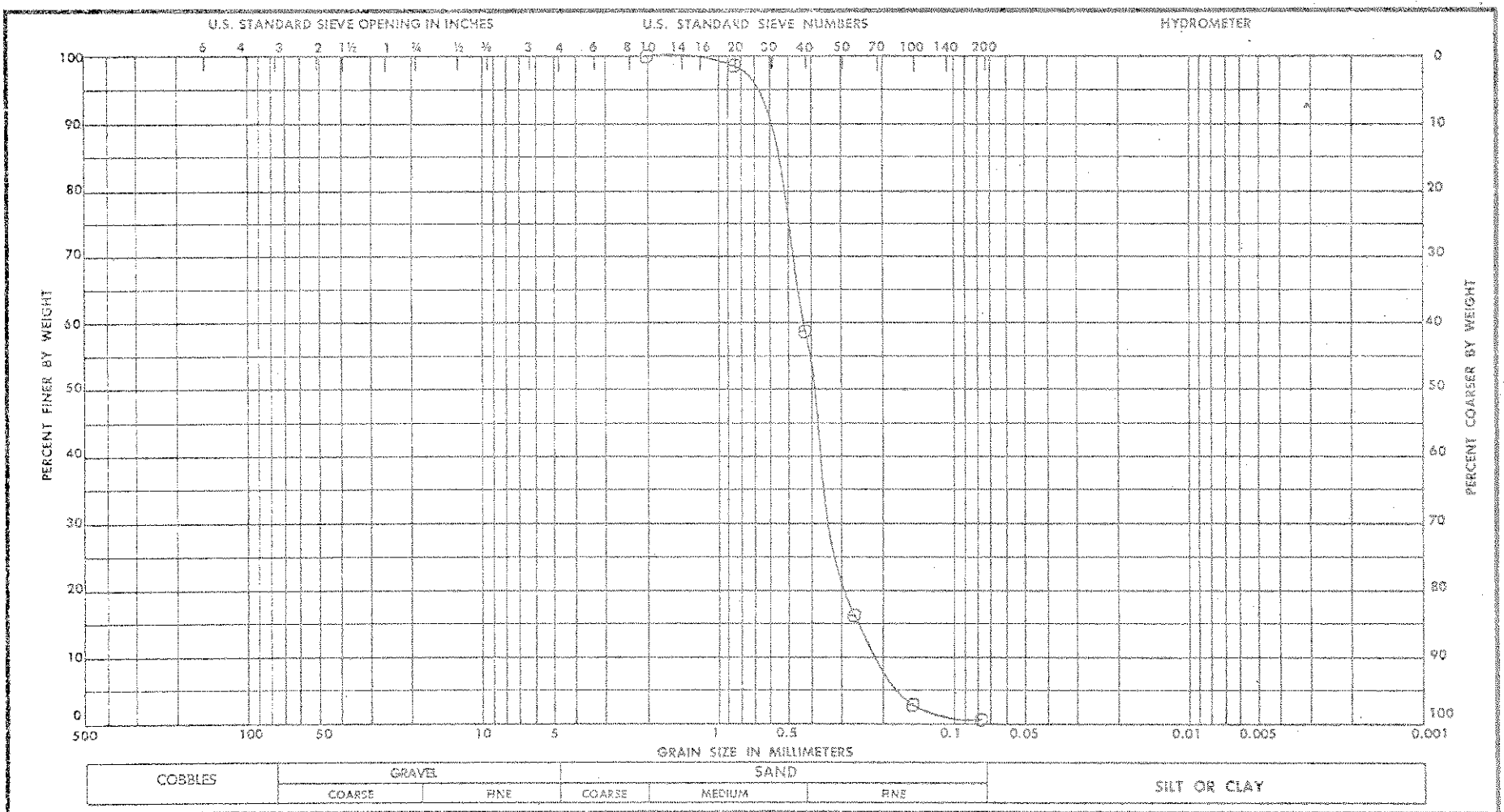
Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
1	5.0'	SILTY SAND (SM)	--	NP	NP	NP
		GREENISH TAN				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1130
Boring No. VC-9-84 SAMPLE NO. 1
Date 11/27/84

GRADATION CURVES

CHART NO. 537

ENG FORM 1 MAY 63 2087



Sample No.	~~Elev~~ Depth	VISUAL Classification	Nat w %	LL	PL	PI
2	19.0'	POORLY GRADED SAND (SP)	--	NP	NP	NP
		TAN				

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING
Area LAB NO.57/1131
Boring No. VC-9-84 SAMPLE NO. 2
Date 11/27/84

GRADATION CURVES

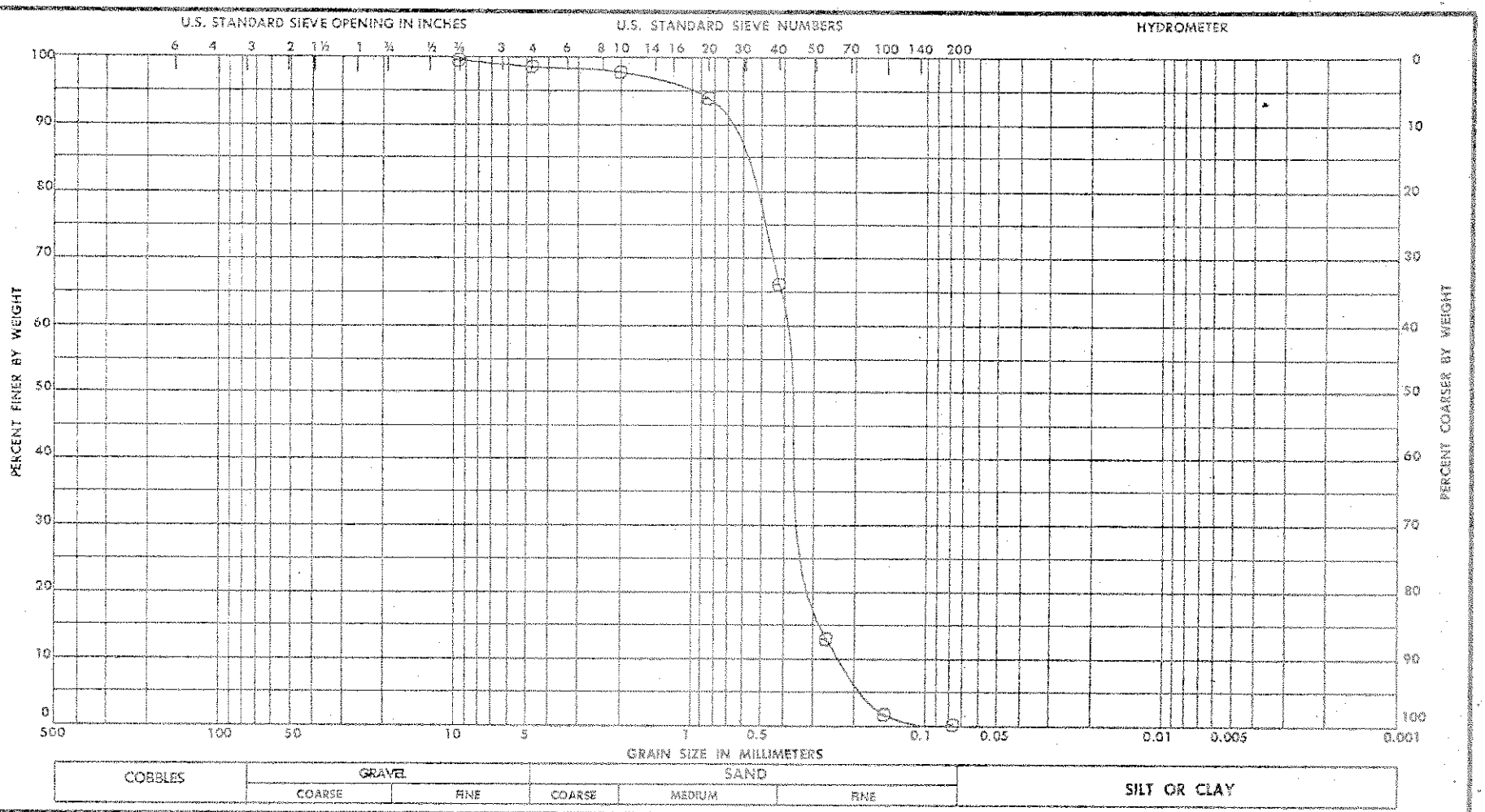
CHART NO. 538

ENG FORM 1 MAY 63 2087

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4222

Req. No. 1-85-F&M



Sample No.	~~Elev or~~ Depth	VISUAL Classification	Nat w %	L.L.	PL	PI
3	15.0'	POORLY GRADED SAND (SP) LIGHT TAN, WITH A TRACE OF GRAVEL	--	NP	NP	NP

Project MOBILE DISTRICT
MOBILE HARBOR DEEPENING

Area LAB NO.57/1132

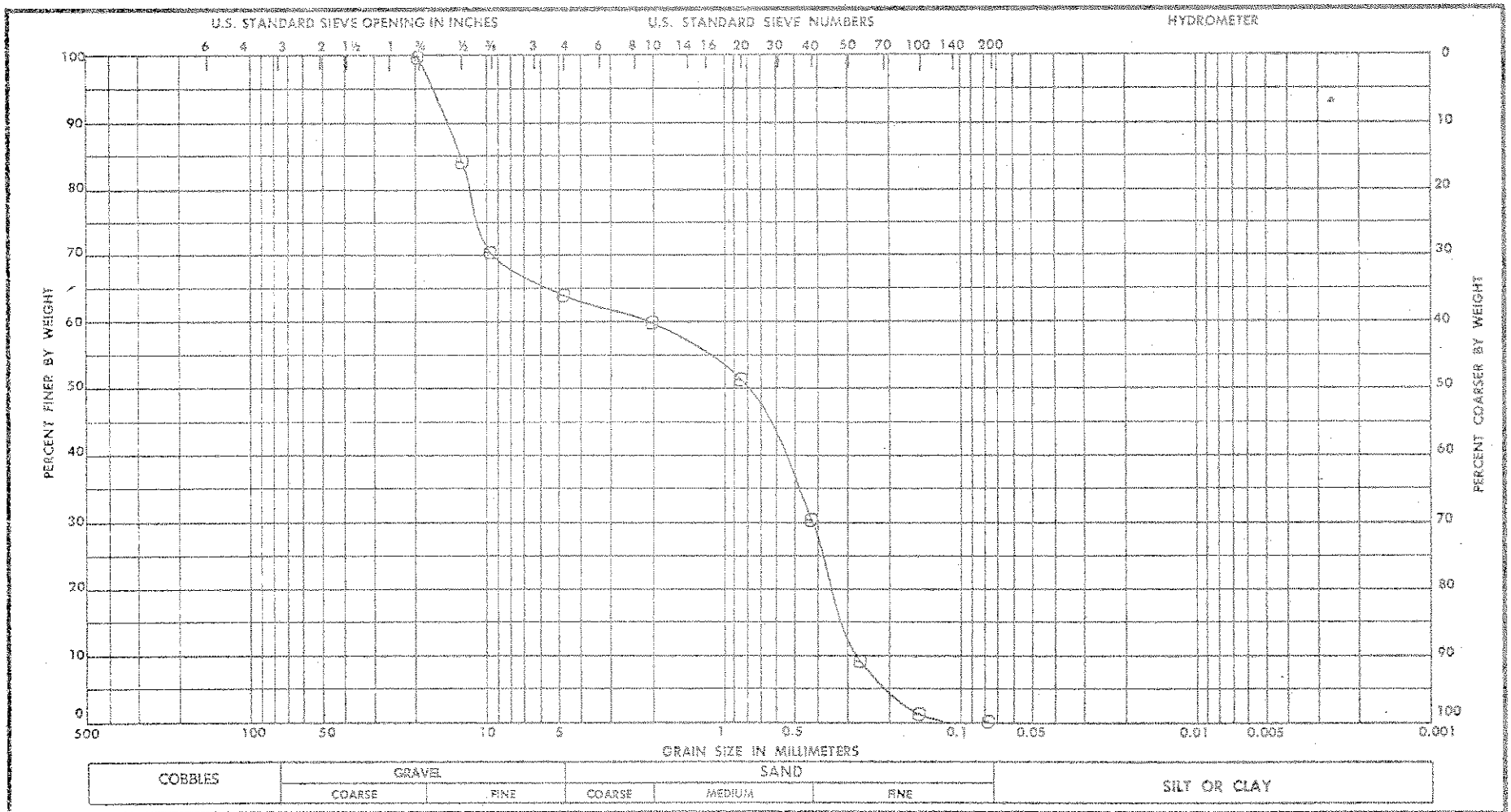
Boring No. VC-9-84 SAMPLE NO. 3

Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 539



Sample No.	Elev or Depth	VISUAL Classification	Nat w %	LL	PL	PI
4	24.0'	POORLY GRADED SAND (SP)	---	NP	NP	NP
		LT.TAN.GRAVELLY				

Project MOBILE DISTRICT

MOBILE HARBOR DEEPENING

Area LAB NO.57/1133

Boring No. VC-9-84 SAMPLE NO. 4

Date 11/27/84

GRADATION CURVES

ENG FORM 1 MAY 63 2087

CHART NO. 540

SS-X-70 Borings

BORING LOG-S	DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 5 SHEETS

1. PROJECT MOBILE HARBOR IMPROVEMENTS	10. SIZE AND TYPE OF BIT SPLITSPOON & FISHTAIL
2. LOCATION (Coordinates or Station) N. 239,560 2400' N BN 42 E. 333,410	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL
3. DRILLING AGENCY MOBILE DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL LONGYEAR (CD-109)
4. HOLE NO. (As shown on drawing title and file number) SS-3-70	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 30; UNDISTURBED 0
5. NAME OF DRILLER FELL	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER MOBILE BAY (0.0)
	16. DATE HOLE: STARTED 5-5-70; COMPLETED 5-5-70
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -4.0'
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 150.5'	19. SIGNATURE OF INSPECTOR C. DAVIS

W/C %	DEPTH	SYM	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	0.0			
			WATER	
	3.0			
	-4.0			
30			GRAYISH BROWN PR. GRD. SILTY SAND (SP-SM)	1
	5.5			
	6.0		NO SAMPLE	FISHTAILED
	9.0			
33			GRAYISH BROWN SILTY SAND (SM)	
	10.5			10
	12.0		NO SAMPLE	FISHTAILED
	14.0			
27	15.0		GRAYISH BROWN PR. GRD. SILTY SAND (SP-SM)	7
	15.5			
			NO SAMPLE	FISHTAILED
	18.0			
	19.0			
26			BROWN PR. GRD. SILTY SAND (SP-SM)	5
	20.5			
	21.0		NO SAMPLE	FISHTAILED
	24.0			
30			BROWN PR. GRD. SILTY SAND (SP-SM)	16
	25.5			
			NO SAMPLE	FISHTAILED
	27.0			
			CONT. ON SHEET 2	

NOB FORM 927 APR 74

HOLE NO. SS-3-70

BORING LOG -S-(Cont Sheet) ELEVATION TOP OF HOLE -4.0'

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 2 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	27.0			
			NO SAMPLE	FISHTAILED
	29.0			
27	30.5		BROWN PR. GRD. SILTY SAND (SP-SM)	10
			NO SAMPLE	FISHTAILED
	34.0			
25	35.5		TAN-BROWN SILTY SAND (SM)	19
			NO SAMPLE	FISHTAILED
	39.0			
41	40.5		TAN-BROWN SILTY SAND (SM)	35
			NO SAMPLE	FISHTAILED
	44.0			
19	45.5		TAN-BROWN SILTY SAND (SM)	34
			NO SAMPLE	FISHTAILED
	49.0			
15	50.5		LT. TAN PR. GRD. SILTY SAND (SP-SM) W/PEA GV.	46
			NO SAMPLE	FISHTAILED
	54.0			
21	55.5		TAN PR GRD. SILTY SAND (SP-SM) W/PEA. GV.	52
			NO SAMPLE	FISHTAILED
	59.0			
24	60.5		TAN PR GRD. SILTY SAND (SP-SM)	64
			CONT ON SHT 3	

BORING LOG -S-(Cont Sheet)	ELEVATION TOP OF HOLE -4.0'	
PROJECT MOBILE HARBOR IMPROVEMENTS	INSTALLATION Mobile District	SHEET 3 OF 5 SHEETS

W/C %	DEPTH 60.5	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60	
			NO SAMPLE	FISHTAILED	
	64.0				
19			TAN PR. GRD. SAND (SP)		83
	65.5				
			NO SAMPLE	FISHTAILED	
	69.0				
16			TAN & GRAY CLAYEY SAND (SC) W/ GV.		82
	70.5				
			NO SAMPLE	FISHTAILED	
	74.0				
24			BROWN PR. GRD. SILTY SAND (SP-SM)		94
	75.5				
			NO SAMPLE	FISHTAILED	
27	79.0				
			TAN PR. GRD. SAND (SP) W/TR. GV.		100+
	80.5				
			NO SAMPLE	FISHTAILED	
	84.0				
28			GRAYISH TAN PR. GRD SAND (SP) W/TR. GV.		100+
	85.5				
			NO SAMPLE	FISHTAILED	
	89.0				
29			GRAYISH TAN PR. GRD. SAND (SP) W/ TR. GV.		94
	90.5				
			NO SAMPLE	FISHTAILED	
	94.0				
			CONT. ON SHT. 4		

BORING LOG -S-(Cont Sheet)	ELEVATION TOP OF HOLE -4.0'
PROJECT MOBILE HARBOR IMPROVEMENTS	INSTALLATION Mobile District	SHEET 4 OF 5 SHEETS

W/C %	DEPTH 94.0	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
29			GRAY FAT CLAY (CH)	
	95.5			23
			NO SAMPLE	FISHTAILED
	99.0			
26			GRAY SILTY FAT CLAY (CH) W/ SOME FINE SAND	28
	100.5			
			NO SAMPLE	FISHTAILED
	104.0			
29			TAN PR. GRD. SAND (SP)	60
	105.5			
			NO SAMPLE	FISHTAILED
	109.0			
28			TAN PR. GRD. SAND (SP)	55
	110.5			
			NO SAMPLE	FISHTAILED
23	114.0			
	114.5		TAN PR. GRD. SAND (SP)	100+
			NO SAMPLE	FISHTAILED
20	119.0			
	119.4		TAN PR. GRD. SAND (SP)	100+
			NO SAMPLE	FISHTAILED
19	124.0			
	124.4		TAN PR. GRD. SAND (SP)	100+
			NO SAMPLE	FISHTAILED
	129.0			

MOB FORM 927-A APR 74 R.C.

CONT ON SHT. 5

HOLE NO. SS-3-70

BORING LOG -S-(Cont Sheet) | ELEVATION TOP OF HOLE -4.0'

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 5 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	129.0			
21	129.5		TAN PR. GRD. SAND (SP)	100+
			NO SAMPLE	FISHTAILED
26	134.0		GRAYISH TAN PR. GRD. SAND (SP) COARSE	100+
	134.5		NO SAMPLE	FISHTAILED
24	139.0		GRAYISH TAN PR. GRD. SAND (SP) COARSE	100+
	140.0		NO SAMPLE	FISHTAILED
26	144.0		GRAYISH TAN PR. GRD. SAND (SP) COARSE	86
	145.5		NO SAMPLE	FISHTAILED
20	149.0		GRAY PR. GRD. SILTY SAND (SP-SM)	47
	150.5		BOTTOM OF HOLE	

MDS FORM 827-A R.C. APR 74

HOLE NO. SS-3-70

BORING LOG-S	DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 5 SHEETS

1. PROJECT MOBILE HARBOR IMPROVEMENTS	10. SIZE AND TYPE OF BIT SPLITSPOON & FISHTAIL
2. LOCATION (Coordinates or Station) N. 238,350 1200' N BH42 E. 333,380	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL
3. DRILLING AGENCY MOBILE DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL FAILING (CD-47)
4. HOLE NO. (As shown on drawing title and file number) SS-4-70'	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 30; UNDISTURBED 0
5. NAME OF DRILLER FELL	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER MOBILE BAY (0.0)
	16. DATE HOLE: STARTED 5-15-70; COMPLETED 5-15-70
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -3.7'
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 150.2'	19. SIGNATURE OF INSPECTOR C. DAVIS

W/C %	DEPTH	SYM	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	0.0		WATER	
	3.0 / 3.7			
34	5.2		BROWNISH GRAY SILTY FINE SAND (SM)	2
	6.0		NO SAMPLE	FISHTAILED
	8.7 / 9.0			
31	10.2		BROWNISH GRAY SILTY FINE SAND (SM) W/TR. OF SHELL	3
	12.0		NO SAMPLE	FISHTAILED
	13.7			
30	15.0 / 15.2		BROWNISH GRAY SILTY FINE SAND (SM) W/TR. OF SHELL	5
	18.0		NO SAMPLE	FISHTAILED
	18.7			
34	20.2		GRAY SANDY FAT CLAY (CH) W/TR. OF SHELL	5
	21.0		NO SAMPLE	FISHTAILED
	23.7 / 24.0			
39	25.2		GRAY FAT CLAY (CH)	4
			NO SAMPLE	FISHTAILED
	27.0		CONT. ON SHT. 2	

MOB FORM 927 R.C. APR 74

HOLE NO. SS-4-70

BORING LOG -S-(Cont Sheet) | ELEVATION TOP OF HOLE -3.7'

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 2 OF 5 SHEETS

W/C %	DEPTH 27.0	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
			NO SAMPLE	FISHTAILED
33	28.7		GRAY SANDY FAT CLAY (CH)	5
	30.2		NO SAMPLE	FISHTAILED
22	33.7		LT. GRAY SILTY FINE SAND (SM)	32
	35.2		NO SAMPLE	FISHTAILED
25	38.7		LT. GRAY SILTY FINE SAND (SM)	48
	40.2		NO SAMPLE	FISHTAILED
25	43.7		TAN SILTY FINE SAND (SM)	24
	45.2		NO SAMPLE	FISHTAILED
25	48.7		TAN PR. GRD. SILTY SAND (SP-SM)	78
	50.2		NO SAMPLE	FISHTAILED
23	53.7		TAN PR. GRD. SAND (SP)	77
	55.2		NO SAMPLE	FISHTAILED
27	58.7		TAN PR. GRD. SAND (SP)	77
	60.2		NO SAMPLE	FISHTAILED
	61.0		CONT. ON SHT. 3	

MOD FORM 927-A R.C. APR 74

HOLE NO. SS-4-70

BORING LOG -S-(Cont Sheet) | ELEVATION TOP OF HOLE -3.7'-

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 3 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	61.0		NO SAMPLE	FISHTAILED
33	63.7 – 65.2		GRAYISH TAN PR. GRD. SAND (SP)	44
			NO SAMPLE	FISHTAILED
34	68.7 – 70.2		GRAYISH TAN PR. GRD. SAND (SP)	35
			NO SAMPLE	FISHTAILED
31	73.7 – 75.2		GRAYISH TAN PR. GRD. SAND (SP)	32
			NO SAMPLE	FISHTAILED
32	78.7 – 80.2		LT. GRAY SANDY FAT CLAY (CH)	16
			NO SAMPLE	FISHTAILED
20	83.7 – 84.2		TAN PR. GRD. SAND (SP)	100+
			NO SAMPLE	FISHTAILED
24	88.7 – 90.2		TAN PR. GRD. SAND (SP)	100+
			NO SAMPLE	FISHTAILED
	93.7			

CONT. ON SHT. 4

BORING LOG - S-(Cont Sheet) | ELEVATION TOP OF HOLE -3.7'

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 4 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	93.7			
20	94.2		TAN PR. GRD SAND (SP)	
			NO SAMPLE	FISHTAILED
27	98.7		TAN PR. GRD. SAND (SP) COARSE	
	99.7			100+
			NO SAMPLE	FISHTAILED
28	103.7		TAN PR. GRD. SAND (SP) COARSE	
	105.2			94
			NO SAMPLE	FISHTAILED
24	108.7		TAN PR. GRD. SAND (SP) COARSE	
	110.2			100+
			NO SAMPLE	FISHTAILED
28	113.7		TAN PR. GRD. SAND (SP) COARSE	
	114.2			100+
			NO SAMPLE	FISHTAILED
21	118.7		TAN PR. GRD SAND (SP) COARSE	
	120.2			95
			NO SAMPLE	FISHTAILED
24	123.7		GRAYISH BROWN PR. GRD. SAND (SP) COARSE	
	125.2			
	126.0		NO SAMPLE	FISHTAILED 100+
			CONT. ON SHT. 5	

NOB FORM 927-A APR 74 R.C.

HOLE NO. SS-4-70

BORING LOG -S-(Cont Sheet) | ELEVATION TOP OF HOLE: -3.7'

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 5 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	126.0			
			NO SAMPLE	FISHTAILED
21	128.7 / 129.2		LT. TAN PR. GRD. SAND (SP) COARSE	100+
			NO SAMPLE	FISHTAILED
21	133.7 / 134.6		LT. TAN PR. GRD. SAND (SP) COARSE W/GV.	100+
			NO SAMPLE	FISHTAILED
21	138.7 / 139.2		LT. TAN PR. GRD. SAND (SP) COARSE	100+
			NO SAMPLE	FISHTAILED
45	143.7 / 145.2		GRAY SILTY FAT CLAY (CH)	36
			NO SAMPLE	FISHTAILED
	148.7 / 150.2		LT. GRAY PR. GRD. SILTY SAND (SP-SM)	51
			BOTTOM OF HOLE	

MOB FORM 927-A APR 74 R.C.

HOLE NO. SS-4-B2

BORING LOG-S	DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 5 SHEETS

1. PROJECT MOBILE HARBOR IMPROVEMENTS	10. SIZE AND TYPE OF BIT SPLITSPOON & FISHTAIL
2. LOCATION (Coordinates or Station) OPPOSITE BN 42 N. 237,120 E. 333,285	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL
3. DRILLING AGENCY MOBILE DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL LONGYEAR (CD-109)
4. HOLE NO. (As shown on drawing title and file number) 55-5-70	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 30; UNDISTURBED 0
5. NAME OF DRILLER FELL	14. TOTAL NUMBER CORE BOXES 0
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER MOBILE BAY (0.0)
7. THICKNESS OF OVERBURDEN	16. DATE HOLE: STARTED 4-22-70; COMPLETED 4-23-70
8. DEPTH DRILLED INTO ROCK	17. ELEVATION TOP OF HOLE -6.5
9. TOTAL DEPTH OF HOLE 153.0'	18. TOTAL CORE RECOVERY FOR BORING N/A %
	19. SIGNATURE OF INSPECTOR C. DAVIS

W/C %	DEPTH	SYM	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	0.0			
	3.0		WATER	FISHTAILED
	6.0			
18	6.5		DK. GRAY CLAYEY, FN. SAND (SC) W/ SHELL	WH
	8.0			
	9.0		NO SAMPLE	FISHTAILED
	11.5			
29	12.0		GRAY SILTY FN SAND (SM)	
	13.0			
	15.0		NO SAMPLE	FISHTAILED
	16.5			
26			GRAY SILTY FN. SAND (SM)	
	18.0			4
			NO SAMPLE	FISHTAILED
	21.0			
30	21.5		GRAY SILTY FN. SAND (SM)	
	23.0			5
	24.0		NO SAMPLE	FISHTAILED
	26.5			
56	27.0		GRAY FAT CLAY (CH)	
	29.0			2

MOB FORM 927 APR 74

CONT. ON SHT. 2

HOLE NO. 55-5-70

BORING LOG -S-(Cont Sheet) | ELEVATION TOP OF HOLE -6.5

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 2 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	28.0			
			NO SAMPLE	FISHTAILED
	31.5			
50	33.0		GRAY FAT CLAY (CH)	8
			NO SAMPLE	FISHTAILED
	36.5			
86	38.0		GRAY FAT CLAY (CH)	5
			NO SAMPLE	FISHTAILED
	41.5			
88	43.0		GRAY FAT CLAY (CH)	6
			NO SAMPLE	FISHTAILED
	46.5			
226	48.0		LT. GRAY SILTY FAT CLAY (CH) W/ PKTS. BLACK ORG. CLAY	8
			NO SAMPLE	FISHTAILED
	51.5			
88	53.0		BLACK ORGANIC CLAY (OH)	11
			NO SAMPLE	FISHTAILED
	56.5			
16	58.0		TAN-BROWN FR. GRD. SILTY SAND (SP-SM)	53
			NO SAMPLE	FISHTAILED
	61.5			55
			CONT ON SHT 2	

MOB FORM 927-A APR 74

HOLE NO. SC-5-70

BORING LOG -S-(Cont Sheet)	ELEVATION TOP OF HOLE	-6.5
PROJECT MOBILE HARBOR IMPROVEMENTS	INSTALLATION Mobile District	SHEET 3 OF 5 SHEETS

W.C. %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	61.5			
16	63.0		GRAYISH BROWN PR GRD. SILTY SAND (SP-SM)	55
			NO SAMPLE	FISHTAILED
19	66.5		TAN PR. GRD. SAND (SP)	42
	68.0		NO SAMPLE	FISHTAILED
14	71.5		TAN PR. GRD. SAND (SP)	100+
	73.0		NO SAMPLE	FISHTAILED
18	76.5		LT. TAN PR. GRD. SAND (SP)	100+
	78.0		NO SAMPLE	FISHTAILED
20	81.5		LT. TAN PR. GRD. SAND (SP)	76
	83.0		NO SAMPLE	FISHTAILED
20	86.5		TAN PR GRD. SAND (SP)	56
	88.0		NO SAMPLE	FISHTAILED
19	91.5		TAN PR GRD. SAND (SP)	53
	93.0		NO SAMPLE	FISHTAILED
	96.5			

MOB FORM 927-A APR 74

CONT ON SHT 4

HOLE NO. [illegible]

BORING LOG -S-(Cont Sheet) ELEVATION TOP OF HOLE -6.5

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 4 OF 5 SHEETS

W/C %	DEPTH 96.5	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
26			LT TAN PR GRD. SAND (SP)	42
	98.0			
			NO SAMPLE	FISHTAILED
	101.5			
21			TAN PR. GRD. SAND (SP)	43
	103.0			
			NO SAMPLE	FISHTAILED
	106.5			
24			LT. TAN PR. GRD. SAND (SP)	43
	108.0			
			NO SAMPLE	FISHTAILED
	111.5			
25			TAN PR. GRD. SAND (SP)	45
	113.0			
			NO SAMPLE	FISHTAILED
	116.5			
20			LT. BROWN PR. GRD. SAND (SP)	63
	118.0			
			NO SAMPLE	FISHTAILED
	121.5			
19			TAN PR GRD SAND (SP)	84
	123.0			
			NO SAMPLE	FISHTAILED
18	126.5		TAN PR GRD. SAND (SP)	100
	127.2			
			NO SAMPLE	FISHTAILED
	131.5			

CONT ON SHT 5

BORING LOG -S-(Cont Sheet) ELEVATION TOP OF HOLE -6.5

PROJECT: MOBILE HARBOR IMPROVEMENTS | INSTALLATION: Mobile District | SHEET 5 OF 5 SHEETS

W/C %	DEPTH	SYM.	CLASSIFICATION OF MATERIALS (DESCRIPTION)	STANDARD-PENETRATION (BLOWS PER FOOT) 0 20 40 60
	131.5		TAN PR. GRD. SAND (SP)	
	132.0		NO SAMPLE	FISHTAIL
	136.5		TAN PR. GRD. SAND (SP) CSE.	100+
	136.9		NO SAMPLE	FISHTAIL
	141.5		TAN PR. GRD. SAND (SP) CSE	100+
	142.0		NO SAMPLE	FISHTAIL
	146.5		GRAY SANDY FAT CLAY (CH) W/TR GV.	15
	148.0		NO SAMPLE	FISHTAIL
	151.5		LT GRAY SILTY SAND (SM)	37
	153.0		BOTTOM OF HOLE	

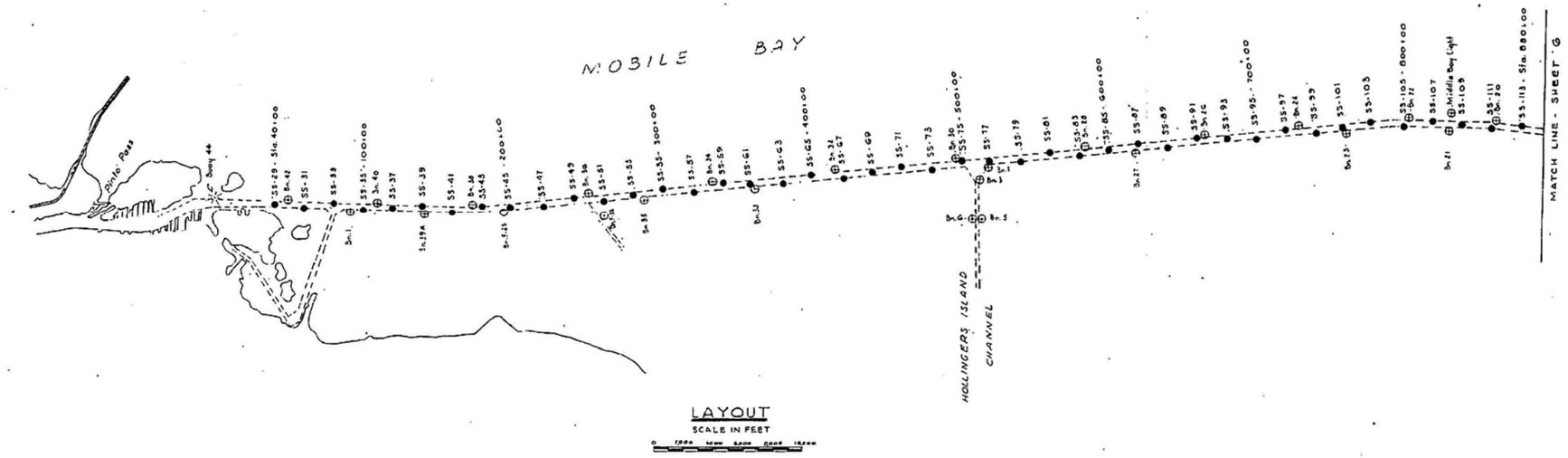
MOB FORM 927-A APR 74

HOLE NO. SS 15 70

SS-X Borings

CORPS OF ENGINEERS | 4 | 3 | 2 | 1 | U. S. ARMY

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APPROVED
		ADDED PRESENT STATIONING & LABELS	5/2018	

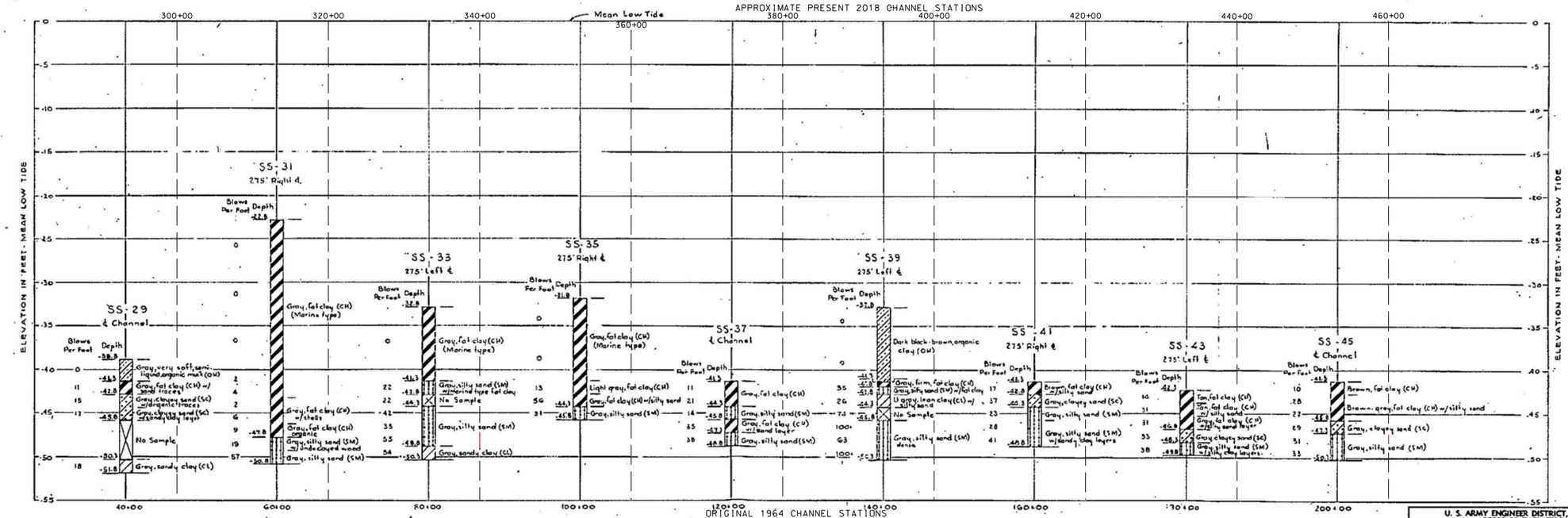


LAYOUT

SCALE IN FEET

0 1000 2000 4000 6000 8000 10000

APPROXIMATE PRESENT 2018 CHANNEL STATIONS



NOTE:
For Legend and Notes see Sheet 7.

VERTICAL SCALE: 1" = 5'

5' 0 5 10 FT

U. S. ARMY ENGINEER DISTRICT, MOBILE
CORPS OF ENGINEERS
MOBILE, ALA.

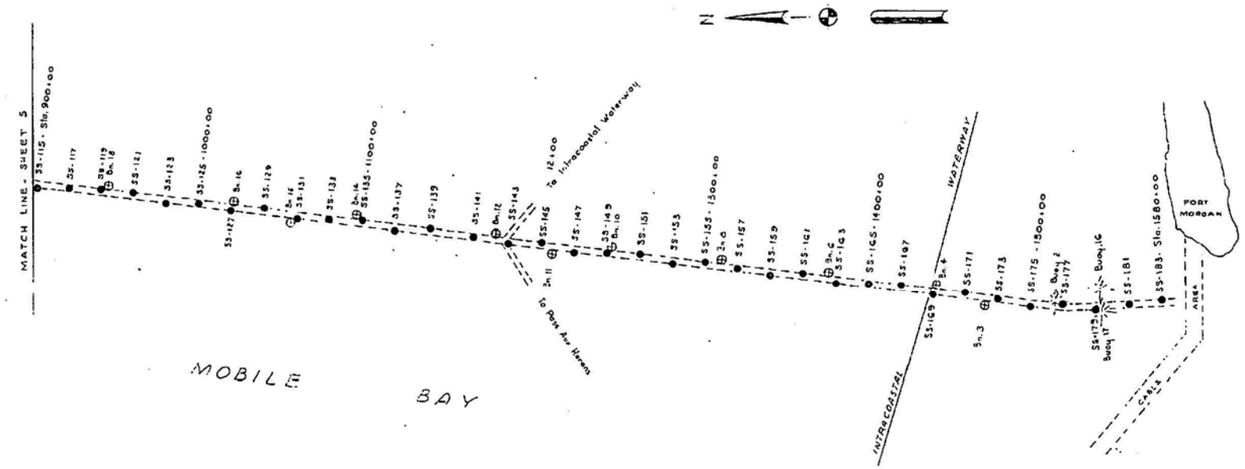
MOBILE HARBOR, ALABAMA
BAY CHANNEL
LAYOUT & LOGS OF BORINGS

SH. REF. NO.	SPEC. NO. CIVENG-01-078-84-98	SIZE	FILE NO. D-13-2-153
			DRAWING NO.
SCALE: AS SHOWN	DATE: MAY 1964.		SHEET 5 of 13

5 | 4 | 3 | 2 | 1

CORPS OF ENGINEERS | 4 | 3 | 2 | 1 | U. S. ARMY

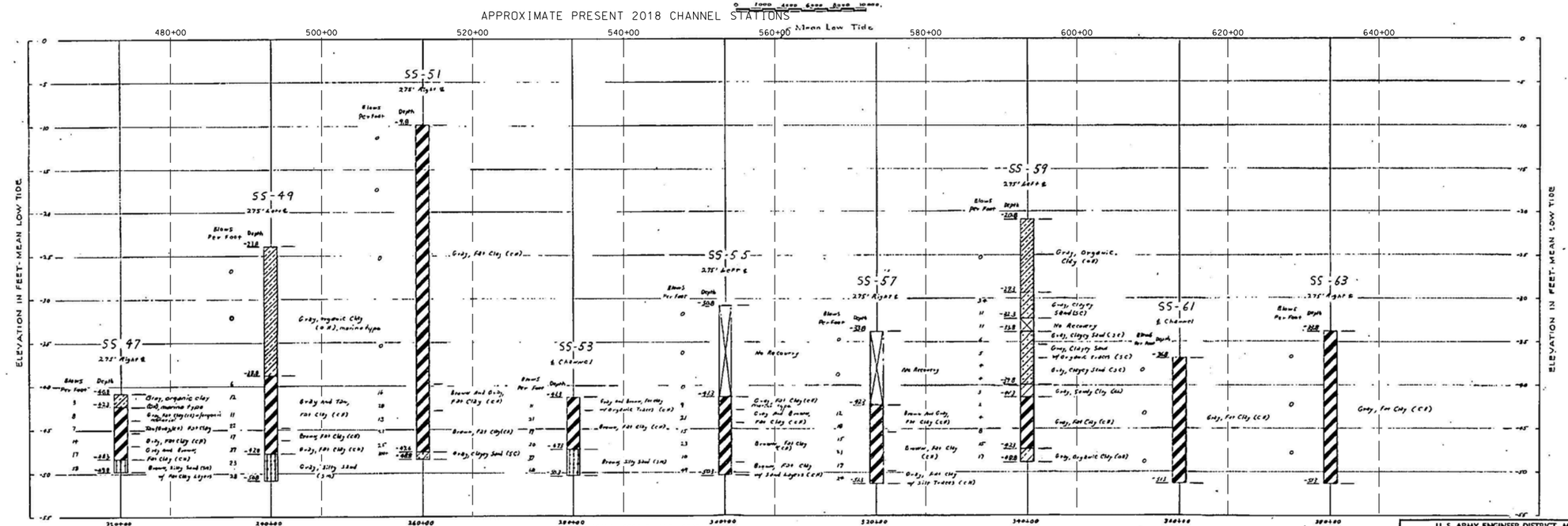
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APPROVED
		ADDED PRESENT STATIONS AND LABELS	5/2018	



LAYOUT

SCALE IN FEET

0 1000 4000 6000 8000 10000



VERTICAL SCALE: 1" = 5'

5' 0 5 10 FT.

NOTES:

For Layout of Borings see Sheet 5.
For Legend and Notes see Sheet 7.

U. S. ARMY ENGINEER DISTRICT, MOBILE
CORPS OF ENGINEERS
MOBILE, ALA.

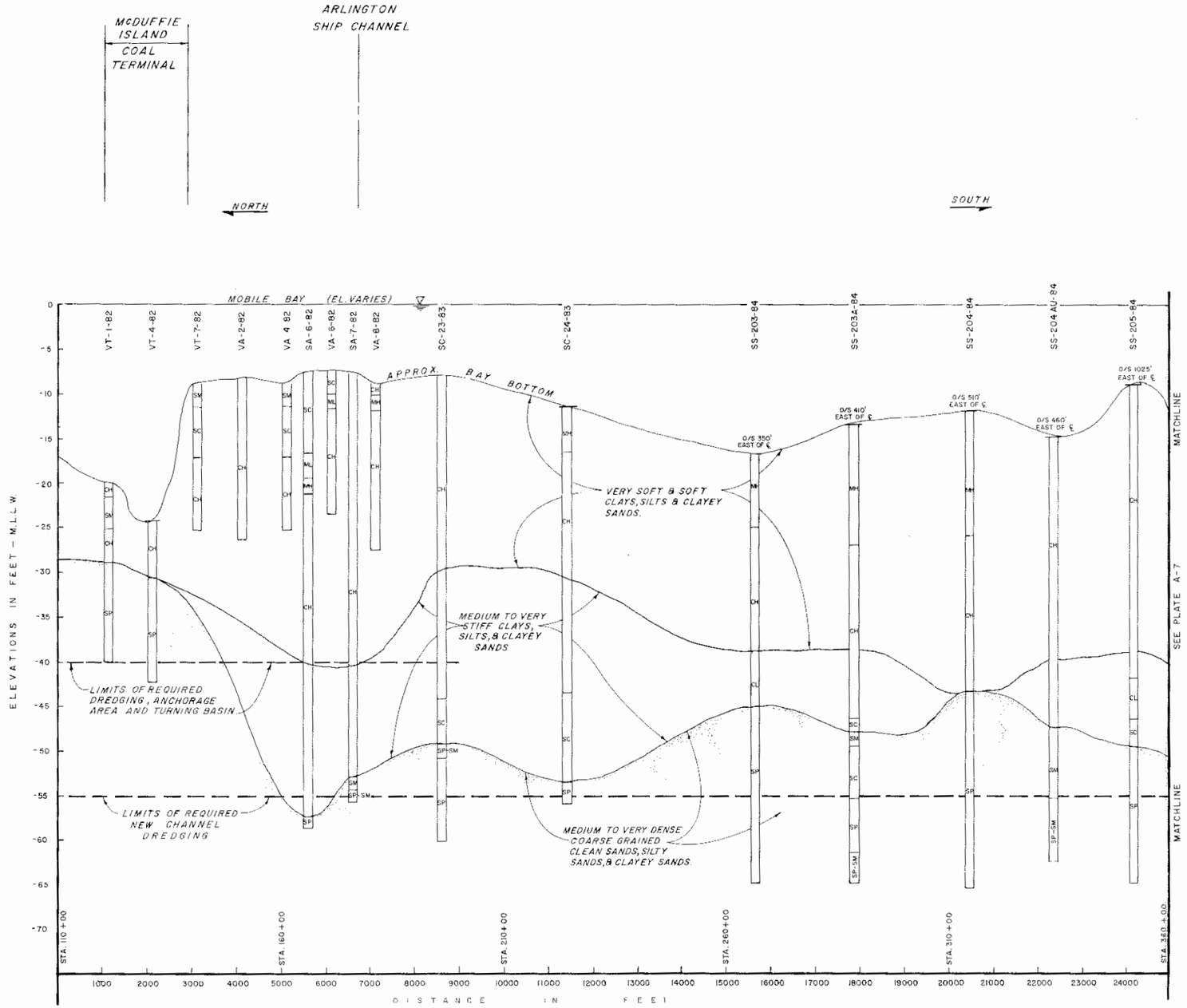
MOBILE HARBOR, ALABAMA
BAY CHANNEL
LAYOUT & LOGS OF BORINGS

SH. REF. NO.	SPEC. NO.	SIZE	FILE NO. D-13-2-154
	CIVENG - 01-078-64-98		DRAWING NO.
	SCALE: AS SHOWN	DATE: MAY 1964	SHEET 6 of 13

5 | 4 | 3 | 2 | 1

SS-X-84 Borings

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APPROVED



GEOLOGIC SECTION

SCALE:

VERT.: 5 0 5 10 scale feet

HORIZ.: 1000 0 1000 2000' scale feet

LEGEND	
CLAYS	CH
	CL
SILTS	MH
	ML
ORGANICS	OH
SANDS	SP
	SM
	SC
O/S = OFFSET	

DESIGNED BY: C.T.R.	U.S. ARMY ENGINEER DISTRICT, MOBILE CORPS OF ENGINEERS MOBILE, ALA.
DRAWN BY: H.S.G.	MOBILE HARBOR DEEPENING, ALABAMA
CHECKED BY: S.V.F.	GENERAL DESIGN MEMORANDUM DESIGN MEMORANDUM NO. 1
SUPERVISED BY: S.V.F.	CHANNEL STA. 110+00 TO STA. 360+00
	GEOLOGIC SECTION
SH. REF. NO.	SPEC. NO. / SIZE / FILE NO. / DRAWING NO.
	SCALE: / DATE: APRIL, 1985 / SHEET

APPENDIX B

ENVIRONMENTAL COMPLIANCE

Turtle Trawl Net Specifications

Turtle Trawl Net Specifications

DESIGN: 4 Seam, 4 Legged, 2 Bridal Trawl Net
WEBBING: 4 inch bar, 8 inch stretch
Top - 36 Gauge Twisted Nylon Dipped
Side - 36 Gauge Twisted Nylon Dipped
Bottom - 84 Gauge Braided Nylon Dipped
NET LENGTH: 60 ft from cork line to cod end
BODY TAPER: 2 to 1
WING END HEIGHT: 6 feet
CENTER HEIGHT: Dependent on depth of trawl - 14 to 18 feet
COD END: Length 50 meshes x 4 inches equals 16.7 feet
Webbing 2 inch bar, 4 inch stretch, 84 gauge braid nylon
Dipped, 80 meshes around, 40 rigged meshes with ¼ x 2 inch choker rings, 1 each ½ x 4 inch at end
Cod End Cover - none
Chaffing Gear - none
HEAD ROPE: 60 ft ½ inch combination rope (braid nylon with stainless cable center)
FOOT ROPE: 65 ft ½ inch combination rope
LEG LINE: Top - 6 ft, Bottom - 6 ft
FLOATS: Size - Tuna Floats (football style), Diameter - 7 Inches; Length - 9 inches; number 12 each;
Spacing - center of top net 2 inches apart
MUD ROLLERS: Size - 5 inch Diameter, 5.5 inch length
Number - 22 each; spacing - 3 ft attached with 3/8 inch Polypropylene rope (replaced with snap on roller when broken)
TICKLER CHAINS: NONE (Discontinued - but previously used ¼ inch x 74 ft galvanized chain)
WEIGHT: 20 ft of ¼ inch galvanized chain on each wing, 40 ft per net looped and tied
DOOR SIZE: 7 ft x 40 inches (or 8 ft x 40 inches); Shoe - 1 inch X 6 inch: bridles - 3/8 inch high test chain
CABLE LENGTH: (Bridle Length, Total) : 7/16 inch x 240-300 ft varies with bottom conditions
FLOAT BALL: NONE
LAZY LINES: 1 inch nylon
PICKUP LINES: 3/8 inch polypropylene
WHIP LINES: 1 inch nylon

ODESS System Requirements and Forms

01 57 20.00 10

HARDWARE REQUIREMENTS FOR THE ODESS SYSTEM

The dredge shall be equipped and the contractor is responsible for an ODESS hardware system consisting of a tablet computer, wireless keyboard, wireless mouse and data modem (or equivalent onboard internet connection) along with a proper tote bag and setup location for the afore mentioned hardware components. If a hardware problem occurs, or if a part of the system is physically damaged, the Contractor shall be responsible for repairing it within 48 hours of determination of the condition. The contractor shall also keep ODESS personnel updated on the status of the onboard ODESS system and the progress of any repairs.

Computer

The Contractor shall provide a dedicated onboard tablet computer for use by the observers and shall have ODESS software installed on it prior to project initiation. This computer shall be located and oriented to allow data entry and data viewing. It must meet or exceed the following specifications:

Tablet Hardware Component	**Specification**
CPU	Intel or AMD processor with a (non-overclocked) clock speed of at least 2.4 gigahertz (GHz)
Hard Disk	128 gigabytes (GB); solid state internal storage
RAM	4 gigabytes (GB)
Network Adapter	Internal wired or wireless network hardware to match internet connection
Video Adapter	Support for 1024x768 resolution at 16-bit color depth
Display	>= 10.8 in.
Integrated Camera	2MP HD webcam (front); 8MP (back)
Ports	1 free USB port

Internet Access

The Contractor shall maintain an Internet connection capable of transmitting data to the ODESS database. The telemetry system shall always be available and have connectivity in the contract area. If connectivity is lost, unsent data shall be stored locally within the FC tool and transmitted upon restoration of connectivity. The Contractor shall acquire and install all necessary hardware and software to make the Internet connection available for data transmission to the ODESS database. The hardware and software must be configured to allow remote access to the computer by USACE ODESS personnel. Coordination between

the dredging company's IT and ODESS Support may be required in order to configure remote access through any security, firewall, router, and telemetry systems. Telemetry systems must be capable of meeting these minimum reporting requirements in all operating conditions.

SOFTWARE REQUIREMENTS

ODESS personnel shall be responsible for installing and testing all ODESS software tools on the dedicated onboard ODESS tablet computer. No other software which conflicts with the ODESS function of recording and transmitting data shall be installed on the tablet computer. The Contractor shall be responsible for installing and/or maintaining any necessary manufacturer-provided software for the installed hardware. If any software problem occurs, the Contractor shall contact ODESS Support at ODESS@usace.army.mil or 1-877-840-8024.

The ODESS tablet computer shall have the following minimum software installed in support of the ODESS system:

Software	**Specification**
Operating System	Windows 10, Contractor-installed
Browser**	Chrome, Internet Explorer, Contractor-installed
ODESS Software	Field Collector (FC) tool, USACE ODESS Support Installed
Remote Access Software	Team Viewer, USACE ODESS Support-installed

**Latest version recommended, Chrome is preferred

Operations and Dredging Endangered Species System (ODESS)
USACE Sea Turtle Deflector Checklist for Hopper Dredges for USACE and USACE/Army-Permitted Projects

1. Read the contract plans and specs and/or all applicable permits (Dept. of the Army Permit, State Permits) to determine the contract or permit requirements for the protection of endangered sea turtles. (Each District spec or permit may be different.)

2. Read the Biological Opinion and any USACE Protocol, if available.

3. Develop a list of inspection requirements:

   a. Deflector leading edge angle (90° or less).

   b. Approach angle or leading edge plowing depth (6" or more).

   c. Aft rigid attachment of the deflector to the draghead (hinged or trunnion).

   d. Forward deflector attachment point (adjustable pinned or cable/chain with stop).

   e. Opening between draghead and deflector (4" x 4" max).

   f. Dredged material screening requirement (yes/no).

   g. Screen type requirement (inflow, overflow, or both).

   h. Inflow basket screen openings (4" x 4" max) and dredged material screening (100%).

   i. Lighting of the inflow and overflow screens and proper access for cleaning (must meet EM 385-1-1).

   j. UXO (Unexploded Ordnance) screening in use (yes/no).

   k. Structural design of the deflector (per the approved deflector submittal).

   l. Dredge operational requirements (starting/stopping the dredge pump, draghead plugging, raising the draghead, turning the dredge).

m. Dredging Quality Management (DQM) dredging data recording requirement. Is dredging data recording (drag elevation, slurry density, and velocity) required by specs or permit? If so, is it being collected, is DQM turned on, and is data being submitted?

n. Turtle trawling requirement. Is turtle trawling required by specs or permit? If so, is it being performed?

o. Turtle observer requirements (12 or 24 hours).

p. A copy of the approved turtle deflector submittal is on board the vessel.

q. Copies of the contract plans and specs or the Dept. of the Army permit are on board the vessel.

4. Review the turtle deflector submittal. (Do not allow dredging to start until the submittal is approved.)

   a. Structural soundness.

   b. Deflector leading edge angle (90° or less).

   c. Approach angles submitted for the project's dredging depths.

   d. 4" x 4" opening between the deflector and the draghead.

   e. Aft rigid deflector attachment to draghead (hinged or trunnion).

   f. Forward deflector attachment point (adjustable pinned or cable/chain with stop).

5. Ensure that the Contractor Quality Control (CQC) performs a pre-dredging inspection. The CQC is required to review and inspect all items in section 3.

6. Ensure that the CQC performs a startup-dredging inspection:

   a. The CQC is required to check the turtle deflector to see if the deflector is installed and adjusted for the required dredge depth of the project in accordance with the approved deflector submittal.

   b. The CQC is required to ensure that the drag tenders are operating the dredge pump and draghead in accordance with the specs/permit.

   c. The CQC should perform a paint test to ensure that the deflector is plowing at least 6" into the dredge material while the dragtender is consistently maintaining the submitted and approved approach angle to a tolerance of +0 to -4°.

   d. The CQC should note the inspection results in the Quality Control (QC) Daily Report.

7. Quality Assurance (QA) should perform a dredging operation inspection soon after the dredge starts dredging:

   a. Review and inspect all items in section 3.

b. Inspect the turtle deflector to ensure that the deflector is installed and adjusted for the required dredge depth of the project in accordance with the approved deflector submittal.

c. Require the contractor to perform a paint test to ensure that the deflector is plowing at least 6" into the dredge material while the dragtender is consistently maintaining the submitted and approved approach angle to a tolerance of +0 to -4°. (While over-penetration of the deflector may reduce production and increase fuel consumption of the dredge, it is allowed.)

d. Ride the dredge through at least one dredging cycle (from dredging to the dump and then back to the dredge site).

e. Watch the dragtender to ensure that he/she is operating the dredging equipment in accordance with the plans and specs:

   i Starting the dredge pump only when the draghead is firmly on the bottom by watching the slurry specific gravity and swell compensator.

   ii Reducing the slurry velocity to the dredge pump idle speed velocity before raising the draghead off the bottom.

   iii Consistently maintaining the approach angle to a tolerance of +0 to -4° whenever the draghead is on the bottom and the dredge pump is operating

   iv Raising the draghead off the bottom due to draghead plugging or ship crabbing.

f. Ensure that the lockout tagout procedure for cleaning the inflow and overflow screens meets EM 385-1-1.

g. Talk to the turtle observers to ensure that they are aware of contract and permit requirements and that they are inspecting the screens and deflectors and reporting any required maintenance to the dredge personnel. Also ensure that correct turtle observer forms are being used and filled out properly.

h. Talk to the dredge Captain about maintaining the screens and deflectors.

i. Ensure that DQM data is being sent to the National Dredging Quality Management Program.

j. Note all pre-dredge/post-dredge and followup inspections in the QA and the QC Daily Reports.

Project Name: _____

Project Location: _____

Contract No.: _____

Dept. of the Army Permit No.: _____

Dredging Company Name: _____

Dredge Name: _____

Contractor CQC Inspector's Name: _____

USACE Inspector Name: _____

Office Symbol: _____ Date of Inspection: _____

Comments: _____

Operations & Dredging Endangered Species System (ODESS)

Dredge Load

US Army Corps of Engineers®

District

Project

Contract

Dredge

Dredging Company

Load Number (*Required*)/Date

Start Date (*Required*)

Start Time (*24 hours*) (*Required*)

Stop Date (*Required*)

Stop Time (*24 hours*) (*Required*)

Port Screen Condition
- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Bad

Starboard Screen Condition
- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Bad

Overflow Screen Condition
- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Bad

Inflow Screen Percent
- ☐ 25%
- ☐ 50%
- ☐ 75%
- ☐ 100%

Overflow Screen Percent
- ☐ 25%
- ☐ 50%
- ☐ 75%
- ☐ 100%

Other Screen Percent
- ☐ 25%
- ☐ 50%
- ☐ 75%
- ☐ 100%

Dragheads Used

Draghead Length (*ft*)

Draghead Width (*ft*)

Draghead Type
- ☐ California Style
- ☐ IHC
- ☐ IHC + Water Injection
- ☐ Wild Dragon
- ☐ Other (Specify)

Deflector Condition
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ None

UXO Screening in Use?
- ☐ Yes
- ☐ No

Material Type
- ☐ Clay
- ☐ Consolidated Material
- ☐ Mud
- ☐ Other
- ☐ Rock
- ☐ Sand - Course
- ☐ Sand - Fine
- ☐ Sand - Medium
- ☐ Sand - Mixed
- ☐ Shell
- ☐ Silt
- ☐ Unknown

Weather Conditions
- ☐ Sunny
- ☐ Cloudy
- ☐ Partly Cloudy

Beaufort Sea Scale
- ☐ 0 (0-1 kn, 0-0 ft)
- ☐ 1 (1-3 kn, 0-1 ft)
- ☐ 2 (4-6 kn, 1-2 ft)
- ☐ 3 (6-10 kn, 2-3.5 ft)
- ☐ 4 (10-16 kn, 3.5-6 ft)
- ☐ 5 (16-21 kn, 6-9 ft)
- ☐ 6 (21-27 kn, 9-13 ft)
- ☐ 7 (27-33 kn, 13-19 ft)
- ☐ 8 (33-40 kn, 19-25 ft)
- ☐ 9 (40-47 kn, 25-32 ft)
- ☐ 10 (47-55 kn, 32-41 ft)
- ☐ 11 (55-63 kn, 41-52 ft)
- ☐ 12 (>63 kn, >52 ft)

Wave Height (*ft*)

Wind Speed (*K*)

Wind Direction (°)

Tide
- ☐ High
- ☐ Low
- ☐ Slack
- ☐ Rising
- ☐ Falling
- ☐ Unknown

Air Temp (°C)

Surface Water Temp (°C)

Mid-Depth Water Temp (°C)

Bottom Water Temp (°C)

Trawling Being Conducted?
- ☐ Yes
- ☐ No

Any Incidents Involving Endangered or Protected Species?
- ☐ Yes
- ☐ No

If Yes, Which Species? (*Complete a Turtle or Sturgeon Incident form*)
- ☐ Marine Mammal
- ☐ Sea Turtle
- ☐ Sturgeon
- ☐ Other
- ☐ Unknown

Whale Sighting Notification Received?
- ☐ Yes
- ☐ No

Alert Sent to District?
- ☐ Yes
- ☐ No

Screen Contents

1 Port Screen Contents (*incl. # of each item*)

2 Starboard Screen Contents (*incl. # of each item*)

3 Overflow Screens Contents (*incl. # of each item*)

4 Other Screen or Location (*Specify*) Contents (*incl. # of each item*)

5 Port Draghead Contents (*incl. # of each item*)

6 Starboard Draghead Contents (*incl. # of each item*)

Comments

Observers Used/24 Hours

% Monitoring/Project
- ☐ None
- ☐ 25%
- ☐ 50%
- ☐ 75%
- ☐ 100%

Observer(s) Name(s) (*Req; Print*)

Observer(s) Signature(s)

Observer(s) Company

Notes:

- Screen Contents—Examples include sea turtle (sp.), sturgeon (sp.), shark (sp.), ray (sp.), other fish of note (sp.), horseshoe crab, blue crab, other crab species, coral, jellyballs, other species of note, environmental debris, and trash.

ODESS Form 1(7) - 071116

Operations & Dredging Endangered Species System (ODESS)

Marine Mammal Observation

US Army Corps of Engineers®

District

Project

Contract

Dredge

Dredging Company

Load Number (*Required*)/Date

Start Date (*Required*)

Start Time (*24 hours*) (*Required*)

End Date (*Required*)

End Time (*24 hours*) (*Required*)

Beaufort Sea State

- ☐ 0 (0-1 kn, 0-0 ft)
- ☐ 1 (1-3 kn, 0-1 ft)
- ☐ 2 (4-6 kn, 1-2 ft)
- ☐ 3 (6-10 kn, 2-3.5 ft)
- ☐ 4 (10-16 kn, 3.5-6 ft)
- ☐ 5 (16-21 kn, 6-9 ft)
- ☐ 6 (21-27 kn, 9-13 ft)
- ☐ 7 (27-33 kn, 13-19 ft)
- ☐ 8 (33-40 kn, 19-25 ft)
- ☐ 9 (40-47 kn, 25-32 ft)
- ☐ 10 (47-55 kn, 32-41 ft)
- ☐ 11 (55-63 kn, 41-52 ft)
- ☐ 12 (>63 kn, >52 ft)

Species Observed (*Required*)

- ☐ Bryde's/Sei Whale #____ Est. Length (*ft.*) ____
- ☐ Fin Whale #____ Est. Length (*ft.*) ____
- ☐ Humpback Whale #____ Est. Length (*ft.*) ____
- ☐ Manatee #____ Est. Length (*ft.*) ____
- ☐ Minke Whale #____ Est. Length (*ft.*) ____
- ☐ Pilot Whale #____ Est. Length (*ft.*) ____
- ☐ Right Whale #____ Est. Length (*ft.*) ____
- ☐ Unknown #____ Est. Length (*ft.*) ____

Air Temp (℃)

Water Temp (℃)

Winds (*K*)

Seas (*ft*)

Cloud Cover (%)

Magnetic Bearing to Sighting

Estimated Distance

Vessel's Heading

Heading of Animal(s)

Coloration

Fins or Flippers Observed

Behaviors Observed

Surfacing Intervals Time

Surfacing Intervals Distance

Comments (*Was the behavior of the animal(s) affected by the vessel? How far did the animal(s) move? Who was notified?*)

Observer(s) Name(s) (*Required; Print*)

Observer(s) Signature(s)

Observer(s) Company

ODESS Form 4(7) - 071116

Operations & Dredging Endangered Species System (ODESS)

Sturgeon Incident

US Army Corps of Engineers®

District

Project

Contract

Dredge

Dredging Company

Species (*Required*)
☐ Atlantic ☐ Gulf ☐ Unknown
☐ Green ☐ Shortnose

Load Number (*Required*)/Date

Recovery Date (*Required*)

Recovery Time (*24 hours*) (*Required*)

Is this a Take? (*Required*)
☐ Yes
☐ No

Incident/Take Description

Location Specimen Recovered
☐ Deck
☐ Draghead
☐ Inflow Cage (*Circle one*) Starboard/Port/Other
☐ Hopper
☐ Overflow Screen (*Circle one*) Starboard/Port/Other
☐ Pipe

Specimen Condition
☐ Alive
☐ Dead
☐ Fresh Dead
☐ Moderately Decomposed
☐ Severely Decomposed
☐ Skeleton
☐ Skeleton Old Bone
☐ Undetermined

Rows of Preanal Shields (*SSN = 1/ATL = 2*)

Location Comment

Dorsal Scutes (*SSN = 8-13/ATL = 7-16*)

Lateral Scutes (*SSN = 22-33/ATL = 24-35*)

Ventral Scutes (*SSN = 7-11/ATL = 6-9*)

Fork Length (*cm/in*)

Standard Length (*cm/in*)

Total Length (*cm/in*)

Mouth Width (*cm/in*)

Head Width at Eyes (*cm/in*)

Other (*cm/in*)

Genetic Samples Taken?
☐ Yes ☐ No

Samples Frozen/Preserved?
☐ Yes ☐ No

Photo Attached?
(*If Yes, label the species, date, geographic site, and dredge name on the photo*)
☐ Yes ☐ No

Comments

Use these diagrams to illustrate the specimen/part that was recovered.

Observer(s) Name(s) (*Required; Print*)

Observer(s) Signature(s)

Observer(s) Company

ODESS Form 3(6)-071116

Operations & Dredging Endangered Species System (ODESS)

Turtle Incident

US Army Corps of Engineers®

District

Project

Contract

Dredge

Dredging Company

Species (*Required*)
- ☐ Green
- ☐ Hawksbill
- ☐ Kemp's Ridley
- ☐ Leatherback
- ☐ Loggerhead
- ☐ Unknown

Load Number (*Required*)/Date

Is this a Take? (*Required*)
- ☐ Yes
- ☐ No

Project Incident # (*Required*)

Recovery Date (*Required*)

Recovery Time (*24 hours*) (*Required*)

Incident/Take Description

Air Temp (℃)

Surface Water Temperature (℃)

Mid-Depth Water Temperature (℃)

Bottom Water Temperature (℃)

Location Specimen Recovered
- ☐ Deck
- ☐ Draghead
- ☐ Inflow Cage (*Circle one*) Starboard/Port/Other
- ☐ Hopper
- ☐ Overflow Screen (*Circle one*) Starboard/Port/Other
- ☐ Pipe

Location Comment

Age Class
- ☐ Juvenile (*10.1-80 cm*)
- ☐ Sub-Adult (*80.1-87 cm*)
- ☐ Adult (*>87 cm*)
- ☐ Unknown

Gender
- ☐ Female
- ☐ Male
- ☐ Unknown

Specimen Condition
- ☐ Alive
- ☐ Dead
- ☐ Fresh Dead
- ☐ Moderately Decomposed
- ☐ Severely Decomposed
- ☐ Skeleton
- ☐ Skeleton Old Bone
- ☐ Undetermined

Tag Type
- ☐ Flipper
- ☐ Pit
- ☐ Other (*Specify*)

Head Width (*cm/in*)

How Gender Determined
- ☐ Tail Length
- ☐ Eggs Observed
- ☐ Other

Photo Attached? (*If Yes, label the species, date, geographic site, and dredge name on the photo*)
- ☐ Yes
- ☐ No

Tag Number

Plastron Length (*cm/in*)

Carapace Straight Length (*cm/in*)

Carapace Curved Length (*cm/in*)

Tag Date

Plastron Width (*cm/in*)

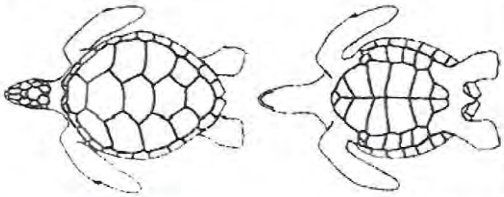
Carapace Straight Width (*cm/in*)

Carapace Curved Width (*cm/in*)

Genetic Samples Taken?
- ☐ Yes
- ☐ No

Final Disposition of Specimen

Use these diagrams to illustrate the specimen/part that was recovered.



Comments

Observer(s) Name(s) (*Required; Print*)

Observer(s) Signature(s)

Observer(s) Company

ODESS Form 2(6) - 071116

Operations & Dredging Endangered Species System (ODESS)

Trawling Report

US Army Corps of Engineers

Date _____ Dredge Site _____ Dredge _____

Trawler _____ Biologist(s) _____ Captain _____

Tide (Time/High or Low) _____ Hrs ☐ H ☐ L _____ Hrs ☐ H ☐ L _____ Hrs ☐ H ☐ L _____ Hrs ☐ H ☐ L

Water Temperature (°C) _____ Air Temperature (°C) _____ Wind Speed/Direction _____ Wave Height _____

Bottom Type _____ Station #s _____

Tow #	Start Time	Start Lat/Long dd mm.mm	Stop Time	Stop Lat/Long dd mm.mm	Tide: Ebb/Flood	Water Depth	Vessel Heading/Speed	Turtles? Sturgeon? Species?	By-catch/Comments (Change in Weather/Water Temperature, Net Damage, etc.)

ODESS Form 6(2) - 071116

Cooperative Marine Turtle Tagging Program (CMTTP) Tagging Data Form

COOPERATIVE MARINE TURTLE TAGGING PROGRAM (CMTTP)
TAGGING DATA FORM

SPECIES:_____	DATE CAPTURED:	DAY__	MO____	YR____	DATE RELEASED:	DAY____	MO____	YR____

TAG NUMBERS (LIST ALL NUMBERS AND LETTER PREFIXES; CIRCLE TAG NUMBERS ALREADY ON THE TURTLE [="OLD TAGS']):

LEFT FRONT: _____	RIGHT FRONT:_____	LEFT REAR:_____	RIGHT REAR:_____

PIT TAG#:_____	LOCATION OF PIT TAG:_____

WAS TURTLE CARRYING TAGS WHEN ENCOUNTERED?:	YES	NO	IF YES, THEN CIRCLE CORRECT STATEMENT:

1. RECAPTURE OF SAME PROJECT TURTLE (EITHER WITHIN SEASON OR BETWEEN SEASONS)
2. RECAPTURE OF DIFFERENT PROJECT TURTLE (NOT A TAG YOUR GROUP APPLIED)

TAG RETURN ADDRESS:

ORGANIZATION TAGGING AND/OR RELEASING TURTLE (INCLUDE AREA CODE/PHONE NUMBER; AND EMAIL):

PROJECT TYPE (CIRCLE ONE):

[NESTING BEACH]	[TANGLE NET]	[POUND NET]	[HAND CATCH]	[STRANDING]	[OTHER, DESCRIBE]

IF NESTING BEACH: DID TURTLE NEST?	YES	NO	UNDETERMINED

FACILITY WHERE TURTLE WAS BEING HELD:

DESCRIBE CAPTURE LOCATION. BE SPECIFIC, INCLUDE COUNTY AND LAT/LONG IF AVAILABLE

DESCRIBE RELEASE LOCATION. BE SPECIFIC, INCLUDE COUNTY AND LAT/LONG IF AVAILABLE.

TURTLE MEASUREMENTS:

STRAIGHT CARAPACE LENGTH (SCLMINIMUM):	_____ CM	_____ INCHES
STRAIGHT CARAPACE LENGTH (SCLNOTCH-TIP):	_____ CM	_____ INCHES
STRAIGHT CARAPACE WIDTH (SCW):	_____ CM	_____ INCHES
CURVED CARAPACE LENGTH (CCLMINIMUM):	_____ CM	_____ INCHES
CURVED CARAPACE LENGTH (CCLNOTCH-TIP)	_____ CM	_____ INCHES
CURVED CARAPACE WIDTH (CCW):	_____ CM	_____ INCHES
WEIGHT:	_____ KG	_____ LBS

TURTLE WAS INSPECTED AND/OR SCANNED FOR:

TAG SCARS:	YES	NO	WHERE LOCATED?
PIT TAGS:	YES	NO	WHAT FREQUENCY?
MAGNETIC WIRES:	YES	NO	WHERE LOCATED?
LIVING TAGS:	YES	NO	WHERE LOCATED?

ADDITIONAL REMARKS OR DATA ON BACK OF FORM:	YES	NO

MAIL COMPLETED FORM TO:

ARCHIE CARR CENTER FOR SEA TURTLE RESEARCH, DEPARTMENT OF ZOOLOGY, PO BOX 118525
UNIVERSITY OF FLORIDA, GAINESVILLE, FL 32611 USA
and
SCDNR Marine Turtle Program, PO Box 12559, Charleston, SC 29422

Protocol for Collecting Tissue from Live and Dead Turtles for Genetic Analysis

Appendix II:

PROTOCOL FOR COLLECTING TISSUE FROM DEAD TURTLES FOR GENETIC ANALYSIS

Method for Dead Turtles

<<<IT IS CRITICAL TO USE A NEW SCALPEL BLADE AND GLOVES FOR EACH TURTLE TO AVOID CROSS-CONTAMINATION OF SAMPLES>>>

1. Put on a new pair of latex gloves.
2. Use a new disposable scalpel to cut out an approx. 1 cm (½ in) cube (bigger is NOT better) piece of muscle. Easy access to muscle tissue is in the neck region or on the ventral side where the front flippers "insert" near the plastron. It does not matter what stage of decomposition the carcass is in.
3. Place the muscle sample on a hard uncontaminated surface (plastron will do) and make slices through the sample so the buffer solution will penetrate the tissue.
4. Put the sample into the plastic vial containing saturated NaCl with 20% DMSO *(SEE BELOW)
5. Use the pencil to write the stranding ID number (observer initials, year, month, day, turtle number by day), species, state and carapace length on the waterproof paper label and place it in the vial with the sample. EXAMPLE: For a 35.8 cm curved carapace length green turtle documented by Jane M. Doe on July 15, 2001 in Georgia, the label should read "JMD20010715-01, C. mydas, Georgia, CCL=35.8 cm". If this had been the third turtle Jane Doe responded to on July 15, 2001, it would be JMD20010715-03.
6. Label the outside of the vial with the same information (stranding ID number, species, state and carapace length) using the permanent marker.
7. Place clear scotch tape over the writing on the vial to protect it from being smeared or erased.
8. Wrap parafilm around the cap of the vial by stretching it as you wrap.
9. Place vial within whirlpak and close.
10. Dispose of the scalpel.
11. Note on the stranding form that a part was salvaged, indicating that a genetic sample was taken and specify the location on the turtle where the sample was obtained.
12. Submit the vial with the stranding report to your state coordinator. State coordinators will forward the reports and vials to NMFS for processing and archiving.

*The 20% DMSO buffer in the plastic vials is nontoxic and nonflammable. Handling the buffer without gloves may result in exposure to DMSO. This substance soaks into skin very rapidly and is commonly used to alleviate muscle aches. DMSO will produce a garlic/oyster taste in the mouth along with breath odor. The protocol requires that you WEAR gloves each time you collect a sample and handle the buffer vials.

The vials (both before and after samples are taken) should be stored at room temperature or cooler. If you don't mind the vials in the refrigerator, this will prolong the life of the sample. DO NOT store the vials where they will experience extreme heat (like in your car!) as this could cause the buffer to break down and not preserve the sample properly.

Questions:

Sea Turtle Program
NOAA/NMFS/SEFSC
75 Virginia Beach Drive
Miami, FL 33149
305-361-4207

THANK YOU FOR COLLECTING SAMPLES FOR SEA TURTLE GENETIC RESEARCH!!

Genetic Sample Kit Materials – DEAD turtles

latex gloves
single-use scalpel blades (Fisher Scientific 1-800-766-7000, cat. # 08-927-5A)
plastic screw-cap vial containing saturated NaCl with 20% DMSO, wrapped in parafilm
waterproof paper label, ¼" x 4"
pencil to write on waterproof paper label
permanent marker to label the plastic vials
scotch tape to protect writing on the vials
piece of parafilm to wrap the cap of the vial
- whirl-pak to return/store sample vial

Appendix III:

PROTOCOL FOR COLLECTING TISSUE FROM LIVE TURTLES FOR GENETIC ANALYSIS

Method for Live Turtles

<<<IT IS CRITICAL TO USE A NEW BIOPSY PUNCH AND GLOVES FOR EACH TURTLE TO AVOID CROSS-CONTAMINATION OF SAMPLES>>>

1. Turn the turtle over on its back.
2. Put on a new pair of latex gloves.
3. Swab the entire cap of the sample vial with alcohol.
4. Wipe the ventral and dorsal surfaces of the rear flipper 5-10 cm from the posterior edge with the Betadine/iodine swab.
5. Place the vial under the flipper edge to use the cleaned cap as a hard surface for the punch.
6. Press a new biopsy punch firmly into the flesh as close to the posterior edge as possible and rotate one complete turn. Cut all the way through the flipper to the cap of the vial.
7. Wipe the punched area with Betadine/iodine swab; rarely you may need to apply pressure to stop bleeding.
8. Use a wooden skewer to transfer the sample from the biopsy punch into the plastic vial containing saturated NaCl with 20% DMSO *(SEE BELOW)
9. Use the pencil to write the stranding ID number (observer initials, year, month, day, turtle number by day), species, state and carapace length on the waterproof paper label and place it in the vial with the sample. EXAMPLE: For a 35.8 cm curved carapace length green turtle documented by Jane M. Doe on July 15, 2001 in Georgia, the label should read "JMD20010715-01, C. mydas, Georgia, CCL=35.8 cm". If this had been the third turtle Jane Doe responded to on July 15, 2001, it would be JMD20010715-03.
10. Label the outside of the vial with the same information (stranding ID number, species, state and carapace length) using the permanent marker.
11. Place clear scotch tape over the writing on the vial to protect it from being smeared or erased.
12. Wrap parafilm around the cap of the vial by stretching it as you wrap.
13. Place vial within whirlpak and close.
14. Dispose of the biopsy punch.
15. Note on the stranding form that a part was salvaged, indicating that a genetic sample was taken and specify the location on the turtle where the sample was obtained.
16. Submit the vial with the stranding report to your state coordinator. State coordinators will forward the reports and vials to NMFS for processing and archiving.

*The 20% DMSO buffer in the plastic vials is nontoxic and nonflammable. Handling the buffer without gloves may result in exposure to DMSO. This substance soaks into skin very rapidly and is commonly used to alleviate muscle aches. DMSO will produce a garlic/oyster taste in the mouth along with breath odor. The protocol requires that you WEAR gloves each time you collect a sample and handle the buffer vials.

The vials (both before and after samples are taken) should be stored at room temperature or cooler. If you don't mind the vials in the refrigerator, this will prolong the life of the sample. DO NOT store the vials where they will experience extreme heat (like in your car!) as this could cause the buffer to break down and not preserve the sample properly.

Questions:

Sea Turtle Program
NOAA/NMFS/SEFSC
75 Virginia Beach Drive
Miami, FL 33149
305-361-4207

THANK YOU FOR COLLECTING SAMPLES FOR SEA TURTLE GENETIC RESEARCH!!

Genetic Sample Kit Materials – LIVE turtles

- latex gloves
  alcohol swabs
  Betadine/iodine swabs
  4-6 mm biopsy punch – sterile, disposable (Moore Medical Supply 1-800-678-8678, part #0052442)
  plastic screw-cap vial containing saturated NaCl with 20% DMSO, wrapped in parafilm
  wooden skewer
  waterproof paper label, ¼" x 4"
- pencil to write on waterproof paper label
  permanent marker to label the plastic vials
  scotch tape to protect writing on the vials
  piece if parafilm to wrap the cap of the vial
  whirl-pak to return/store sample vial

Sea Turtle Handling and Resuscitation Guidelines

01 57 20.00 10

Appendix IV: SEA TURTLE HANDLING AND RESUSCITATION GUIDELINES

Any sea turtles taken incidentally during the course of fishing or scientific research activities must be handled with due care to prevent injury to live specimens, observed for activity, and returned to the water according to the following procedures:

A) Sea turtles that are actively moving or determined to be dead (as described in paragraph (B)(4) below) must be released over the stern of the boat. In addition, they must be released only when fishing or scientific collection gear is not in use, when the engine gears are in neutral position, and in areas where they are unlikely to be recaptured or injured by vessels.

B) Resuscitation must be attempted on sea turtles that are comatose or inactive by:

1. Placing the turtle on its bottom shell (plastron) so that the turtle is right side up and elevating its hindquarters at least 6 inches (15.2 cm) for a period of 4 to 24 hours. The amount of elevation depends on the size of the turtle; greater elevations are needed for larger turtles. Periodically, rock the turtle gently left to right and right to left by holding the outer edge of the shell (carapace) and lifting one side about 3 inches (7.6 cm) then alternate to the other side. Gently touch the eye and pinch the tail (reflex test) periodically to see if there is a response.

2. Sea turtles being resuscitated must be shaded and kept damp or moist but under no circumstance be placed into a container holding water. A water-soaked towel placed over the head, carapace, and flippers is the most effective method in keeping a turtle moist.

3. Sea turtles that revive and become active must be released over the stern of the boat only when fishing or scientific collection gear is not in use, when the engine gears are in neutral position, and in areas where they are unlikely to be recaptured or injured by vessels. Sea turtles that fail to respond to the reflex test or fail to move within 4 hours (up to 24, if possible) must be returned to the water in the same manner as that for actively moving turtles.

4. A turtle is determined to be dead if the muscles are stiff (rigor mortis) and/or the flesh has begun to rot; otherwise, the turtle is determined to be comatose or inactive and resuscitation attempts are necessary.

Any sea turtle so taken must not be consumed, sold, landed, offloaded, transshipped, or kept below deck.

These guidelines are adapted from 50 CFR § 223.206(d)(1). Failure to follow these procedures is therefore a punishable offense under the Endangered Species Act.

Online Resources

REFERENCE THE GRBO AND REVISIONS ONLINE AT:

https://www.fisheries.noaa.gov/content/endangered-species-act-section-7-biological-opinions-southeast

ADEM Water Quality and Coastal Zone Consistency Certifications

Lance R. LeFleur
Director

Kay Ivey
Governor

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

May20, 2020

Department of the Army
Mobile District, U.S. Army Corps of Engineers
Mr. Todd A. Nettles, Acting Chief
Planning and Environmental Division
Post Office Box 2288
Mobile, Alabama 36628-0001

RE: State of Alabama Water Quality Certification (WQC) Pursuant to Clean Water Act (CWA) §401(a)
Mobile Harbor Federal Navigation
U.S. Army Corps of Engineers (USACE) Joint Public Notice (JPN): FP15-MH01-10
Alabama Department of Environmental Management (ADEM) Tracking Code: ADEM-2018-345-WQC-COEP

Dear Mr. Nettles:

On April 13, 2020, the ADEM received the USACE's request for WQC for the above referenced federal activity.

In this proposed federal activity, the U.S. Army Corps of Engineers would widen the Mobile Harbor Navigation Channel utilizing mechanical and hydraulic dredging methods. The area would be dredged to a total depth of -56 - 54 feet within a previously dredged area of Mobile Bay. Minor bend easings would occur at the double bends in the Bar Channel approach to the Bay Channel. The Bay Channel would be widened from 400 to 500 feet to a total depth of 54 feet from the mouth of Mobile Bay northward for three nautical miles to provide two-way traffic area for passing. In addition, the Choctaw Pass Turning Basin will be expanded 250 feet to the south to a total depth of 56 feet for safe turning. The purpose is to provide sufficient water depth and lateral clearance for larger vessels experiencing transportation delays and inefficiencies due to limited channel width and depth of the existing channel dimensions. Dredged material will be disposed of in established, protected, and previously approved disposal areas which include the Relic Shell Mined Area, Sand Island Beneficial Use Area, and the Ocean Dredged Material Site.

Action pertinent to WQC is required by CWA §401(a)(1), 33 U.S.C. §1251, et. seq. If conducted in accordance with the conditions prescribed herein, there is reasonable assurance that the discharge resulting from the proposed activities will not violate applicable water quality standards established under §303 of the CWA and §22-22-9(g), Code of Alabama (1975). By this letter, the ADEM hereby notifies the USACE that CWA §401 WQC is **granted**. This WQC terminates with the expiration of FP15-MH01-10. This WQC only addresses potential discharges to state waters resulting from the activities. ADEM certifies that there are no applicable effluent limitations under §301 and §302 nor applicable standards under §306 and §307 of the CWA in regard to the activities specified.

In recognition that projects are site specific in nature and conditions can change during project implementation, the ADEM reserves the right to request additional information or request additional management measures to be implemented, as necessary on a case-by-case basis, in order to ensure the protection of water quality and coastal resources. Deviation from the approved project design may necessitate additional coordination.

This WQC 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 USACE 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 that may be in the USACE's possession. This certification is not transferable without prior written notice and approval of the ADEM. Upon such notice, the Director may require submission of additional information.

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)

Adherence to the following conditions is required in order to ensure protection of water quality.

1. Appropriate and Effective Best Management Practices (BMPs) shall be implemented to minimize turbidity impacts to the maximum extent practicable. Turbidity generated by the activity must not cause substantial visible contrast nor result in an increase of more than fifty (50) Nephelometric turbidity units above background in state waters. If turbidity generated from project exceeds acceptable levels, operations must cease until turbidity is restored to acceptable levels. The ADEM Mobile Coastal office (251) 304-1176 must be notified of resultant work stoppage.

2. Upon the loss or failure of any treatment facility, BMP, or other management control measure as identified by responsible on-site staff during day-to-day operations or as identified by ADEM technical staff during inspections, work/activity and all discharges shall, where necessary to maintain compliance with this WQC, be suspended, halted, reduced, or otherwise controlled until effective treatment is restored.

3. The USACE and/or its assigns are responsible for the condition of land-based dredge spoil disposal areas for the life of the placement activity and until the disposal areas are reclaimed or adequately stabilized, and for pumping and discharge rates to ensure settling of suspended solids within the confines of the spoil disposal areas sufficient to ensure that turbidity in the return water will not cause substantial visible contrast within the receiving waters, or result in an increase of 50 NTUs above background turbidity levels in the receiving waters. The salinity of return waters shall be similar to that of the receiving waters.

4. Spoil material utilized beneficially through strategic placement onto state water bottoms shall be free of toxic pollutants in toxic amounts.

Contact the Mobile-Coastal office anytime with questions. Always include the ADEM tracking code above when corresponding on this matter. Allen Phelps is the Mobile-Coastal office contact for this project; he may be reached by phone at 251.304.1176 or by e-mail at cap@adem.alabama.gov.

Sincerely,

Anthony Scott Hughes, Chief
Field Operations Division

cc: EPA, Molly Martin
DCNR.Coastal@dcnr.alabama.gov
USACE, Donald Mroczko

ASH/jsb/cap

File: 401WQC/12532

Lance R. LeFleur
Director

Kay Ivey
Governor

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 • Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 • FAX (334) 271-7950

May 20, 2020

Department of the Army
Mobile District, U.S. Army Corps of Engineers
Mr. Todd A. Nettles, Acting Chief
Planning and Environmental Division
Post Office Box 2288
Mobile, Alabama 36628-0001

RE: State of Alabama Concurrence with the U.S. Army Corps of Engineers' Coastal Consistency Determination
Modifications to the Mobile Harbor Federal Navigation Channel
U.S. Army Corps of Engineers (USACE) Joint Public Notice (JPN): FP15-MH01-10
Alabama Department of Environmental Management (ADEM) Tracking Code: ACAMP-2018-345-FC-FAA-COEP

Dear Mr. Nettles:

On April 13, 2020 the ADEM received the USACE's Consistency Determination (CD) that the proposed federal activity, referenced above, is consistent with the Alabama Coastal Area Management Program.

In this proposed federal activity, the U.S. Army Corps of Engineers would widen the Mobile Harbor Navigation Channel utilizing mechanical and hydraulic dredging methods. The area would be dredged to a total depth of -56 -54 feet within a previously dredged area of Mobile Bay. Minor bend easings would occur at the double bends in the Bar Channel approach to the Bay Channel. The Bay Channel would be widened from 400 to 500 feet to a total depth of 54 feet from the mouth of Mobile Bay northward for three nautical miles to provide two-way traffic area for passing. In addition, the Choctaw Pass Turning Basin will be expanded 250 feet to the south to a total depth of 56 feet for safe turning. The purpose is to provide sufficient water depth and lateral clearance for larger vessels experiencing transportation delays and inefficiencies due to limited channel width and depth of the existing channel dimensions. Dredged material will be disposed of in established, protected, and previously approved disposal areas which include the Relic Shell Mined Area, Sand Island Beneficial Use Area, and the Ocean Dredged Material Site.

Pursuant to Title 15 C.F.R. §930.41(a) and based upon review of the information submitted by the USACE, by this letter the ADEM hereby notifies the USACE of its **concurrence** with the USACE's CD.

Should it become necessary to modify the activities described in the JPN after this concurrence has been issued, a revised CD may be necessary pursuant to Title 15 C.F.R. §930.46. Contact the Mobile-Coastal office anytime with questions. Always include the ADEM tracking code above when corresponding on this matter. Allen Phelps is the Mobile-Coastal office contact for this project; he may be reached by phone at 251.304.1176 or by e-mail at cap@adem.alabama.gov.

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
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Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

Sincerely,

Anthony Scott Hughes, Chief
Field Operations Division

cc: EPA, Molly Martin
DCNR.Coastal@dcnr.alabama.gov
USACE, Donald Mroczko

ASH/jsb/cap

File: CZCERT/12532

Letter from U.S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1208-B Main Street
Daphne, Alabama 36526

2016-CPA-0130

DEC 2 1 2018

Lekesha W. Reynolds
Chief, Coastal Environment Team
Department of the Army
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, AL 36628

Dear Ms. Reynolds:

Thank you for your letter received by our office on November 20, 2018, requesting Endangered Species Act (ESA) Section 7 concurrence on the Army Corps of Engineers (USACE) effects determination for the Mobile Harbor Federal Navigation Project Draft Integrated General Reevaluation Report with Supplemental Environmental Impact Statement. The project is located in Mobile County, Alabama. Our comments are provided in accordance with provisions of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

We understand that you determined this project may affect, but is not likely to adversely affect the following federally listed species:

West Indian manatee (*Trichechus manatus*) – Threatened
Wood stork (*Mycteria americana*) - Threatened
Piping plover (*Charadrius melodus*) – Threatened
Red knot (*Calidris canutus rufa*) – Threatened
Southern clubshell (*Pleurobema decisum*) - Endangered
Inflated heelsplitter (*Potamilus inflatus*) – Threatened
Gopher tortoise (*Gopherus polyphemus*) – Threatened
Eastern indigo snake (*Drymarchon corais couperi*) – Endangered
Black pine snake (*Pituophis melanoleucus lodingi*) – Threatened
Alabama red-bellied turtle (*Pseudemys alabamensis*) - Endangered

We are concerned about the potential indirect or direct physical impact on manatees that may be migrating through the project area during the proposed dredging operation. Direct impacts could occur from either boat, barge, cutterhead, or hydraulic pipeline strikes. Because manatees are known to seasonally occur in the Mobile channel, and could be affected by this activity, we believe that a "may affect" situation exists for the manatee.

PHONE: 251-441-5181 FAX: 251-441-6222

You have proposed to implement our "Standard Manatee Construction Conditions" for this project. We believe that if these conditions can be implemented, then there will be no adverse impact to this species and further consultation will not be required for the manatee. If these steps cannot be exercised, or there is an occurrence of collision with and/or injury to a manatee, because of the proposed project, then further consultation may be required.

Based upon a review of our records and the information provided in your letter, we concur with your determination that the project actions may affect, but are not likely to adversely affect the species listed above.

We also understand that, for this project, Gulf sturgeon and sea turtles fall under the jurisdiction of the National Marine Fisheries Service (NMFS). USACE will utilize the NMFS issued Gulf Regional Biological Opinion for Dredging of Gulf of Mexico Navigation Channels and Sand Mining Areas Using Hopper Dredges by USACE Galveston, New Orleans, Mobile, and Jacksonville Districts (Consultation Number F/SER/2000/01287).

Thank you for the opportunity to provide ESA Section 7 concurrence for your project. For further discussion, please contact Mr. Josh Rowell of my staff at (251) 441-5836. Please refer to the reference number located at the top of this letter in future phone calls or written correspondence.

Sincerely,

William J. Pearson
Field Supervisor
Alabama Ecological Services Field Office

Letter from NOAA National Marine Fisheries Service

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

September 7, 2018 F/SER46/BH:jk
225/389-0508

Ms. Jennifer L. Jacobson
Planning and Environment Division
Mobile District Environmental Branch
U.S. Army Corps of Engineers
Post Office Box 2288
Mobile, Alabama 86628-0001

Dear Ms. Jacobson:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Draft Integrated General Reevaluation Report with Supplemental Environmental Impact Statement (SEIS), dated July 24, 2018, on the "**Mobile Harbor Navigation Project**." The U.S. Army Corps of Engineers (USACE) proposes to conduct maintenance dredging and placement activities. The maintenance dredging includes a navigation channel from the Gulf of Mexico to turning basins near the Cochrane Bridge, Alabama State Docks, and McDuffie Island. The following is provided in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and 600.920 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; P.L. 104-297).

The NMFS provided comments to the public notice for the project by letter dated January 25, 2017, recommending the beneficial use of dredge material. The USACE responded by letter dated February 21, 2017, acknowledging the comments. The maintenance dredging will generate approximately 5.5 million cubic yards of sediment annually. As proposed in the Public Notice, the sediment would be disposed at the Mobile Offshore Dredged Material Disposal Site (ODMDS), open bay thin-layer disposal areas, the Sand Island Beneficial Use Area (SIBUA), Blakely Island, and Gilliard Island.

Section 2.5.4 of the SEIS confirms little change to water quality parameters such as turbidity, salinity, and dissolved oxygen will result from the project. Due to NMFS' early involvement as a cooperating agency and close coordination with USACE, the project has been designed in such a way as to not have a substantial adverse effect on EFH or federally managed fishery species in Mobile Bay and surrounding waters. The NMFS Habitat Conservation Division does not object to the project as proposed and agrees with USACE's determination the project will not adversely affect EFH.

We appreciate your consideration of our comments. If you wish to discuss this project further or have questions concerning our recommendations, please contact Brandon Howard at (225) 389-0508, extension 203.

Sincerely,

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

c:
FWS, Paul_Necaise@fws.gov
F/SER46, Swafford
F/SER4, Dale, Fay, Silverman
Files

Letter from Alabama State Historic Preservation Officer

ALABAMA HISTORICAL COMMISSION

468 South Perry Street
P.O. Box 300900
Montgomery, Alabama 36130-0900
334-242-3184 / Fax 334-240-3477

Lisa D. Jones
Executive Director
State Historic Preservation Officer

July 6, 2020

Patrick O'Day
Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

Re: AHC 20-1051
CRA
Mobile Harbor Phase II Diver Verification Survey Report
Mobile County

Dear Mr. O'Day:

Upon review of the cultural resource assessment conducted for the above referenced project, we have determined that project activities will have no effect on cultural resources eligible for or listed on the National Register of Historic Places. Therefore, we concur with the proposed project activities.

Consultation with the State Historic Preservation Office does not constitute consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public. If archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.13(b) will apply. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal, and glass objects. The federal agency or the applicant receiving federal assistance should contact our office immediately. If human remains are encountered, the provisions of the Alabama Burial Act (*Code of Alabama* 1975, §13A-7-23.1, as amended; Alabama Historical Commission Administrative Code Chapter 460-X-10 Burials) should be followed. This stipulation shall be placed on the construction plans to insure contractors are aware of it.

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Amanda McBride at 334.230.2692 or Amanda.McBride@ahc.alabama.gov. Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

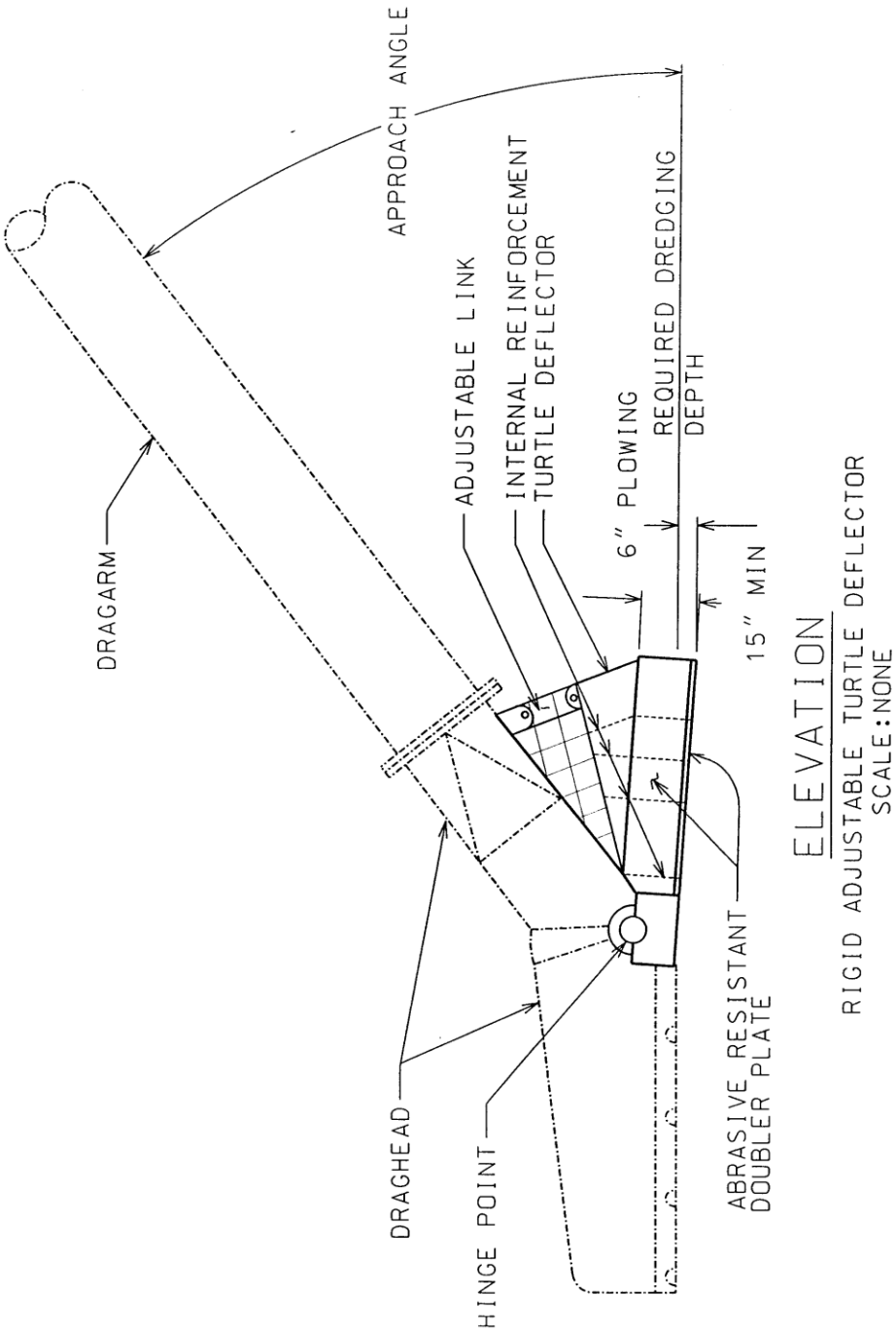
Lee Anne Wofford

Lee Anne Wofford
Deputy State Historic Preservation Officer

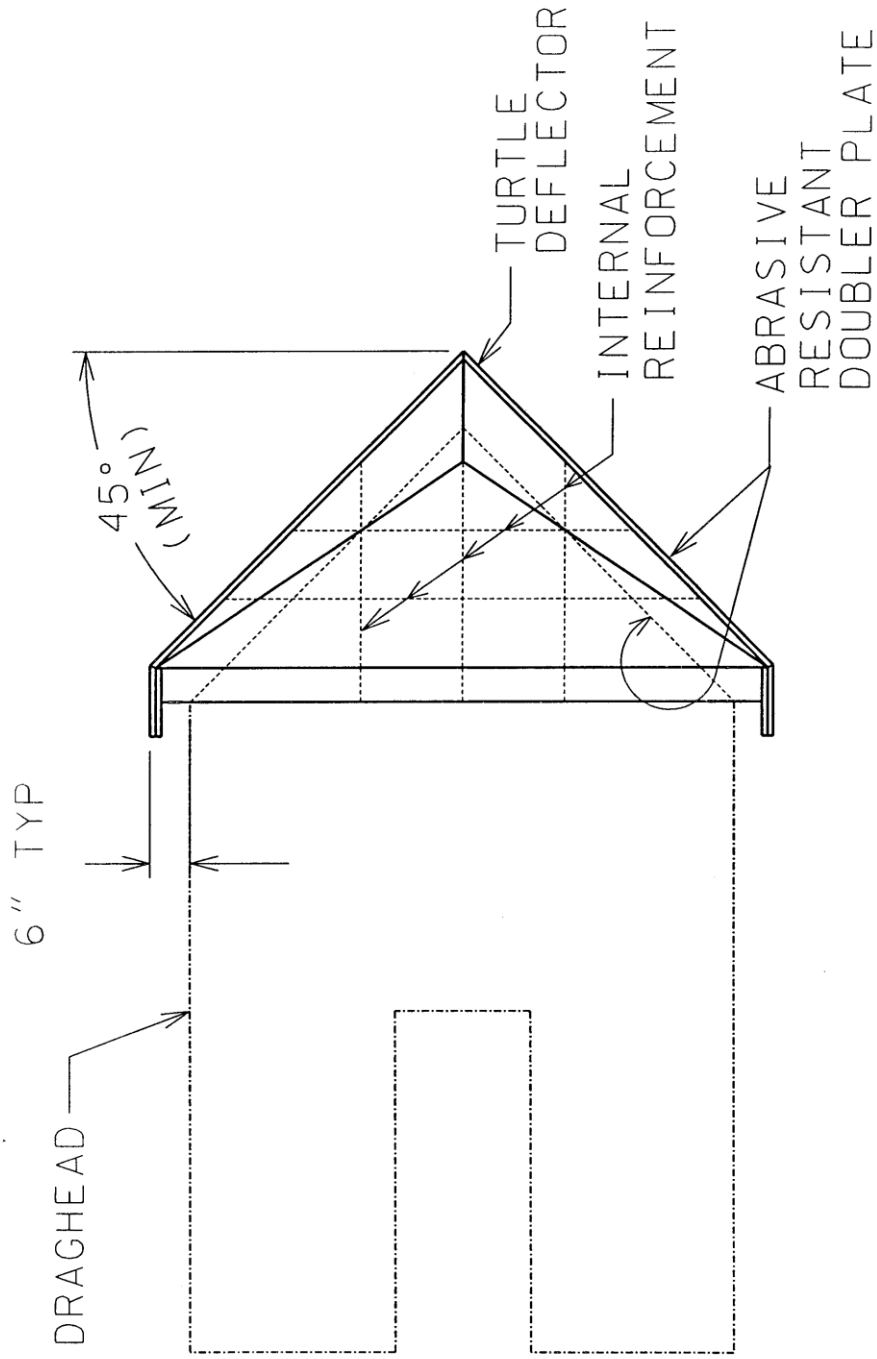
LAW/amh

Sea Turtle Deflector Specification

01 57 20.00 10


APPROACH ANGLE
DRAGARM
ADJUSTABLE LINK
INTERNAL REINFORCEMENT
TURTLE DEFLECTOR
6" PLOWING
REQUIRED DREDGING
DEPTH
15" MIN
DRAGHEAD
HINGE POINT
ABRASIVE RESISTANT
DOUBLER PLATE
ELEVATION
RIGID ADJUSTABLE TURTLE DEFLECTOR
SCALE:NONE

01355– 1



PLAN VIEW

RIGID TURTLE DEFLECTOR

SCALE: NONE

01355– 2

Turbidity Monitoring Report

01 57 20.00 10

TURBIDITY MONITORING REPORT
IRVINGTON SITE OFFICE
CONTRACT NUMBER:

==========

DATE: REPORT NO. #

TIME OF DAY SAMPLE TAKEN:_____hrs

WEATHER CONDITIONS:

DIRECTION OF WATER FLOW:_____TIDAL STAGE: _____

WATER TEMP:_____° WIND SPEED _____ (MPH)

WAVE CONDITIONS (CALM, CHOPPY, ROUGH): _____

==========

TURBIDITY MEASUREMENT TAKEN APPROX. _____ FT. FROM DREDGE

TURBIDITY MEASUREMENT TAKEN APPROX._____FT. FROM DISCHARGE

DISCHARGE IS APPROX._____FT FROM DREDGE WITH AZIMUTH_____°

DEPTH AT DREDGE: _____ FT. DEPTH AT DISCHARGE:_____FT.

SURFACE TURBIDITY AT DREDGE:_____NTU

MID-DEPTH TURBITY AT DREDGE:_____NTU

SURFACE TURBIDITY AT DISCHARGE:_____NTU D/A #: 11, SECTION 1a

MID-DEPTH TURBITY AT DISCHARGE:_____NTU

==========

BACKGROUND TURBIDITY TAKEN APPROX._____FT FROM DREDGE

AZIMUTH FROM DREDGE:_____°

WATER DEPTH:_____FT

SURFACE TURBIDITY:_____NTU MID-DEPTH TURBIDITY:_____NTU

==========

REMARKS (VISIBLE PLUME, ETC.): Sea too rough for samples_____

INSPECTOR: _____

Standard Manatee Conditions

STANDARD MANATEE CONSTRUCTION CONDITIONS
April 2003

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 Marine Mammal Protection Act of 1972 and the Endangered Species Act 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 the 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 Mr. Paul Necaise at (228) 493-6631 of the U.S. Fish and Wildlife Service in Jackson, Mississippi.

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 ft. 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',6" by 11" which reads *Caution: Manatee Habitat. Idle speed is required if operating a vessel #7 the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Jackson, Mississippi (228-493-6631).*

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APPENDIX C

DREDGING QUANTITIES

APPENDIX C
PHASE 5 MOBILE HARBOR DEEPENING AND WIDENING
DREDGE VOLUMES

	Phase 5 Dredge Template			Phase 5 O&M Template			Phase 5 New Work		
Baseline Station	Cut Area (S.F.)	Cut Volume (C.Y.)	Cumlative Volume (C.Y.)	Cut Area (S.F.)	Cut Volume (C.Y.)	Cumlative Volume (C.Y.)	Cut Area (S.F.)	Cut Volume (C.Y.)	Cumlative Volume (C.Y.)
267+72.58	4050	0	0	776	0	0	3274	0	0
270+00.00	4654	36657	36657	1048	7681	7681	3606	28976	28976
275+00.00	5133	90618	127276	1476	23375	31057	3656	67243	96219
280+00.00	4874	92651	219927	1189	24681	55738	3684	67970	164189
285+00.00	4511	86898	306825	869	19061	74799	3642	67837	232026
290+00.00	4206	80714	387538	741	14912	89711	3465	65802	297828
295+00.00	4476	80384	467922	989	16024	105734	3486	64360	362188
300+00.00	4609	84116	552038	1074	19101	124836	3535	65015	427202
302+72.59	4787	47431	599469	1215	11555	136390	3572	35876	463079
305+00.00	4813	40428	639897	1216	10238	146628	3597	30190	493269
310+00.00	4840	89380	729277	1031	20807	167435	3809	68573	561842
315+00.00	4379	85366	814644	825	17189	184625	3554	68177	630019
317+72.59	3557	40063	854706	318	5770	190395	3239	34292	664311
320+00.00	3754	30789	885495	267	2464	192859	3487	28325	692636
325+00.00	4214	73775	959270	886	10675	203534	3328	63100	755736
330+00.00	4011	76155	1035425	993	17399	220933	3018	58756	814492
335+00.00	5191	85198	1120623	1671	24666	245598	3520	60533	875025
337+00.00	3934	33794	1154417	1664	12353	257951	2269	21442	896466
340+00.00	2493	35705	1190122	1597	18117	276068	896	17588	914054
345+00.00	4709	66685	1256807	1232	26188	302256	3477	40497	954551
350+00.00	4257	83014	1339821	954	20234	322490	3303	62780	1017331
355+00.00	4145	77791	1417612	894	17111	339601	3251	60680	1078010
360+00.00	3971	75149	1492760	833	15995	355596	3138	59154	1137164
365+00.00	4029	74080	1566840	869	15762	371358	3160	58318	1195482
370+00.00	3902	73437	1640278	817	15610	386968	3085	57828	1253310
375+00.00	3954	72742	1713020	873	15642	402610	3082	57100	1310410
380+00.00	3882	72560	1785579	827	15735	418345	3055	56824	1367234

385+00.00	3924	72279	1857858	854	15565	433910	3070	56713	1423948
390+00.00	3919	72623	1930481	785	15173	449083	3135	57450	1481398
395+00.00	4111	74352	2004833	903	15625	464707	3208	58728	1540126
400+00.00	4253	77438	2082271	967	17316	482023	3286	60122	1600248
404+67.98	4403	75015	2157286	1088	17814	499837	3315	57201	1657449
405+00.00	4434	5240	2162526	1095	1295	501131	3339	3945	1661395
410+00.00	4987	87223	2249750	1323	22386	523517	3664	64838	1726233
415+00.00	5669	98663	2348413	1684	27839	551356	3985	70824	1797057
420+00.00	6331	111113	2459526	2114	35164	586520	4217	75950	1873006
423+46.58	7098	86187	2545714	2756	31251	617771	4342	54936	1927943
425+00.00	6567	38822	2584535	2337	14467	632238	4230	24354	1952297
430+00.00	5376	110581	2695116	1587	36330	668568	3789	74251	2026548
435+00.00	4389	90419	2785535	1038	24306	692874	3351	66113	2092661
440+00.00	3555	73552	2859088	596	15126	708000	2959	58427	2151088
445+00.00	3447	64833	2923921	586	10941	718941	2861	53892	2204980
450+00.00	3477	64116	2988037	558	10595	729536	2919	53521	2258501
455+00.00	3512	64710	3052747	597	10693	740230	2915	54016	2312517
460+00.00	3536	65259	3118006	596	11040	751269	2941	54220	2366737
465+00.00	3459	64777	3182783	545	10557	761826	2915	54220	2420957
470+00.00	3402	63533	3246316	535	9992	771819	2867	53540	2474497
475+00.00	3410	63071	3309387	548	10023	781842	2862	53048	2527545
480+00.00	3418	63217	3372604	569	10345	792186	2848	52873	2580418
485+00.00	3365	62802	3435406	555	10410	802597	2810	52391	2632809
490+00.00	3438	62989	3498395	579	10501	813098	2859	52488	2685297
495+00.00	3475	64005	3562400	592	10841	823939	2883	53164	2738461
500+00.00	3638	65857	3628257	711	12066	836005	2927	53791	2792252
	Total :	**3628257**		**Total O&M:**	**836005**		**Total New Work:**	**2792252**	

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