

US Army Corps
of Engineers®
New Orleans District

W912P8-23-B-0005

PUA & ACUD #1 Drinking Water Infrastructure Improvements Water Meter Replacement

Ascension Parish, Louisiana

**Construction Solicitation
and Specifications**

24 March 2023



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LA 70118-3651

SOLICITATION: W912P8-23-B-0005

24 March 2023

FOR: PUA & ACUD #1, Drinking Water Infrastructure Improvements - Water Meter Replacement, Ascension Parish, LA

TO OPEN: By Electronic Bid on 25 APRIL 2023, 11AM LOCAL TIME

- I. NOTE THE AFFIRMATIVE ACTION PROGRAM REQUIREMENT OF THE EQUAL OPPORTUNITY CLAUSE WHICH MAY APPLY TO THE CONTRACT RESULTING FROM THIS SOLICITATION.
- II. NOTE THE CERTIFICATION OF NONSEGREGATED FACILITIES IN THIS SOLICITATION.
Bidders, offerors, and applicants are cautioned to note the "Certification of Non-segregated Facilities" in the solicitation. Failure of a bidder or offeror to agree to the certification will render his bid or offer non-responsive to the terms of solicitations involving awards of contracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.
- III. Prospective contractors must register in the System for Award Management (SAM). See FAR Clause 52.204-7 for required information. The website for SAM is <https://www.sam.gov>. As of April 4, 2022, the Federal Government has stopped using the DUNS Number as a unique identifier for entities and switched to a Unique Entity ID generated by SAM.gov. In addition, entities with DUNS Numbers but no SAM.gov registration have been able to get Unique Entity IDs without registering in SAM.gov since October 2021. NOTE: The DUNS Number is no longer used in SAM.gov, eSRS, FSRS, FPDS, CPARS, or FAPIIS.

BIDDERS MUST PROVIDE FULL, ACCURATE AND COMPLETE INFORMATION AS REQUIRED BY THIS SOLICITATION AND ITS ATTACHMENTS. THE PENALTY FOR MAKING FALSE STATEMENTS IN BIDS IS PRESCRIBED IN 18 U.S.C. 1001. (FAR 52.214-4 APR 1984)

DESCRIPTION AND MAGNITUDE OF WORK: The work consists of the removal and replacement of existing manually read water meters in the Donaldsonville area with new remotely read water meters using remote data collector units. Incidental work includes traffic control and removal & replacement of asphalt drives, concrete drives, and concrete sidewalks.

CAUTION TO BIDDERS: *In delivery of hand-carried bids, bidders are cautioned to allow sufficient time for delays which may be encountered as a result of frequent trains which are subject to block all access roads to place of bid opening for various lengths of time and for visitor background checks by MVN security when entering the installation at place of bid opening. Such delays DO NOT permit acceptance or consideration of late bids.*

NOTE: ALL WORK UNDER THESE SPECIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF EM 385-1-1 "CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL", DATED NOVEMBER 2014 OR LATEST EDITION.

ALL INQUIRIES REGARDING THIS SOLICITATION

SHOULD BE MADE TO THE FOLLOWING:

NAKIEA B. BUTLER
CONTRACT SPECIALIST

U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT

E-MAIL: NAKIEA.B.BUTLER@USACE.ARMY.MIL

Phone: (504) 862-1772

COLLECT CALLS NOT ACCEPTED

NOTE: ALL CONTRACTOR QUESTIONS MUST BE RECEIVED BY 10:00 AM (CST),
WEDNESDAY, 5 APRIL 2023. THE GOVERNMENT IS UNDER NO OBLIGATION
TO PROVIDE A RESPONSE TO LATE QUESTIONS.

FOR THE MOST PROMPT RESPONSE, PLEASE SEND ALL QUESTIONS VIA EMAIL.

ALL QUESTIONS MUST CONTAIN THE SOLICITATION NUMBER IN THE SUBJECT
LINE.

SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)	1. SOLICITATION NUMBER	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES
	W912P823B0005	<input checked="" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	03/24/2023	

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

4. CONTRACT NUMBER	5. REQUISITION/PURCHASE REQUEST NUMBER	6. PROJECT NUMBER
		ED 21-032
7. ISSUED BY	CODE	8. ADDRESS OFFER TO
U.S. Army Corps of Engineer New Orleans District 7400 Leake Avenue New Orleans, LA 70118-3651		U.S. Army Corps of Engineer, New Orleans ATTN: CEMVN-CT-W 7400 Leake Avenue, Room 172 New Orleans, LA 70118

9. FOR INFORMATION CALL:	a. NAME	b. TELEPHONE NUMBER (Include area code) (NO COLLECT CALLS)
	Nakiea Butler	504-862-1772

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 number, date)

PUA & ACUD #1 Drinking Water Infrastructure Improvements Water Meter Replacement, Ascension Parish, LA (ED 21-032)

This is a SERVICE DISABLED VETERAN OWNED SMALL BUSINESS procurement.

DESCRIPTION AND MAGNITUDE OF WORK: The work consists of the removal and replacement of existing manually read water meters in the Donaldsonville area with new remotely read water meters using remote data collector units. Incidental work includes traffic control and removal & replacement of asphalt drives, concrete, drives, and concrete sidewalks.

The estimated value of this work is between \$1,000,000 and \$5,000,000.

Bid Opening Date is set for 4/25/2023, 11AM Local Time.

11. The contractor shall begin performance within <u>10</u> calendar days and complete it within <u>420</u> calendar days after receiving <input type="checkbox"/> award, <input checked="" type="checkbox"/> notice to proceed. This performance period is <input checked="" type="checkbox"/> mandatory <input type="checkbox"/> negotiable. (See <u>52.211-10</u>).	12b. CALENDAR DAYS
12a. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES", indicate within how many calendar days after award in Item 12b.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	3

13. ADDITIONAL SOLICITATION REQUIREMENTS:

- a. Sealed offers in original and 0 copies to perform the work required are due at the place specified in Item 8 by 10:30 am (hour) local time 04/25/2023 (date). If this is a sealed bid solicitation, offers will 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 60 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 NUMBER (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
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AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
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24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 3304(a) ()
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26. ADMINISTERED BY New Orleans Area Office, U.S. Army Corps of Engineers 7400 Leake Avenue New Orleans, LA 70118	27. PAYMENT WILL BE MADE BY U.S. Army Corps of Engineers Finance Center 5722 Integrity Drive Millington, TN 38054-5005
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CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

<input type="checkbox"/> 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 requirements 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.	<input type="checkbox"/> 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.
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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. DATE

PROJECT TABLE OF CONTENTS

Division 00 – PROCUREMENT AND CONTRACT REQUIREMENTS

	Solicitation, Offer and Award SF-1442
00010	Bidding Schedule
00100	Instructions, To Bidders
00600	Representations and Certifications
00700	Contract Clauses

Division 01 - GENERAL REQUIREMENTS

01100	General Provisions
01 32 16.00 12	Construction Progress Schedules
01 33 00	Submittal Procedures
01 42 00	Sources for Reference Publications
01 45 00.15 10	Resident Management System Contractor Mode (RMS CM)
01 45 04.00 10	Contractor Quality Control
01 55 26.00 12	Traffic Control and Coordination
01 57 20.00 12	Environmental Protection
01 78 02.00 10	Closeout Submittals

Division 02 - EXISTING CONDITIONS

02 41 00	Demolition
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Division 03 - CONCRETE

03 30 04.00 12	Concrete for Minor Structures
03 42 13.00 10	Plant-Precast Concrete Products for Below Grade Construction

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Division 32 - EXTERIOR IMPROVEMENTS

32 12 16	Hot-Mix Asphalt (HMA) for Roads
32 15 00.00 12	Crushed Stone

Division 43 - PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT

43 21 29	Flow Measuring Equipment Potable Water
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SECTION 00010 – BIDDING SCHEDULE

PUA & ACUD #1 Drinking Water
Infrastructure Improvements - Water Meter Replacement
Ascension Parish, LA

Item	DESCRIPTION	Estimated Quantity	Unit	Unit Price	Estimated Amount
0001	Mobilization and Demobilization	1	JOB		
0002	Video and Photographic Documentation	1	JOB		
0003	Traffic Control and Coordination	1	JOB		
0004	Full-Depth Sawcut Asphalt and Concrete Surfaces	7520	LF		
0005	Removal of Concrete Drives	130	CY		
0006	Removal of Concrete Sidewalks	130	CY		
0007	Removal of Asphalt Drives	130	CY		
0008	Removal of 5/8-Inch x 3/4-Inch Water Meters	3265	EA		
0009	Removal of 1-Inch Water Meters	160	EA		
0010	Removal of 2-Inch Water Meters	55	EA		
0011	Removal of 3-Inch Water Meters	10	EA		
0012	Removal of 4-Inch Water Meters	10	EA		
0013	Disposal of Non-Salvageable Water Meters	3,300	EA		
0014	Disposal of Excavated Material	16	CY		
0015	Replacement of Concrete Drives	130	CY		

0016	Replacement of Concrete Sidewalks	130	CY		
0017	Replacement of Asphalt Drives	130	CY		
0018	Crushed Stone	727	CY		
0019	5/8-Inch x 3/4-Inch Water Meter Mach 10 R900i RF MIU with Pit Antenna	3265	EA		
0020	1-Inch Water Meter Mach 10 R900i RF MIU with Pit Antenna	160	EA		
0021	2-Inch Water Meter Mach 10 R900i RF MIU with Pit Antenna	55	EA		
0022	3-Inch Water Meter Mach 10 R900i RF MIU with Pit ANTENNA	10	EA		
0023	4-Inch Water Meter Mach 10 R900i RF MIU with Pit Antenna	10	EA		
0024	Replacement of 5/8-Inch x 3/4-Inch Water Meter	3265	EA		
0025	Replacement of 1-Inch Water Meter	160	EA		
0026	Replacement of 2-Inch Water Meter	55	EA		
0027	Replacement of 3-Inch Water Meter	10	EA		
0028	Replacement of 4-Inch Water Meter	10	EA		
0029	Install R900 Pit Antenna on Existing Water Meter	150	EA		
0030	R900 Gateway V4 Collector	4	EA		
TOTAL:					\$

*Item 0019 thru 0023 are approximate quantities. Contractor shall field verify all meter sizes required prior to ordering.

**The unit "JOB" as used in this Bidding Schedule is synonymous with the term "Lump Sum" used elsewhere within these plans and specifications.

Award will be made as a whole to one bidder.

NOTE 1: Bidders shall furnish unit prices for each item listed in the Schedule requiring a unit price. If the bidder fails to insert a unit price in the appropriate blank for required item(s), but does furnish an extended total, or an estimated amount for such item(s), the Government shall deem the unit price to be the quotient obtained by dividing the extended amount for that line item by the quantity. IF A BIDDER OMITTS BOTH THE UNIT PRICE AND THE EXTENDED TOTAL OR ESTIMATED AMOUNT FOR ANY ITEM, ITS BID SHALL BE DECLARED NON-RESPONSIVE AND THEREFORE INELIGIBLE FOR AWARD.

NOTE 2: Any bid may be rejected if the Contracting Officer determines in writing that it is unreasonable as to price. Unreasonableness of price includes not only total price of bid, but the price for individual line items as well. Any bid may be rejected if the prices for any line items or sub line items are materially unbalanced (See [FAR 14.404-2, Rejection of Individual Bids](#)).

NOTE 3: THE NOTICE TO PROCEED (NTP): The successful bidder is advised that performance and payment bonds shall be submitted in accordance with the time frame in block 12B of SF 1442. The NTP will be issued immediately after verification of acceptable performance and payment bonds. Within seven (7) days after issuance of the NTP, the Contractor shall initiate a meeting to discuss the submittal process with the Area or Resident Engineer or his authorized representative. Physical work cannot start until the Accident Prevention Plan, Contractor Quality Control Plan, and other submittals which may be required, have been submitted and approved and all preliminary meetings called for under the contract, have been conducted.

NOTE 4: RAPID VENDOR PAYMENT: Web based instructions for the submission of invoices;
<http://www.mvn.usace.army.mil/BusinessWithUs/Contracting/RapidVendorPayment.aspx>

BID BOND <i>(See instructions on reverse)</i>	DATE BOND EXECUTED <i>(Must not be later than bid opening date)</i>	OMB Control Number: 9000-0045 Expiration Date: 8/31/2025
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.		
PRINCIPAL <i>(Legal name and business address)</i>		TYPE OF ORGANIZATION <i>("X" one)</i> <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> CORPORATION <input type="checkbox"/> OTHER <i>(Specify)</i> 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 <i>(Construction, Supplies or Services)</i>	

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.	2.	3.	Corporate Seal
	(Seal)	(Seal)	(Seal)	
NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.	3.	

INDIVIDUAL SURETY(IES)		
SIGNATURE(S)	1.	2.
	(Seal)	(Seal)
NAME(S) <i>(Typed)</i>	1.	2.

CORPORATE SURETY(IES)				
SURETY A	NAME & ADDRESS	STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.	
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.	

SURETY B	NAME & ADDRESS		STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY C	NAME & ADDRESS		STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY D	NAME & ADDRESS		STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY E	NAME & ADDRESS		STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY F	NAME & ADDRESS		STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY G	NAME & ADDRESS		STATE OF INCORPORATION	LIABILITY LIMIT (\$)	Corporate Seal
	SIGNATURE(S)	1.	2.		
	NAME(S) & 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."

Section 00100 - Bidding Schedule/Instructions to Bidders

CLAUSES INCORPORATED BY REFERENCE

52.204-7	System for Award Management	OCT 2018
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
52.214-12	Preparation Of Bids	APR 1984
52.214-18	Preparation of Bids-Construction	APR 1984
52.214-19	Contract Award-Sealed Bidding-Construction	AUG 1996
52.214-29	Order Of Precedence--Sealed Bidding	JAN 1986
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
52.225-10	Notice of Buy American Requirement--Construction Materials	MAY 2014
52.232-13	Notice Of Progress Payments	APR 1984

CLAUSES INCORPORATED BY FULL TEXT

52.209-7 INFORMATION REGARDING RESPONSIBILITY MATTERS (OCT 2018)

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

Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative Proceedings, Civilian Board of Contract Appeals Proceedings, and Armed Services Board of Contract Appeals Proceedings). This includes administrative proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include agency actions such as contract audits, site visits, corrective plans, or inspection of deliverables.

Federal contracts and grants with total value greater than \$10,000,000 means--

(1) The total value of all current, active contracts and grants, including all priced options; and

(2) The total value of all current, active orders including all priced options under indefinite-delivery, indefinite-quantity, 8(a), or requirements contracts (including task and delivery and multiple-award Schedules).

Principal means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a division or business segment; and similar positions).

(b) The offeror () has () does not have current active Federal contracts and grants with total value greater than \$10,000,000.

(c) If the offeror checked “has” in paragraph (b) of this provision, the offeror represents, by submission of this offer, that the information it has entered in the Federal Awardee Performance and Integrity Information System (FAPIS) is current, accurate, and complete as of the date of submission of this offer with regard to the following information:

(1) Whether the offeror, and/or any of its principals, has or has not, within the last five years, in connection with the award to or performance by the offeror of a Federal contract or grant, been the subject of a proceeding, at the Federal or State level that resulted in any of the following dispositions:

(i) In a criminal proceeding, a conviction.

(ii) In a civil proceeding, a finding of fault and liability that results in the payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more.

(iii) In an administrative proceeding, a finding of fault and liability that results in--

(A) The payment of a monetary fine or penalty of \$5,000 or more; or

(B) The payment of a reimbursement, restitution, or damages in excess of \$100,000.

(iv) In a criminal, civil, or administrative proceeding, a disposition of the matter by consent or compromise with an acknowledgment of fault by the Contractor if the proceeding could have led to any of the outcomes specified in paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this provision.

(2) If the offeror has been involved in the last five years in any of the occurrences listed in (c)(1) of this provision, whether the offeror has provided the requested information with regard to each occurrence.

(d) The offeror shall post the information in paragraphs (c)(1)(i) through (c)(1)(iv) of this provision in FAPIS as required through maintaining an active registration in the System for Award Management, which can be accessed via <https://www.sam.gov> (see 52.204-7).

(End of provision)

52.209-13 VIOLATION OF ARMS CONTROL TREATIES OR AGREEMENTS--CERTIFICATION (NOV 2021)

(a) This provision does not apply to acquisitions at or below the simplified acquisition threshold or to acquisitions of commercial products and commercial services as defined in Federal Acquisition Regulation 2.101.

(b) Certification. [Offeror shall check either (1) or (2).]

____ (1) The Offeror certifies that--

(i) It does not engage and has not engaged in any activity that contributed to or was a significant factor in the President's or Secretary of State's determination that a foreign country is in violation of its obligations undertaken in any arms control, nonproliferation, or disarmament agreement to which the United States is a party, or is not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. The determinations are described in the most recent unclassified annual report provided to Congress pursuant to section 403 of the Arms Control and Disarmament Act (22 U.S.C. 2593a). The report is available at <https://www.state.gov/bureaus-offices/under-secretary-for-arms-control-and-international-security-affairs/bureau-of-arms-control-verification-and-compliance/>; and

(ii) No entity owned or controlled by the Offeror has engaged in any activity that contributed to or was a significant factor in the President's or Secretary of State's determination that a foreign country is in violation of its obligations undertaken in any arms control, nonproliferation, or disarmament agreement to which the United States is a party, or is not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. The determinations are described in the most recent unclassified annual report provided to Congress pursuant to section 403 of the Arms Control and Disarmament Act (22 U.S.C. 2593a). The report is available at <https://www.state.gov/bureaus-offices/under-secretary-for-arms-control-and-international-security-affairs/bureau-of-arms-control-verification-and-compliance/>; or

____ (2) The Offeror is providing separate information with its offer in accordance with paragraph (d)(2) of this provision.

(c) Procedures for reviewing the annual unclassified report (see paragraph (b)(1) of this provision). For clarity, references to the report in this section refer to the entirety of the annual unclassified report, including any separate reports that are incorporated by reference into the annual unclassified report.

(1) Check the table of contents of the annual unclassified report and the country section headings of the reports incorporated by reference to identify the foreign countries listed there. Determine whether the Offeror or any person owned or controlled by the Offeror may have engaged in any activity related to one or more of such foreign countries.

(2) If there may have been such activity, review all findings in the report associated with those foreign countries to determine whether or not each such foreign country was determined to be in violation of its obligations undertaken in an arms control, nonproliferation, or disarmament agreement to which the United States is a party, or to be not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. For clarity, in the annual report an explicit certification of non-compliance is equivalent to a determination of violation. However, the following statements in the annual report are not equivalent to a determination of violation:

(i) An inability to certify compliance.

(ii) An inability to conclude compliance.

(iii) A statement about compliance concerns.

(3) If so, determine whether the Offeror or any person owned or controlled by the Offeror has engaged in any activity that contributed to or is a significant factor in the determination in the report that one or more of these foreign countries is in violation of its obligations undertaken in an arms control, nonproliferation, or disarmament agreement to which the United States is a party, or is not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. Review the narrative for any such findings reflecting a determination of violation or non-adherence related to those foreign countries in the report, including the finding itself, and to the extent necessary, the conduct giving rise to the compliance or adherence concerns, the analysis of compliance or adherence concerns, and efforts to resolve compliance or adherence concerns.

(4) The Offeror may submit any questions with regard to this report by email to NDAA1290Cert@state.gov. To the extent feasible, the Department of State will respond to such email inquiries within 3 business days.

(d) Do not submit an offer unless--

(1) A certification is provided in paragraph (b)(1) of this provision and submitted with the offer; or

(2) In accordance with paragraph (b)(2) of this provision, the Offeror provides with its offer information that the President of the United States has--

(i) Waived application under U.S.C. 2593e(d) or (e); or

(ii) Determined under 22 U.S.C. 2593e(g)(2) that the entity has ceased all activities for which measures were imposed under 22 U.S.C.2593e(b).

(e) Remedies. The certification in paragraph (b)(1) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly submitted a false certification, in addition to other remedies available to the Government, such as suspension or debarment, the Contracting Officer may terminate any contract resulting from the false certification.

(End of provision)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm fixed price 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
SMSA Counties MS 19.2%	6.9%
SMSA Counties LA 31.0%	6.9%
Non-SMSA Counties 27.7%	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 **Ascension Parish, LA.**

(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 percent (20%)** 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)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

Name: **Wayne Duplantier**

Address:

Telephone: **504-862-1989**

(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):

<http://www.acquisition.gov/>

(End of provision)

INSTRUCTION TO BIDDERS

Due to the response for COVID-19, most federal employees have been mandated to telework, and currently only authorized personnel are allowed access to the District buildings throughout USACE. As a result, we have implemented the below procedures for all current and future bid openings, until such restrictions have been lifted and normal access has resumed at the MVN HQ Building.

Electronic Submission of Bids:

MVN will utilize mail for receipt of electronic bids under IFB Solicitations. In order to submit an electronic bid please follow these steps:

Send an email containing your name, email address and Bid to the following Contracting Officer and Contract Specialist associated with the IFB:

Contracting Officer – Ms. Michelle R. Dalmado. email: Michelle.Dalmado@usace.army.mil

Contract Specialist – Ms. Nakiea Butler, email: Nakiea.B.Butler@usace.army.mil

Once the Contracting Officer or Contract Specialist receives your Bid, you will then receive a confirmation email stating your Bid was received.

The Bid Opening is currently scheduled for Tuesday, April 25, 2023 at 11:00 AM Local Time. The Contracting Officer and Contract Specialist will begin downloading bids at 10:30 AM Local Time, which is the bid receipt cutoff time. All bids received after 10:30 AM Local Time on Tuesday, April 25, 2023 will be considered late.

Audio Teleconference Bid Opening Information:

Bid Opening will be held on Tuesday, April 25, 2023 at 11:00 AM Local Time. Please use the following call-in information to attend the meeting:

Toll Free: 1-844-800-2712

Access Code: 2766 833 9006

Following the conclusion of the bid opening, the Bid Abstract will be uploaded to SAM website under this solicitation, within 24 hours.

Bid Bonds (Offer Guarantee) should be submitted electronically with the Bid Package as per the scheduled Bid Opening.

For any Questions please contact:

Contracting Officer – Ms. Michelle R. Dalmado, email: Michelle.Dalmado@usace.army.mil
Phone: (504) 862-1164

Contract Specialist – Ms. Nakiea Butler, email: Nakiea.B.Butler@usace.army.mil Phone: (504) 862-1772

Section 00600 - Representations & Certifications

CLAUSES INCORPORATED BY REFERENCE

52.204-16	Commercial and Government Entity Code Reporting	AUG 2020
52.204-19	Incorporation by Reference of Representations and Certifications.	DEC 2014
252.203-7005	Representation Relating to Compensation of Former DoD Officials	SEP 2022

CLAUSES INCORPORATED BY FULL TEXT

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (DEC 2022)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 221310.

(2) The small business size standard is \$36,000,000.

(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 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 52.204-7, System for Award Management, is included in this solicitation, paragraph (d) of this provision applies.

(2) If the provision at 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 (d) 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:

() Paragraph (d) applies.

() Paragraph (d) 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) The Offeror has completed the annual representations and certifications electronically in SAM accessed through <https://www.sam.gov>. After reviewing the SAM 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 paragraph (c) 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 clause 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 Clause	Title	Date	Change
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Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on SAM.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (DEVIATION 2023-O0002) (DEC 2022)

- (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 124.1002, 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 \$850,000 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 [221310].

(2) The small business size standard is[\$41,000,000.00].

(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 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 124.1002.

(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.

(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)

252.204-7007 ALTERNATE A, ANNUAL REPRESENTATIONS AND CERTIFICATIONS (MAY 2021)

Substitute the following paragraphs (b), (d) and (e) for paragraphs (b) and (d) of the provision at FAR 52.204-8:

(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.

(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)

Section 00700 - Contract Clauses

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
52.203-7	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
52.203-17	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
52.204-10	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
52.204-23	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
52.209-6	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
52.211-13	Time Extensions	SEP 2000
52.211-18	Variation in Estimated Quantity	APR 1984
52.214-26	Audit and Records--Sealed Bidding	JUN 2020
52.214-28 (Dev)	Subcontractor Certified Cost Or Pricing Data--Modifications--Sealed Bidding (DEVIATION 2022-O0001)	OCT 2021
52.219-6	Notice Of Total Small Business Set-Aside	NOV 2020
52.219-8	Utilization of Small Business Concerns	OCT 2022
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
52.223-2	Affirmative Procurement of Biobased Products Under Service and Construction Contracts	SEP 2013

52.225-13	Restrictions on Certain Foreign Purchases	FEB 2021
52.228-2	Additional Bond Security	OCT 1997
52.228-11 (Dev)	Individual Surety--Pledge of Assets (DEVIATION 2020-00016)	FEB 2021
52.228-12	Prospective Subcontractor Requests for Bonds	DEC 2022
52.228-15 (Dev)	Performance and Payment Bonds-Construction. (Deviation 2020-00016)	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
52.232-18	Availability Of Funds	APR 1984
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	NOV 2021
52.233-1	Disputes	MAY 2014
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
52.236-17	Layout of Work	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
52.244-2	Subcontracts	JUN 2020
52.244-6	Subcontracts for Commercial Products and Commercial Services	DEC 2022
52.246-12	Inspection of Construction	AUG 1996
52.246-21	Warranty of Construction	MAR 1994
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
52.252-2	Clauses Incorporated By Reference	FEB 1998
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	DEC 2022

252.203-7002	Requirement to Inform Employees of Whistleblower Rights	DEC 2022
252.203-7003	Agency Office of the Inspector General	AUG 2019
252.203-7005	Representation Relating to Compensation of Former DoD Officials	SEP 2022
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7006	Billing Instructions	OCT 2005
252.204-7008	Compliance With Safeguarding Covered Defense Information Controls	OCT 2016
252.204-7012	Safeguarding Covered Defense Information and Cyber Incident Reporting	DEC 2019
252.204-7015	Notice of Authorized Disclosure of Information for Litigation Support	MAY 2016
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
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
252.232-7004	DOD Progress Payment Rates	OCT 2014
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	DEC 2022

CLAUSES INCORPORATED BY FULL TEXT

52.203-13 CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT (NOV 2021)

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

Agent means any individual, including a director, an officer, an employee, or an independent Contractor, authorized to act on behalf of the organization.

Full cooperation—

(1) Means disclosure to the Government of the information sufficient for law enforcement to identify the nature and extent of the offense and the individuals responsible for the conduct. It includes providing timely and complete response to Government auditors' and investigators' request for documents and access to employees with information;

(2) Does not foreclose any Contractor rights arising in law, the FAR, or the terms of the contract. It does not require--

(i) A Contractor to waive its attorney-client privilege or the protections afforded by the attorney work product doctrine; or

(ii) Any officer, director, owner, or employee of the Contractor, including a sole proprietor, to waive his or her attorney client privilege or Fifth Amendment rights; and

(3) Does not restrict a Contractor from--

(i) Conducting an internal investigation; or

(ii) Defending a proceeding or dispute arising under the contract or related to a potential or disclosed violation.

Principal means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a division or business segment; and similar positions).

Subcontract means any contract entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract.

Subcontractor means any supplier, distributor, vendor, or firm that furnished supplies or services to or for a prime contractor or another subcontractor.

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

(b) Code of business ethics and conduct. (1) Within 30 days after contract award, unless the Contracting Officer establishes a longer time period, the Contractor shall--

(i) Have a written code of business ethics and conduct;

(ii) Make a copy of the code available to each employee engaged in performance of the contract.

(2) The Contractor shall--

(i) Exercise due diligence to prevent and detect criminal conduct; and

(ii) Otherwise promote an organizational culture that encourages ethical conduct and a commitment to compliance with the law.

(3)(i) The Contractor shall timely disclose, in writing, to the agency Office of the Inspector General (OIG), with a copy to the Contracting Officer, whenever, in connection with the award, performance, or closeout of this contract or any subcontract thereunder, the Contractor has credible evidence that a principal, employee, agent, or subcontractor of the Contractor has committed--

(A) A violation of Federal criminal law involving fraud, conflict of interest, bribery, or gratuity violations found in Title 18 of the United States Code; or

(B) A violation of the civil False Claims Act (31 U.S.C. 3729-3733).

(ii) The Government, to the extent permitted by law and regulation, will safeguard and treat information obtained pursuant to the Contractor's disclosure as confidential where the information has been marked "confidential" or "proprietary" by the company. To the extent permitted by law and regulation, such information will not be released by the Government to the public pursuant to a Freedom of Information Act request, 5 U.S.C. Section 552, without prior notification to the Contractor. The Government may transfer documents provided by the Contractor to any department or agency within the Executive Branch if the information relates to matters within the organization's jurisdiction.

(iii) If the violation relates to an order against a Governmentwide acquisition contract, a multi-agency contract, a multiple-award schedule contract such as the Federal Supply Schedule, or any other procurement instrument intended for use by multiple agencies, the Contractor shall notify the OIG of the ordering agency and the IG of the agency responsible for the basic contract.

(c) Business ethics awareness and compliance program and internal control system. This paragraph (c) does not apply if the Contractor has represented itself as a small business concern pursuant to the award of this contract or if this contract is for the acquisition of a commercial product or commercial service as defined at FAR 2.101. The Contractor shall establish the following within 90 days after contract award, unless the Contracting Officer establishes a longer time period:

(1) An ongoing business ethics awareness and compliance program.

(i) This program shall include reasonable steps to communicate periodically and in a practical manner the Contractor's standards and procedures and other aspects of the Contractor's business ethics awareness and compliance program and internal control system, by conducting effective training programs and otherwise disseminating information appropriate to an individual's respective roles and responsibilities.

(ii) The training conducted under this program shall be provided to the Contractor's principals and employees, and as appropriate, the Contractor's agents and subcontractors.

(2) An internal control system.

(i) The Contractor's internal control system shall--

(A) Establish standards and procedures to facilitate timely discovery of improper conduct in connection with Government contracts; and

(B) Ensure corrective measures are promptly instituted and carried out.

(ii) At a minimum, the Contractor's internal control system shall provide for the following:

(A) Assignment of responsibility at a sufficiently high level and adequate resources to ensure effectiveness of the business ethics awareness and compliance program and internal control system.

(B) Reasonable efforts not to include an individual as a principal, whom due diligence would have exposed as having engaged in conduct that is in conflict with the Contractor's code of business ethics and conduct.

(C) Periodic reviews of company business practices, procedures, policies, and internal controls for compliance with the Contractor's code of business ethics and conduct and the special requirements of Government contracting, including--

(1) Monitoring and auditing to detect criminal conduct;

(2) Periodic evaluation of the effectiveness of the business ethics awareness and compliance program and internal control system, especially if criminal conduct has been detected; and

(3) Periodic assessment of the risk of criminal conduct, with appropriate steps to design, implement, or modify the business ethics awareness and compliance program and the internal control system as necessary to reduce the risk of criminal conduct identified through this process.

(D) An internal reporting mechanism, such as a hotline, which allows for anonymity or confidentiality, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(E) Disciplinary action for improper conduct or for failing to take reasonable steps to prevent or detect improper conduct.

(F) Timely disclosure, in writing, to the agency OIG, with a copy to the Contracting Officer, whenever, in connection with the award, performance, or closeout of any Government contract performed by the Contractor or a subcontractor thereunder, the Contractor has credible evidence that a principal, employee, agent, or subcontractor of the Contractor has committed a violation of Federal criminal law involving fraud, conflict of interest, bribery, or gratuity violations found in Title 18 U.S.C. or a violation of the civil False Claims Act (31 U.S.C. 3729-3733).

(1) If a violation relates to more than one Government contract, the Contractor may make the disclosure to the agency OIG and Contracting Officer responsible for the largest dollar value contract impacted by the violation.

(2) If the violation relates to an order against a Governmentwide acquisition contract, a multi-agency contract, a multiple-award schedule contract such as the Federal Supply Schedule, or any other procurement instrument intended for use by multiple agencies, the contractor shall notify the OIG of the ordering agency and the IG of the agency responsible for the basic contract, and the respective agencies' contracting officers.

(3) The disclosure requirement for an individual contract continues until at least 3 years after final payment on the contract.

(4) The Government will safeguard such disclosures in accordance with paragraph (b)(3)(ii) of this clause.

(G) Full cooperation with any Government agencies responsible for audits, investigations, or corrective actions.

(d) Subcontracts.

(1) The Contractor shall include the substance of this clause, including this paragraph (d), in subcontracts that exceed the threshold specified in FAR 3.1004(a) on the date of subcontract award and a performance period of more than 120 days.

(2) In altering this clause to identify the appropriate parties, all disclosures of violation of the civil False Claims Act or of Federal criminal law shall be directed to the agency Office of the Inspector General, with a copy to the Contracting Officer.

(End of clause)

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)

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

The Contractor shall be required to (a) commence work under this contract within **10** 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 **420 calendar days after the date of receipt by him of notice to proceed**. The time stated for completion shall include final cleanup of the premises.

*The Contracting Officer shall specify either a number of days after the date the contractor receives the notice to proceed, or a calendar date.

(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 **\$3,620.00** 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 (OCT 2022)

(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 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;
 - (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.]

___ 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)

52.219-27 NOTICE OF SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS SET-ASIDE (OCT 2022)

(a) Definition. 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).

(b) Applicability. This clause applies only to--

(1) Contracts that have been set aside for service-disabled veteran-owned small business concerns;

(2) Part or parts of a multiple-award contract that have been set aside for service-disabled veteran-owned small business concerns;

(3) Orders set aside for service-disabled veteran-owned small business concerns under multiple-award contracts as described in 8.405-5 and 16.505(b)(2)(i)(F); and

(4) Orders issued directly to service-disabled veteran-owned small business concerns under multiple-award contracts as described in 19.504(c)(1)(ii).

(c) General.

(1) Offers are solicited only from service-disabled veteran-owned small business concerns. Offers received from concerns that are not service-disabled veteran-owned small business concerns shall not be considered.

(2) Any award resulting from this solicitation will be made to a service-disabled veteran-owned small business concern.

(d) A joint venture may be considered a service-disabled veteran owned small business concern if--

(1) At least one party to the joint venture complies with the criteria defined in paragraph (a) of this clause and 13 CFR 125.18(b)(2); and

(2) Each party to the joint venture is small under the size standard corresponding to the NAICS code assigned to the procurement, or the protege is small under the size standard corresponding to the NAICS code assigned to the procurement in a joint venture comprised of a mentor and protege with an approved mentor-protege agreement under an SBA mentor-protege program.

(e) In a joint venture that complies with paragraph (f) of this clause, the service-disabled veteran-owned small business party or parties to the joint venture shall perform at least 40 percent of the work performed by the joint venture. Work performed by the service-disabled veteran-owned small business party or parties to the joint venture must be more than administrative functions.

(End of Clause)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (OCT 2022)

(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 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 assigned to contract number .

(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 124.1002.

(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)

52.225-9 BUY AMERICAN—CONSTRUCTION MATERIALS (OCT 2022)

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

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 a 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.

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.

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.

(b) Domestic preference.

(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 materials, excluding COTS fasteners. (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement 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

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) 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 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;

(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 is manufactured in the United States and does not exceed 55 percent domestic content, the Contracting Officer will treat the lowest offer of foreign construction material that 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)(3)(i)(A)(1) of this clause.

(3) The procedures in paragraph (b)(3)(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 foreign offer of 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)(3)(i)(B)(1) of this clause.

(3) The procedures in paragraph (b)(3)(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 Act 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 Act. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) 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)(3)(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. **W912P8-23-B-0005**_(for reference only)

**TO: Department of the Army
Corps of Engineers, New Orleans District
7400 Leake Ave.
New Orleans, LA 70118**

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)

52.232-16 PROGRESS PAYMENTS (NOV 2021) (DEVIATION 2020-O0010)

The Government will make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts of \$2,500 or more approved by the Contracting Officer, under the following conditions:

(a) Computation of amounts.

(1) Unless the Contractor requests a smaller amount, the Government will compute each progress payment as 90 percent of the Contractor's total costs incurred under this contract whether or not actually paid, plus financing payments to subcontractors (see paragraph (j) of this clause), less the sum of all previous progress payments made by the Government under this contract. The Contracting Officer will consider cost of money that would be allowable under Federal Acquisition Regulation (FAR) 31.205-10 as an incurred cost for progress payment purposes.

(2) The amount of financing and other payments for supplies and services purchased directly for the contract are limited to the amounts that have been paid by cash, check, or other forms of payment, or that are determined due and will be paid to subcontractors—

(i) In accordance with the terms and conditions of a subcontract or invoice; and

(ii) Ordinarily within 30 days of the submission of the Contractor's payment request to the Government.

(3) The Government will exclude accrued costs of Contractor contributions under employee pension plans until actually paid unless—

(i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's total costs for progress payments until paid).

(4) The Contractor shall not include the following in total costs for progress payment purposes in paragraph (a)(1) of this clause:

(i) Costs that are not reasonable, allocable to this contract, and consistent with sound and generally accepted accounting principles and practices.

(ii) Costs incurred by subcontractors or suppliers.

(iii) Costs ordinarily capitalized and subject to depreciation or amortization except for the properly depreciated or amortized portion of such costs.

(iv) Payments made or amounts payable to subcontractors or suppliers, except for—

(A) Completed work, including partial deliveries, to which the Contractor has acquired title; and

(B) Work under cost-reimbursement or time-and-material subcontracts to which the Contractor has acquired title.

(5) The amount of unliquidated progress payments may exceed neither (i) the progress payments made against incomplete work (including allowable unliquidated progress payments to subcontractors) nor (ii) the value, for progress payment purposes, of the incomplete work. Incomplete work shall be considered to be the supplies and services required by this contract, for which delivery and invoicing by the Contractor and acceptance by the Government are incomplete.

(6) The total amount of progress payments shall not exceed 90 percent of the total contract price.

(7) If a progress payment or the unliquidated progress payments exceed the amounts permitted by subparagraphs (a)(4) or (a)(5) above, the Contractor shall repay the amount of such excess to the Government on demand.

(8) Notwithstanding any other terms of the contract, the Contractor agrees not to request progress payments in dollar amounts of less than \$2,500. The Contracting Officer may make exceptions.

(9) The costs applicable to items delivered, invoiced, and accepted shall not include costs in excess of the contract price of the items.

(b) Liquidation. Except as provided in the Termination for Convenience of the Government clause, all progress payments shall be liquidated by deducting from any payment under this contract, other than advance or progress payments, the unliquidated progress payments, or 90 percent of the amount invoiced, whichever is less. The Contractor shall repay to the Government any amounts required by a retroactive price reduction, after computing liquidations and payments on past invoices at the reduced prices and adjusting the unliquidated progress payments accordingly. The Government reserves the right to unilaterally change from the ordinary liquidation rate to an alternate rate when deemed appropriate for proper contract financing.

(c) Reduction or suspension. The Contracting Officer may reduce or suspend progress payments, increase the rate of liquidation, or take a combination of these actions, after finding on substantial evidence any of the following conditions:

(1) The Contractor failed to comply with any material requirement of this contract (which includes paragraphs (f) and (g) below).

(2) Performance of this contract is endangered by the Contractor's (i) failure to make progress or (ii) unsatisfactory financial condition.

(3) Inventory allocated to this contract substantially exceeds reasonable requirements.

(4) The Contractor is delinquent in payment of the costs of performing this contract in the ordinary course of business.

(5) The fair value of the undelivered work is less than the amount of unliquidated progress payments for that work.

(6) The Contractor is realizing less profit than that reflected in the establishment of any alternate liquidation rate in paragraph (b) above, and that rate is less than the progress payment rate stated in subparagraph (a)(1) above.

(d) Title.

(1) Title to the property described in this paragraph (d) shall vest in the Government. Vestiture shall be immediately upon the date of this contract, for property acquired or produced before that date. Otherwise, vestiture shall occur when the property is or should have been allocable or properly chargeable to this contract.

(2) Property, as used in this clause, includes all of the below-described items acquired or produced by the Contractor that are or should be allocable or properly chargeable to this contract under sound and generally accepted accounting principles and practices.

(i) Parts, materials, inventories, and work in process;

(ii) Special tooling and special test equipment to which the Government is to acquire title;

(iii) Nondurable (i.e., noncapital) tools, jigs, dies, fixtures, molds, patterns, taps, gauges, test equipment, and other similar manufacturing aids, title to which would not be obtained as special tooling under subparagraph (ii) above; and

(iv) Drawings and technical data, to the extent the Contractor or subcontractors are required to deliver them to the Government by other clauses of this contract.

(3) Although title to property is in the Government under this clause, other applicable clauses of this contract, e.g., the termination clauses, shall determine the handling and disposition of the property.

(4) The Contractor may sell any scrap resulting from production under this contract without requesting the Contracting Officer's approval, but the proceeds shall be credited against the costs of performance.

(5) To acquire for its own use or dispose of property to which title is vested in the Government under this clause, the Contractor must obtain the Contracting Officer's advance approval of the action and the terms. The Contractor shall

(i) exclude the allocable costs of the property from the costs of contract performance, and (ii) repay to the Government any amount of unliquidated progress payments allocable to the property. Repayment may be by cash or credit memorandum.

(6) When the Contractor completes all of the obligations under this contract, including liquidation of all progress payments, title shall vest in the Contractor for all property (or the proceeds thereof) not—

(i) Delivered to, and accepted by, the Government under this contract; or

(ii) Incorporated in supplies delivered to, and accepted by, the Government under this contract and to which title is vested in the Government under this clause.

(7) The terms of this contract concerning liability for Government-furnished property shall not apply to property to which the Government acquired title solely under this clause.

(e) Risk of loss. Before delivery to and acceptance by the Government, the Contractor shall bear the risk of loss for property, the title to which vests in the Government under this clause, except to the extent the Government expressly assumes the risk. The Contractor shall repay the Government an amount equal to the unliquidated progress payments that are based on costs allocable to property that is lost (see 45.101).

(f) Control of costs and property. The Contractor shall maintain an accounting system and controls adequate for the proper administration of this clause.

(g) Reports, forms, and access to records.

(1) The Contractor shall promptly furnish reports, certificates, financial statements, and other pertinent information (including estimates to complete) reasonably requested by the Contracting Officer for the administration of this clause. Also, the Contractor shall give the Government reasonable opportunity to examine and verify the Contractor's books, records, and accounts.

(2) The Contractor shall furnish estimates to complete that have been developed or updated within six months of the date of the progress payment request. The estimates to complete shall represent the Contractor's best estimate of total costs to complete all remaining contract work required under the contract. The estimates shall include sufficient detail to permit Government verification.

(3) Each Contractor request for progress payment shall:

(i) Be submitted on Standard Form 1443, Contractor's Request for Progress Payment, or the electronic equivalent as required by agency regulations, in accordance with the form instructions and the contract terms; and

(ii) Include any additional supporting documentation requested by the Contracting Officer.

(h) Special terms regarding default. If this contract is terminated under the Default clause, (i) the Contractor shall, on demand, repay to the Government the amount of unliquidated progress payments, and (ii) title shall vest in the Contractor, on full liquidation of progress payments, for all property for which the Government elects not to require delivery under the Default clause. The Government shall be liable for no payment except as provided by the Default clause.

(i) Reservations of rights.

(1) No payment or vesting of title under this clause shall (i) excuse the Contractor from performance of obligations under this contract or (ii) constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause (i) shall not be exclusive but rather shall be in addition to any other rights and remedies provided by law or this contract and (ii) shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

(j) Financing payments to subcontractors. The financing payments to subcontractors mentioned in paragraphs (a)(1) and (a)(2) of this clause shall be all financing payments to subcontractors or divisions, if the following conditions are met:

(1) The amounts included are limited to—

(i) The unliquidated remainder of financing payments made; plus

(ii) Any unpaid subcontractor requests for financing payments.

(2) The subcontract or interdivisional order is expected to involve a minimum of approximately 6 months between the beginning of work and the first delivery; or, if the subcontractor is a small business concern, 4 months.

(3) If the financing payments are in the form of progress payments, the terms of the subcontract or interdivisional order concerning progress payments—

(i) Are substantially similar to the terms of this clause for any subcontractor that is a large business concern, or this clause with its Alternate I for any subcontractor that is a small business concern;

(ii) Are at least as favorable to the Government as the terms of this clause;

(iii) Are not more favorable to the subcontractor or division than the terms of this clause are to the Contractor;

(iv) Are in conformance with the requirements of FAR 32.504(e); and

(v) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if—

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(4) If the financing payments are in the form of performance-based payments, the terms of the subcontract or interdivisional order concerning payments—

(i) Are substantially similar to the Performance-Based Payments clause at FAR 52.232-32 and meet the criteria for, and definition of, performance-based payments in FAR Part 32;

(ii) Are in conformance with the requirements of FAR 32.504(f); and

(iii) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if—

(A) The Contractor defaults; or
(B) The subcontractor becomes bankrupt or insolvent.

(5) If the financing payments are in the form of commercial product or commercial service financing payments, the terms of the subcontract or interdivisional order concerning payments—
(i) Are constructed in accordance with FAR 32.206(c) and included in a subcontract for a commercial product or commercial service purchase that meets the definition and standards for acquisition of commercial products and commercial services in FAR parts 2 and 12;
(ii) Are in conformance with the requirements of FAR 32.504(g); and
(iii) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if—
(A) The Contractor defaults; or
(B) The subcontractor becomes bankrupt or insolvent.

(6) If financing is in the form of progress payments, the progress payment rate in the subcontract is the customary rate used by the contracting agency, depending on whether the subcontractor is or is not a small business concern.

(7) Concerning any proceeds received by the Government for property to which title has vested in the Government under the subcontract terms, the parties agree that the proceeds shall be applied to reducing any unliquidated financing payments by the Government to the Contractor under this contract.

(8) If no unliquidated financing payments to the Contractor remain, but there are unliquidated financing payments that the Contractor has made to any subcontractor, the Contractor shall be subrogated to all the rights the Government obtained through the terms required by this clause to be in any subcontract, as if all such rights had been assigned and transferred to the Contractor.

(9) To facilitate small business participation in subcontracting under this contract, the Contractor shall provide financing payments to small business concerns, in conformity with the standards for customary contract financing payments stated in FAR 32.113. The Contractor shall not consider the need for such financing payments as a handicap or adverse factor in the award of subcontracts.

(k) Limitations on undefinitized contract actions. Notwithstanding any other progress payment provisions in this contract, progress payments may not exceed 80 percent of costs incurred on work accomplished under undefinitized contract actions. A contract action is any action resulting in a contract, as defined in subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes. This limitation shall apply to the costs incurred, as computed in accordance with paragraph (a) of this clause, and shall remain in effect until the contract action is definitized. Costs incurred which are subject to this limitation shall be segregated on Contractor progress payment requests and invoices from those costs eligible for higher progress payment rates. For purposes of progress payment liquidation, as described in paragraph (b) of this clause, progress payments for undefinitized contract actions shall be liquidated at 80 percent of the amount invoiced for work performed under the undefinitized contract action as long as the contract action remains undefinitized. The amount of unliquidated progress payments for undefinitized contract actions shall not exceed 80 percent of the maximum liability of the Government under the undefinitized contract action or such lower limit specified elsewhere in the contract. Separate limits may be specified for separate actions.

(l) Due date. The designated payment office will make progress payments on the 30th day after the designated billing office receives a proper progress payment request. In the event that the Government requires an audit or other review of a specific progress payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date. Progress payments are considered contract financing and are not subject to the interest penalty provisions of the Prompt Payment Act.

(m) Progress payments under indefinite-delivery contracts. The Contractor shall account for and submit progress payment requests under individual orders as if the order constituted a separate contract, unless otherwise specified in this contract.

(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 **twenty (20%)** 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)

52.236-4 PHYSICAL DATA (APR 1984)

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

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and borings. . Field notes, graphic boring logs, field and laboratory test results, and other data on which this information is based are available at U.S. Army Engineer District, New Orleans, Corps of Engineers, Attn: CEMVN-ED, 7400 Leake Avenue, New Orleans, LA 70118-3651, and access thereto may be had upon request.

(b) Weather conditions. Data on weather conditions may be obtained from the National Weather Service.

(c) In general, the project is located in the Donaldsonville area on the west bank of the Mississippi River.

(d) The Contractor is responsible for keeping streets free of mud, tracking, spillage and/or other surface pollution from his equipment and operations. Contractor shall take whatever means required (i.e., street cleaners, manual labor, water trucks with sprayers) as often as needed to maintain clean streets near the work site. All debris resulting from street cleaning operations shall be hauled off-site and disposed of properly.

(e) Estimates of quantities involved in certain items of work for which bids are being solicited on a job basis have been made for the use of the Government. Copies of these quantity estimates may be viewed/obtained by contacting the U.S. Army Engineer District, New Orleans, Corps of Engineers, Attention: Contracting Officer, CEMVN-CT, 7400 Leake Ave, New Orleans, Louisiana 70118-3651. It is expressly understood that the accuracy of these estimates is in no way warranted and that the furnishing of this information to a bidder will not relieve him of his responsibility to estimate the quantities involved.

(f) Soil Borings. Soil borings are not available.

(End of clause)

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to

the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

NOTE: See Section 01 32 16.00 20 "CONSTRUCTION PROGRESS SCHEDULES" for additional construction schedule requirements.

52.236-16 QUANTITY SURVEYS (APR 1984)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Government shall conduct the original and final surveys and make the computations based on them. The Contractor shall conduct the surveys for any periods for which progress payments are requested and shall make the computations based on these surveys. All surveys conducted by the Contractor shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of clause)

252.219-7011 NOTIFICATION TO DELAY PERFORMANCE (JUN 1998)

The Contractor shall not begin performance under this purchase order until 2 working days have passed from the date of its receipt. Unless the Contractor receives notification from the Small Business Administration that it is ineligible for this 8(a) award, or otherwise receives instructions from the Contracting Officer, performance under this purchase order may begin on the third working day following receipt of the purchase order. If a determination of ineligibility is issued within the 2-day period, the purchase order shall be considered canceled.

(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 following index of drawings:

Title	File	Drawing No.
PUA & ACUD #1 Drinking Water Infrastructure Improvements - Water Meter Replacement Ascension Parish, Louisiana	-----	G-001 thru G-004, G-101; C-101 thru C-174, C-501 thru C-511, C-601 thru C-618

(End of clause)

NOTE: PLAN DRAWING SIGNATURES: The plan drawings accompanying this solicitation have been submitted and approved by the individuals shown in the title blocks on the plans. The actual signatures of the individuals shown on the plans are on file and are available for inspection at U.S. Army Engineer District, New Orleans, Corps of Engineers, Attn: CEMVN-ED, 7400 Leake Avenue, New Orleans, LA 70118-3651, and access thereto may be had upon request.

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** percent (**60%**) of the lump sum price upon completion of the contractor's mobilization at the work site.
 - (2) The remaining **forty** percent **forty** (**40%**) 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.

Superseded General Decision Number: LA20220002

State: Louisiana

Construction Type: Heavy

Counties: Acadia, Ascension, Bossier, Caddo, Calcasieu, East Baton Rouge, Lafayette, Lafourche, Livingston, Ouachita, Rapides, St Landry, St Martin, Terrebonne, Webster and West Baton Rouge Counties in Louisiana.

HEAVY CONSTRUCTION PROJECTS (includes flood control, water & sewer lines, and water wells; excludes elevated storage tanks, industrial construction-chemical processing, power plants, and refineries)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at

<http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023

CARP1098-004 07/01/2022

ASCENSION, EAST BATON ROUGE, LIVINGSTON AND WEST BATON ROUGE
PARISHES

	Rates	Fringes
CARPENTER (formbuilding/formsetting).....	\$ 29.04	10.86

CARP1098-014 07/01/2022		

CALCASIEU PARISH

	Rates	Fringes
CARPENTER (formbuilding/formsetting).....	\$ 29.04	10.86

CARP1098-015 07/01/2022		

ACADIA, LAFAYETTE, ST. LANDRY AND ST. MARTIN PARISHES

	Rates	Fringes
CARPENTER (formbuilding/formsetting).....	\$ 29.04	10.86

CARP1098-016 07/01/2022		

BOSSIER, CADDO, OUACHITA, RAPIDES AND WEBSTER PARISHES

	Rates	Fringes
CARPENTER (formbuilding/formsetting).....	\$ 29.04	10.86

CARP1846-008 07/01/2022		

LAFOURCHE and TERREBONNE PARISHES

	Rates	Fringes
CARPENTER (formbuilding/formsetting).....	\$ 29.09	10.27

ELEC0130-009 12/05/2022		

LAFOURCHE AND TERREBONNE PARISHES

	Rates	Fringes
ELECTRICIAN.....	\$ 32.75	14.51

ELEC0194-007 09/05/2022		

BOSSIER, CADDO, and WEBSTER PARISHES

	Rates	Fringes
ELECTRICIAN.....	\$ 31.25	14.34

ELEC0446-007 09/01/2022		

OUACHITA PARISH

	Rates	Fringes
ELECTRICIAN.....	\$ 26.48	2%+13.04

ELEC0576-006 09/01/2022		

RAPIDES PARISH

	Rates	Fringes
ELECTRICIAN.....	\$ 26.40	4.25%+9.60

ELEC0861-006 09/01/2022		

ACADIA, CALCASIEU, LAFAYETTE, AND ST. MARTIN PARISHES

	Rates	Fringes
ELECTRICIAN.....	\$ 29.53	4.34%+13.05

* ELEC0995-006 01/01/2023		

ASCENSION, EAST BATON ROUGE, LIVINGSTON, ST. LANDRY, AND WEST
BATON ROUGE PARISHES

	Rates	Fringes
ELECTRICIAN.....	\$ 27.49	12.66

* SULA2004-006 04/29/2004		

	Rates	Fringes
CARPENTER (all other work).....	\$ 12.81 **	0.00
Cement Mason/Concrete Finisher...	\$ 13.77 **	0.00
Laborers		
Common.....	\$ 8.20 **	0.00
Pipelayer.....	\$ 9.45 **	0.00
Power Equipment Operators		
Backhoe/Excavator.....	\$ 13.01 **	0.00
Bulldozer.....	\$ 13.83 **	0.00
Crane.....	\$ 16.62	3.28
Dragline.....	\$ 15.16 **	0.00
Front End Loader.....	\$ 11.50 **	0.00
Motor Grader/Blade.....	\$ 11.75 **	0.00
Oiler.....	\$ 8.59 **	2.50
Trackhoe.....	\$ 12.64 **	0.00
Water Well Driller.....	\$ 11.91 **	2.44
Winch.....	\$ 11.38 **	0.00
Truck Driver, Dump.....	\$ 10.25 **	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate

changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

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SECTION 01100 - GENERAL PROVISIONS

1. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

(a) This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Clause in Section 00700 CONTRACT CLAUSES, entitled DEFAULT (FIXED PRICE CONSTRUCTION) (FAR 52.249-10). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied.

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

(b) The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) for temperature, precipitation and wet ground conditions or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. Also considered in the chart below was wind, fog, high or low tides, etc.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON (5) DAY WORK WEEK

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	5	1	1	2	2	1	2	1	2	5	6

(c) Upon receipt of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily Contractor Quality Control (CQC) report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day.

(d) The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), and shall be calculated chronologically from the first to the last day of each month, and shall be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in

paragraph b, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Clause in Section 00700 CONTRACT CLAUSES, entitled DEFAULT (FIXED PRICE CONSTRUCTION) (FAR 52.249-10).

2. DAMAGE TO WORK

The responsibility for damage to any part of the permanent work shall be as set forth in the Clause in Section 00700 CONTRACT CLAUSES, entitled PERMITS AND RESPONSIBILITIES (FAR 52.236-7). However, if, in the judgment of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood, earthquake, hurricane, or tornado which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit price or job prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there is no contract unit or job prices applicable to any part of such work, an equitable adjustment shall be made pursuant to the Clause in Section 00700 CONTRACT CLAUSES, entitled CHANGES (FAR 52.243-4). Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment, and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

3. SAFETY PROVISIONS

The safety provisions as specified herein refer to the November 2014 edition of EM 385-1-1. The current document can be found at http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1.pdf

(a) Mishap Reporting and Investigation. Refer to EM 385- 1-1, Section 01.D. Reports shall be submitted on ENG Form 3394. Accidents shall be investigated and reports completed by the immediate supervisor of the employee(s) involved and reported to the Contracting Officer or his/her representative within one working day after the accident occurs. All data reported must be complete, timely and accurate. A follow-up report shall be submitted when the estimated lost time days differs from the actual lost time days.

(b) Accident Prevention Plan (APP). (See the Contract Clause in Section 00700, entitled ACCIDENT PREVENTION (FAR 52.236-13).) Within 15 days after receipt of Notice of Award of the contract, and at least 7 days prior to the prework conference, four copies of the Accident Prevention Plan shall be submitted to the Contracting Officer for review and acceptance. The plan shall be prepared in the following format:

(1) Executed CESO Form A-02, Accident Prevention Plan Checklist (the “fillable form” can be obtained from:

<http://www.usace.army.mil/Portals/2/docs/Safety/EM%20385-1-1,%202014%20Sections/Checklists/CESO%20Checklist%20A-02%20Accident%20Prevention%20Plan.pdf>) The Contractor shall

address each of the elements/sub-elements in the outline contained in Appendix A of EM 385-1-1 in the order that they are provided in the manual. If an item is not applicable because of the nature of the work to be performed, the Contractor shall state this exception and provide a justification.

(2) Activity Hazard Analysis (AHA) Form, Figure 1-2 in Section 1 “Program Management” of EM 385-1-1 (Nov 2014) (Attached at the end of this section).

(3) A copy of company policy statement regarding accident prevention.

(4) EM-385-1-1 01.A.14, subparagraph a requires a hazard analysis for all features of work. For this contract, these hazard analyses shall be submitted with the rest of the APP for review before work begins. Hazard analysis may be refined and resubmitted at a later date if the Contractor chooses.

The Contractor shall not commence physical work at the site until the Contracting Officer, or his/her authorized representative has accepted the Accident Prevention Plan. The Contractor may submit its Activity Hazard Analysis (AHA) only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also refer to Section 1 of EM 385-1-1.

(c) Comprehensive Hazard Communication Program. The Contractor shall develop, implement, and maintain at the workplace a written, Comprehensive Hazard Communication Program (see Section 06.B.01 of EM 385-1-1) that includes identification of potential hazards as prescribed in 29 CFR Part 1910.1200 and/or 1926.59, effects of exposure and control measures to be used for chemical products and physical agents that may be encountered during the performance of work on this contract, provisions for container labeling, Safety Data Sheets, and employee training program, and other criteria in accordance with 29 CFR Part 1910.1200 and/or 1926.59. Training shall include communication methods and systems to be used (i.e., voice, hand signals, radios, or other means), and training in the use and understanding of safety data sheets and chemical product hazard warning labels. Prior to bringing hazardous substances, as defined in 29 CFR 1910.1200 and/or 1926.59, onto the job site, a copy of the Hazard Communication Program and the Safety Data Sheets of each

substance shall be submitted to the Contracting Officer and made available to the Contractor's employees as part of its Accident Prevention Plan. A site map shall be attached to the inventory showing where the inventoried hazardous substances are stored. The inventory list and site map shall be updated monthly to assure accuracy. The Contractor shall note that "Safety Data Sheets (SDS) has replaced Material Safety Data Sheets (MSDS)" referenced in Section 06.B.01 of EM 385-1-1 meeting the criteria of the new OSHA globally harmonized system.

(d) Daily Inspections. The Contractor shall perform daily safety inspections and record them on the forms approved by the Contracting Officer. Reports of daily inspections shall be maintained at the jobsite in accordance with Section 01 45 04.00 10, "CONTRACTOR QUALITY CONTROL". The reports shall be records of the daily inspections and resulting actions. Each report shall include, as a minimum, the following:

- (1) Phase(s) of construction underway during the inspection.
- (2) Locations of areas where inspections were made.
- (3) Results of inspections, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

(e) Safety Sign. The Contractor shall furnish, erect, and maintain a safety sign at the site where indicated by the Contracting Officer. The sign shall conform to the requirements of this paragraph and the drawing included at the end of this section. The lettering shall be black, the safety circle and cross green, and the background white. When placed on a floating plant, the sign may be half size. The sign shall be erected as soon as practicable, but not later than 15 calendar days after the date established for commencement of work. The data required shall be current. The sign coordinator is Timothy Lacoste@ 504.862.2663. No separate measurement or payment will be made for construction and erection of the safety sign and all costs in connection there with will be an incidental obligation of the Contractor. Upon completion of the work, the sign shall become the property of the Contractor and shall be removed from the job site.

(f) Ground Fault Protection. Electrical equipment used on this contract shall be equipped with ground fault circuit interrupters in accordance with EM 385-1-1, Section 11.D.05.

(g) Hurricane Plan. A detailed plan for protection and evacuation of personnel and the construction site, in the event of an impending hurricane or storm, is required as an enclosure to the Contractor's Accident Prevention Plan. This plan shall be submitted to the Contracting Officer, or his/her representative, for review and approved prior to the preconstruction conference. Work being performed to

satisfy the Hurricane plan will not be measured for payment. Payment for all work associated with the Hurricane Plan, and providing the equipment required for the duration specified, shall be distributed amongst the existing bid items. The Hurricane Plan shall include at least the following:

- (1) The time each phase of the plan will be put in effect. The time shall be the number of hours remaining for the storm to reach the worksite if it continues at the predicted speed and direction.
- (2) The estimated time necessary to secure and evacuate the site.

(h) Hazardous Energy Protection. The Contractor shall develop, implement, and maintain at the workplace, a written Control of Hazardous Energy (Lockout/Tagout) System. Refer to Section 12 of EM 385-1-1.

(i) Cranes. The Contractor (including subcontractors) shall have cage boom guards, insulating links, or proximity warning devices on cranes that will be working adjacent to power lines. These devices shall not alter the requirements of any other regulation of this part - even if such device is required by law or other regulation. Insulating links shall be capable of withstanding a 1-minute dry low frequency dielectric test of 50,000 volts, alternating current (EM 385-1-1, Section 11.F.08). Calibration records or stamped date of required manufacturer inspection of proximity warning devices shall be kept on the crane. Additionally, prior to any work commencing an Activity Hazard Analysis (EM 385-1-1, Fig.1-2) identifying and satisfying EM 385-1-1, Section 11.A.02, 11.F.03, 11.F.04, 11.F.05, and Table 11-1 requirements shall be submitted and accepted by the Contracting Officer.

(j) Power Line Safety. In locations where trucks and other equipment will be passing beneath overhead power lines, the Contractor shall install at least 2 signs on either side of the crossings warning drivers of the overhead lines. The signs shall face both directions of travel. The signs shall have arrows pointing upward and state 'Overhead Electric'. The Contractor shall submit his proposed sign design to the Contracting Officer for review and approval.

(k) Site Safety and Health Officer (SSHO). The Contractor shall have a qualified Site Safety and Health Officer (SSHO) on the construction site at all times that work is being performed to manage the Contractor's Accident Prevention Plan. The SSHO shall be a full time responsibility. (see EM 385-1-1, paragraph 01.A.17). The person(s), as a minimum, shall have completed the 30-hour OSHA Construction Industry Safety Class (may be web based training if the student is able to directly ask questions of the instructor by chat / phone) or an equivalent course (see Appendix A, paragraph 3.d.(3)) applicable to the work to be performed, and given by a qualified instructor. Such training shall have been completed within the last three (3) years. SSHO's shall maintain competency through taking 8 hours of documented formal, on-line, or self-study safety and

health coursework every year. For projects with multiple shifts, an alternate SSHO shall be assigned to assure coverage of the project during all working hours. Alternate SSHO's (as listed in the Contractor's APP) must meet the same requirements as the primary SSHO. Alternate SSHO's may hold other positions when not functioning as an SSHO.

4. INSPECTOR'S FIELD OFFICE

(a) The Contractor shall furnish, throughout the contract period, for the exclusive use of the Government employees, a temporary waterproof building, or trailer, to be utilized as a field office. It shall be conveniently located at the site of construction and shall be independent of any building, or trailer, used by the Contractor. Toilet facilities and potable water, including bottled water with water cooler, shall be provided within the Inspector's office. It shall be equipped with approved electrical wiring, private telephone service, a telephone answering machine, a fax / copier / scanner / printer machine with ink throughout the contract duration. It shall be equipped with ceiling lamps, double convenience outlets, and the required switches and fuses, to provide 110-volt power for lighting and operating a laptop computer and printer. It shall be equipped with an air conditioning unit to provide cooling in warm or hot weather, and a heater, properly installed and vented in accordance with the National Fire Protection Association Code, for heating in cold weather, as required. The Contractor shall make the necessary arrangements to obtain or to generate the power required to operate the air conditioning unit, lights, and laptop computer and printer, and the power or fuel required for the heater, and shall bear the cost thereof. A drafting table providing a working surface having dimensions of at least 4-feet by 6-feet (which may consist of a piece of plywood, at least 3/4-inch thick, hinged to a wall of the building with hinged legs) shall be installed in the building. The building shall have a built-in locker, extending from the floor to the ceiling, having dimensions of at least 2- feet by 5-feet, with a shelf 12-inch from the top, and one door equipped with two hinges, a hasp, and a padlock. All exterior doors and window frames of the building shall be equipped with iron security guards. The door shall also be equipped with butt hinges and a cylinder lock. Two strong chairs and two desks shall be provided. The building or trailer shall conform to the following minimum requirements:

Ceiling height, not less than	6-feet 9-inches
Floor space, no less than	480 square feet
Windows, not less than	4
Doors, outside	2
Rooms	3
Ceiling lamp receptacles	3

Double convenience outlets	3
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Screens over windows; walls and ceilings shall be insulated; and interior walls finished.

(b) The building, or trailer, shall be removed by the Contractor after completion of all work under this contract and before final acceptance thereof. No separate payment will be made for furnishing, maintaining, providing the prescribed utilities, and removing the inspector's field office, but the cost of the same shall be distributed throughout the existing bid items. In the event the Contractor fails to furnish the required facilities, the Government may elect to procure the required facilities and deduct all costs from amounts due or to become due under this contract.

(c) The Contractor shall provide daily janitorial services for this and other buildings at the site throughout the life of the contract. The cost of this service shall be distributed throughout the existing bid items and there shall be no separate payment.

(d) The Contractor shall provide the inspector's field office with a hard line broadband high speed internet service and associated equipment for the exclusive use of the Government. If this service is not practical at the jobsite, the Contractor may instead provide the inspector's field office with a cellular wireless Broadband / WiFi 802.11n capable router that accepts cellular data signals through Express Card / Air Card or USB modems. This service must be capable of providing adequate connection to allow the inspectors to import/export files through RMS. The Contractor must field verify that the service provider chosen has adequate continuous coverage at the construction site. This service shall provide a minimum download speed of 10 Mbps and a minimum upload speed of 1.5 Mbps. The Contractor shall be responsible for the installation, the maintenance of, and the monthly service fees necessary to provide continuous high speed internet service for the duration of the contract.

(e) The Government and Contractor's field offices shall be placed within the location and limits of the Government environmentally cleared right of way (ROW) or Limits of Construction (LOC).

5. PROJECT SIGN

Prior to commencement of work, the Contractor shall construct a project sign at the site of the work at a location directed by the Contracting Officer. The sign, which will identify the work with the Corps of Engineers shall be 4 feet by 6 feet in size and shall conform to the guidelines set in USACE ECB 2020-1 regarding the Army Star requirements for the PROJECT SIGN drawing and installation instructions attached at the end of this section. The lettering for the 2 feet by 4 feet section of the sign with the Corps logo and Army Star shall be white; all other lettering shall be black.

Lettering for the project name shall be Helvetica Bold, all other lettering shall be Helvetica Regular. The sign coordinator is Timothy Lacoste @ 504.862.2663. No separate payment will be made for construction and erection of the project sign and all costs in connection therewith will be considered an incidental obligation of the Contractor. Upon completion of the work, the sign shall become the property of the Contractor and shall be removed from the job site.

6. RIGHTS-OF-WAY

a. The rights of entry required for the work to be constructed under this contract, within the rights-of-way limits indicated on the drawings, have been obtained by the Government and are provided without cost to the Contractor. The Contractor shall make its own investigations to determine the conditions, restrictions, and difficulties that may be encountered in the transportation of equipment and material to and from the work site. The proposed work, including rights-of-way, as defined by these specifications, and as shown on the drawings, is in compliance with all applicable Federal and state environmental laws and regulations. Upon completion of the Contractor's work, rights-of-way furnished by the Government shall be returned to its original condition prior to construction unless otherwise noted.

b. If the Contractor proposes a deviation from the Government furnished rights-of-way for his convenience, the Contractor shall notify the Contracting Officer or its representative in writing. Contractor shall not provide any permanent rights-of-way for the project. The Contractor is cautioned that any deviation to the Government furnished rights-of-way is subject to all applicable Federal and state environmental laws and regulations. Compliance with these environmental laws and regulations may require additional National Environmental Policy Act (NEPA) documents, cultural resources surveys, coordination with the Louisiana State Historical Preservation Officer, water quality certification, modification of the Federal consistency determination, etc. The Government is ultimately responsible for environmental compliance; therefore, the Government will determine the additional environmental coordination and documentation necessary for a proposed deviation to the Government furnished rights-of-way. For any environmental investigations the Government is to perform on areas outside of Government furnished rights-of-way, the Contractor shall provide sufficient rights of entry to the Government. The Contracting Officer will advise the Contractor of the additional environmental coordination and documentation that must be completed. The Government shall be responsible for any additional environmental compliance; however, the Contractor may conduct specific tasks identified by the Government. The Government will offer advice and assistance to the Contractor in conducting these tasks. Depending on the environmental impact of the proposed deviation, obtaining the coordination and documentation may not be approved or could take as much as 180 days for approval by the Government. The Government must review, approve, and ensure distribution of all environmental compliance documentation and ensure all comments on the

same have been resolved before any utilization of any areas outside of the Government furnished rights-of-way. The Contractor shall reimburse the Government for actual expenses incurred for assistance in completing or attempting to complete additional environmental coordination and documentation, which expenses will not exceed one hundred thousand (\$100,000) dollars. There is no guarantee that environmental compliance will be obtained; therefore, the Contractor shall assume all risks and liabilities associated with pursuing a deviation. Any delays resulting from the deviation and/or the environmental coordination and documentation shall not be made the basis of any Contractor claim for increase in the contract cost and/or increase in contract time. Deviations will be at Contractor's sole risk and liability, including, but not limited to, such liabilities associated with items such as hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et. seq.), and at no cost to the Government. Government assistance in obtaining additional environmental clearances does not relieve the Contractor of responsibility for complying with other Federal, state, or local licenses and permits.

7. CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies. Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet specified requirements.

8. ENVIRONMENTAL LITIGATION

(a) The term "environmental litigation", as used herein, means a lawsuit alleging that the work has an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

(b) If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined above, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If the order is not due in any part to acts or omissions of the Contractor (or a Subcontractor at any tier) other than as required by this contract, such suspension, delay, or interruption shall be as if ordered by the

Contracting Officer under the Clause in Section 00700 CONTRACT CLAUSES, entitled SUSPENSION OF WORK (FAR 52.242-14). The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

9. UTILITIES AND IMPROVEMENTS

(a) All known utilities within the limits of the work, such as pipes, communication lines, power lines, etc., that would interfere with construction work will be removed, modified, or relocated by local interests or utility companies at no cost to the Contractor unless otherwise noted in the plans and/or specifications. The Contractor, however, shall cooperate with the authorities or company representatives and shall conduct his/her operations in such manner as to result in a minimum of inconveniences to the owners of said utilities. The Contractor shall notify each utility owner by certified mail 45 days, 15 days, and again 72 hours prior to the date utilities must be moved and provide a copy of these notifications to the Contracting Officer.

(b) Any unidentified pipes or structures which may be found within the limits of the work during the course of construction shall not be disturbed nor shall construction or excavation be performed at these locations unless and until approved by the Contracting Officer.

UTILITY DIRECTORY

1. Louisiana One Call

1800-272-3020 or 811

2. ASCENSION PARISH

Kenneth Dawson
Infrastructure Division Director
Kenneth.Dawson@apgov.us
(225) 450-1071

10. PERMISSIBLE HOURS OF WORK

Should the Contractor desire to work weekends, holidays, and nights, request shall be made to the Contracting Officer, in writing, 48 hours in advance of commencement of such operations to permit suitable arrangements for inspections to be made. Adequate lighting for safe operation and thorough inspection of night operations shall be provided by the Contractor at his/her own expense. Acceptable work hours shall

be between 7:00 a.m. to 6:00 p.m., Monday – Friday. Approval of work outside of these hours is not guaranteed.

11. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

(a) This clause does not apply to terminations.

(b) Allowable costs 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 Engineering Pamphlet (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 retroactive 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, Rental Costs. 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 simplified acquisition threshold (SAT), the Contracting Officer will request the Contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate.

NOTE1: Costs for repairs or overhauling are not allowed.

NOTE 2: A copy of the "EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE" for Region III can be obtained from the following website:

http://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/EP%201110-1-8%20Vo3%20.pdf?ver=Qwvxzp4tewv_5AXblbuNTQ%3d%3d .

12. AGGREGATE SOURCES

(a) Concrete aggregates meeting the quality requirements of these specifications have been produced from the sources listed below:

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PRODUCER	NEAREST TOWN TO PIT*	TYPE	PIT DESIGNATION
B. & M. B., Inc.	Jackson, LA	S, G	Dudley Pit
B. & M. B., Inc.	Wakefield, LA	S, G	Island Pit
B. & M. B., Inc.	Jackson, LA	S, G	Thompson Pit
Barriere's Construction Co., LLC	Arcola, LA	S, G	Ponder Pit
Bayou Sand and Gravel, LLC	Amite, LA	S, G	Bayou Sand and Gravel
Blain Sand & Gravel, Inc.	Georgetown, MS	S, G	Bailey Pit
Bunch Gravel Co.	Clinton, LA	G	Bunch Gravel Plant #1
Bunch Gravel Co.	Darlington, LA	S, G	Bunch Gravel Plant #2
DK Aggregates, LLC	Nicholson, MS	S, G	DK Aggregates Pit
Fleniken Sand & Gravel Co.	Grangeville, LA	S, G	Flen-Rock Pit (Spears Lease)
Irv Daniel	Wakefield, LA	S, G	Island Pit
Lafarge North America	Pearl River, LA	S, G	Honey Island Operation
Lafarge North America	Sun, LA	S, G	Isabel Plant
Martin Marietta Aggregates	Smithland, KY	LS	Three Rivers Quarry
Mears Sand & Gravel Co.	Watson, LA	S, G	Penny & Easterly Lease
Norris Springs Gravel	Sicily Island, LA	S, G	Norris Springs Gravel Pit
Pine Bluff Sand & Gravel Co.	Delaware, AR	SS	River Mountain Quarry
Southern Aggregates, LLC	Watson, LA	S, G	Glaciel Lease
Southern Aggregates, LLC	Watson, LA	S, G	Mullins Lease
Southern Aggregates, LLC	Watson, LA	S, G	Weyerhauser Lease
Southern Aggregates	Watson, LA	S, G	Clemons Plant
Standard Gravel Co., Inc.	Hattiesburg, MS	S	Plant 63
Standard Gravel Co., Inc.	Hattiesburg, MS	S	Plant 80
Standard Gravel Co.	Enon, LA	S, G	Enon Pit (C-10 & CZ-30 leases)
Standard Gravel Co.	Franklinton, LA	G	Green Lakes Plant
Standard Gravel Co.	Pearl River, LA	S, G	Mitchell - 11 Plant
Standard Gravel Co.	Pearl River, LA	S, G	Nicholson Plant (Nic-9)
Texas Industries, Inc.	Perryville, LA	S, G	Perryville Plant
Texas Industries, Inc.	Woodworth, LA	S, G	Woodworth Plant
Tower Rock Stone Co.	Scott City, MO	LS	Grays Point Quarry
Trinity Materials, Inc	DeRidder, LA	S, G	Anacoco Creek Plant
Vulcan Materials Co.	Lake City, KY	LS	Grand Rivers Quarry
Warren Paving Co.	Salem, KY	LS	Slats Lucas Quarry

Type:			
G = Gravel	LS = Limestone	S = Sand	SS = Sandstone

*"Nearest Town to Pit" according to LDOTD Official State Highway Map and Rand McNally Road Atlas copyrighted 2010.

(b) Concrete aggregates may be furnished from any of the above listed sources or at the option of the Contractor may be furnished from any other source designated by the Contractor and approved by the Contracting Officer, subject to the conditions hereinafter stated and as specified in Section 03 30 04.00 12 CONCRETE FOR MINOR STRUCTURES.

(c) After the award of the contract, the Contractor shall designate in writing only one source or one combination of sources to furnish aggregates. If the Contractor proposes to furnish aggregates from a source or from sources not listed above, a single source or single combination of sources of aggregates. If a source for coarse and/or fine aggregate so designated by the Contractor is not approved for use by the Contracting Officer, the Contractor may not submit for approval other sources but shall furnish the coarse and/or fine aggregate, as the case may be, from a source listed above at no additional cost to the Government.

(d) The listings of the names of the aggregate suppliers do not constitute an endorsement of such companies. Approval of a source of concrete aggregate is not to be construed as approval of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials do not conform to the quality requirements of ASTM C 33 Concrete Aggregates. Aggregate gradations shall be in accordance with the specified requirements of Section 03 30 04.00 12 CONCRETE FOR MINOR STRUCTURES. Materials produced from any source, including those listed above, shall also meet all the requirements of Section 03 30 04.00 12 CONCRETE FOR MINOR STRUCTURES.

(e) The Contractor shall determine that the aggregate source or combination of sources selected is capable of supplying the quantities and gradations needed and at the rates needed to maintain the scheduled progress of the work. The inability of a source or combination of sources to maintain the necessary volume shall not be the basis for any claim for a time extension.

13. STONE SOURCES

(a) On the basis of information and data available to the Contracting Officer, stone meeting the quality requirements of these specifications has been produced from the listed stone sources attached at the end of this section.

(b) Stone may be furnished from any of the listed STONE SOURCES (attached at the end of this section), or at the option of the Contractor may be furnished

from any other source designated by the Contractor and accepted by the Contracting Officer, subject to the conditions hereinafter stated.

(c) The Contractor shall determine that the stone source or combination of sources selected is capable of supplying the quantities and gradation needed and at the rate needed to maintain the scheduled progress of the work.

(d) After the award of the contract, the Contractor shall designate in writing only one source or one combination of sources from which he/she proposes to furnish stone. If the Contractor proposes to furnish stone from a source not listed in STONE SOURCES (attached at the end of this section), he/she may designate only a single additional source for stone. Samples for acceptance testing shall be provided as required by Section 32 15 00.00 12 CRUSHED STONE. If a source for stone so designated by the Contractor is not accepted for use by the Contracting Officer, the Contractor may not propose other sources but shall furnish the stone from a source listed in STONE SOURCES (attached at the end of this section) at no additional cost to the Government.

(e) The listings of the names of the stone suppliers does not constitute an endorsement of such companies. Acceptance of a source of stone is not to be construed as acceptance of all material from the source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable for stone as determined by the Contracting Officer. Materials produced from a listed or unlisted source shall meet all requirements of Section 32 15 00.00 12 CRUSHED STONE.

14. COMMERCIAL WARRANTY

The Contractor agrees that the standard commercial equipment furnished under this contract shall be covered by the most favorable commercial warranties the manufacturer gives to any customer for such equipment, and that the remedies provided herein are in addition to and do not limit any rights afforded to the Government by any other clause of this contract. Two copies of the warranties shall be furnished by the Contractor to the Contracting Officer.

15. ACCESS PLAN

The Contractor shall submit an Access Plan to be reviewed and approved by the Contracting Officer to include, as a minimum, the following:

(a) Layout drawings showing the location of all equipment, office structures, toilets, and storage areas for materials.

(b) Show mobilization and demobilization routing and locations of large equipment, such as draglines, cranes, etc. while on the jobsite.

16. FIELD VERIFICATION OF UTILITY LOCATIONS

Documentation on the exact locations of various underground utilities is not available except as shown in the reference drawings. In particular, the exact locations of water service and septic system field lines are not precisely known. The Contractor shall verify the locations of underground utilities prior to digging for any purpose.

17. VIDEO AND PHOTOGRAPHIC DOCUMENTATION

The pre-construction and post-construction conditions of permanent roads, streets, driveways, sidewalks, above-ground utilities, and existing structures shall be verified and documented by the use of Contractor-furnished photographs and videos. Videos shall be digital format (DVD) with voice over commentary describing all pertinent or unusual conditions. Videos shall have a stamped date. Photographs shall be 35 mm or digital, color, and 4-inch x 6-inch size minimum and shall have stamped date. The Contractor shall provide two (2) copies of the DVD and two (2) copies of photos with negatives or CDs containing files to the Contracting Officer for the Contract file. Electronic photos shall be accompanied by a log describing the content of each photo. Two (2) hard copies shall be assembled in a report form with a cover letter attached. In the report, a description of each picture identifying and describing the location and indicating the date of the photograph shall be typed beneath each picture. On the reverse of each photograph, the Contractor shall affix a self-adhesive label on the reverse of each picture that shall identify the location, describe the photographed object, and indicate the date of the photograph and name of the person who documents the information. All the information on the label shall be typewritten in black. Additionally, the name shall also be signed. The Contractor shall coordinate so that representatives of the Contracting Officer are present during the pre- and post-construction documentation. Documentation must clearly show a pre-construction and post-construction condition of each meter installed.

No measurement will be made for video and photographic documentation. Payment will be made at the contract job price for "Video and Photographic Documentation". The cost for this item shall be paid in equal installments spread over the length of the contract time. Price and payment shall constitute full compensation for providing all labor, materials, and equipment to complete the work as specified herein.

18. COORDINATION WITH LOCAL INTERESTS

The Contractor shall coordinate his construction activities, including jobsite access, with the Contracting Officer, Ascension Parish Kenneth Dawson, and local parish Government.

1. LOUISIANA ONE CALL

1800-272-3020 or 811

2. ASCENSION PARISH

Kenneth Dawson
Infrastructure Division Director
Kenneth.Dawson@apgov.us
(225) 450-1071

19. SECURITY REQUIREMENTS

a. Suspicious Activity Reporting Training (e.g. iWATCH, CorpsWatch, or See Something, Say Something). The Contractor will not have access to the CORPS network. This is an unclassified contract and the Contractor will not have access to critical information. The Contractor and all associated sub-contractors shall receive locally developed training provided by the New Orleans District Security Office on the Local Suspicious Activity Reporting Program. This training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity relating to the project manager, security representative or law enforcement entity. The Contractor shall provide local background checks to New Orleans District Security Office before performing work. Point of contact is Joseph Ricchiazzi, 504.862.2953. This training shall be completed within 30 calendar days of contract award and within 30 calendar days of new employees commencing performance. The results of this training shall be reported to the COR within 5 calendar days after the completion of the training.

b. Pre-Screen Candidates Using E-Verify Program. The Contractor shall pre-screen Candidates using the E-verify Program (<https://www.uscis.gov/e-verify>) website to meet the established employment eligibility requirements. The Contractor shall ensure that the Candidate has two valid forms of Government issued identification prior to enrollment to ensure the correct information is entered into the E-verify system. An initial list of verified/eligible Candidates shall be provided to the COR no later than 3 business days after the initial contract award. When contracts are with individuals, the individuals shall complete a Form I-9, Employment Eligibility Verification, with the designated Government representative. The completed Form I-9 shall be provided to the Contracting Officer and shall become part of the official contract file.

20. CONTRACTOR PERFORMANCE EVALUATIONS - CONSTRUCTION

In accordance with the provisions of Subpart 36.201 (Evaluation of Contractor Performance) of the Federal Acquisition Regulation (FAR), construction contractor's performance shall be evaluated throughout the performance of the contract. The United States Army Corps of Engineers (USACE) follows the procedures outlined in Engineering Regulation 415-1-17 to fulfill this FAR requirement. For construction contracts awarded at or above \$700,000.00, the USACE will evaluate contractor's performance and prepare a performance report using the Contractor Performance Assessment Reporting System (CPARS), which is now a web-based system. The

ACO is the point of contact for CPARS reporting under this contract. After an evaluation (interim or final) is written up by the USACE, the Contractor will have the ability to access, review and comment on the evaluation for a period of 30 days. Accessing and using CPARS requires specific software, called PKI certification, which is installed on the user's computer. The certification is a Department of Defense requirement and was implemented to provide security in electronic transactions. The certification software could cost approximately \$110 - \$125 per certificate per year and is purchased from an External Certificate Authorities (ECA) vendor. Current information about the PKI certification process and for contacting vendors can be found on the web site: <http://www.cpars.gov>. If the Contractor wishes to participate in the performance evaluation process, access to CPARS and PKI certification is the sole responsibility of the Contractor.

Form A-02 U.S. Army Corps of Engineers Accident Prevention Plan Checklist				Date of Inspection		
Location (Plant or Facility)			Contract Number			
Contractor Name			Project Name			
Inspector Name (Print)			Inspector Signature			
<i>This checklist serves as a guide only, it does not replace or eliminate the need to comply with the requirements set forth in Engineering Manual 385-1-1, Safety and Health Requirements Manual, dated 30 Nov 2014. The references included in this checklist correspond to the applicable sections of EM 385-1-1.</i>						
Item Description			Yes	No	N/A	Remarks (Any NO or N/A item)
a. Signature sheet						
1. Includes the name, title, signature, telephone number, and qualifications of the Plan Preparer (<i>Qualified person, i.e. corporate safety staff person, QC</i>)						
2. Includes the name, title, signature, telephone number, and qualifications of the Plan Approver (<i>e.g. owner, company president, regional vice president</i>) (HTRW activities require approval of a Certified Industrial Hygienist, a Certified Safety Professional may approve the plan for operations involving UST removal where contaminants are known to be petroleum, oils, or lubricants).						
3. Includes the name(s), title(s), signature(s), telephone number(s), and qualifications for Plan Concurrence (provide concurrence of other applicable corporate and project personnel (contractor)) (<i>e.g. Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC.</i>)						
b. Background information						
1. Includes the Contractor Name.						
2. Includes the Contract Number.						
3. Includes the Project Name.						
4a. Includes the Brief Project Description.						
4b. Includes a Discription of the Work to be Performed.						
4c. Includes the Location of the Project (map).						
4d. Includes the Equipment to be Used.						
4e. Includes the Anticipated High Risk Activities.						
5. Includes the Major Phases of Work Anticipated. (<i>Within these major phases of work identified, activities [includes Definable features of Work (DFOWs) and tasks] to be performed that will require an AHA shall be specifically highlighted. This information can then be used by QC, QA and Safety personnel to track AHA submittals. The AHAs for these activities, tasks of DFOWs are NOT submitted at this time (AHAs created/submitted at this time would not be activity-specific as they are intended to be). > See Sections 01.A.14 and 01.A.15.</i>)						

Form A-02 U.S. Army Corps of Engineers Accident Prevention Plan Checklist (cont'd)				Date of Inspection
Item Description	Yes	No	N/A	Remarks (Any NO or N/A item)
c. Statement of Safety and Health Policy.				
1. Provide a copy of current corporate/company Safety and Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. <i>(In addition to the corporate policy statement, a copy of the corporate safety program may provide a portion of the information required by the accident prevention plan.)</i>				
2. Includes Contractor's written safety program goals.				
3. Includes Contractor's written safety program objectives.				
4. Includes the Contractor Accident Experience <i>(Copy of OSHA 300 Forms, or equivalent documentation).</i>				
d. Responsibilities and Lines of Authority.				
1. Includes statement of the employer's ultimate responsibility for the implementation of his SOH program for his own employees, all sub-contractors and all others on the worksite (includes the strict enforcement of the program).				
2. Includes the identification and accountability of personnel responsible for safety and health at both the corporate and project level – including their resumes. Qualifications shall be in accordance with Section 01.A.17. <i>(Only official OSHA 30-Hour cards will be accepted or, if equivalent training is provided, appropriate instructor qualifications.)</i>				
3. Includes equivalent training to the OSHA 30-Hour classes is being presented as qualification, the training shall cover, as a minimum, the areas discussed in Appendix A, Section 3.d.3.(a-d).				
4. Includes the names of Competent (CP) and/or Qualified Person(s) (QP) and proof of competency/qualification to meet specific OSHA CP/QP requirements. <i>(Must include copies of proof of CP/QP).</i>				
5. Includes requirements and details of the employer's Risk Management Process. <i>(USACE uses the Activity Hazard Analysis (AHA) as part of a total risk management process. Contractors and other individual employer's may use the AHAs or their own version [Job Safety Analyses (JSAs), Job Hazard Analyses (JHAs), or similar Risk Management assessment tools]. These documents are considered equivalent to, and acceptable substitutes for, the USACE's AHA provided the data collected is the same as that required by the AHA.)</i>				
6. Includes requirements for initial activity-specific AHAs to be submitted and accepted at preparatory meetings, prior to work being performed;				
7. Includes requirements that no work by the Contractor shall be performed unless a designated Competent Person/SSHO is present on the job site.				
8. Includes policies and procedures regarding non-compliance with safety requirements (to include disciplinary actions for violation of safety requirements).				
9. Lines of authority.				
10. Includes written company procedures for holding managers and supervisors accountable for safety.				

Form A-02 U.S. Army Corps of Engineers Accident Prevention Plan Checklist (cont'd)					Date of Inspection
Item Description	Yes	No	N/A	Remarks (Any NO or N/A item)	
e. Subcontractors and Suppliers.					
1. Includes the list of subcontractors and suppliers. <i>(If not known at the time of initial APP submittal, the contractor shall include the following statement in their initial APP: "The subcontractors for the following DFOWs/activities are not known at this time, but additional information will be submitted to the APP for acceptance prior to the start of any activities listed")</i>					
2. Includes safety responsibilities of subcontractors and suppliers.					
f. Training					
1. Includes requirements for new hire SOH orientation training at the time of initial hire of each new employee.					
2. Includes requirements for mandatory training and certifications that are applicable to this project (e.g., <i>explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, PPE</i>) and any requirements for periodic retraining / recertification.					
3. Includes procedures for periodic safety and health training for supervisors and employees.					
4. Includes the requirements for emergency response training.					
g. Safety and Health Inspections					
1. Includes specific assignment of responsibilities for a minimum daily jobsite SOH inspection during periods of work activity.					
1a. Includes the name(s) of individual(s) responsible for conducting safety inspections. (e.g., <i>PM, safety professional, QC, supervisors, employees</i>)					
1b. Includes proof of inspector's training / qualifications.					
1c. Indicates when inspections will be conducted.					
1d. Indicates procedures for documentation. <i>(Furnished sample forms upon which inspections will be recorded.)</i>					
1e. Indicates deficiency tracking system and follow-up procedures.					
2. Includes any external inspections / certifications which may be required. (e.g., <i>US Coast Guard</i>)					
h. Mishap Reporting and Investigation					
1. The plan identifies how, when, and who shall complete the Exposure data (man-hours worked).					
2a. The plan identifies how, when, and who shall complete mishap investigations, reports, and logs. <i>(The contractor shall report, thoroughly investigate, and analyze all mishaps occurring incidentally to an operation, project or facility for which this manual is applicable.)</i>					
2b. The plan identifies how, when, and who shall make immediate notification of major mishaps. <i>(Mishaps shall be reported as soon as possible but not more than 24 hours afterwards to the KO/COR.)</i>					
2c. Includes how, when, and who will provide notice to the KO/COR when corrective actions are completed. <i>(Implement corrective actions as soon as reasonably possible.)</i>					

Form A-02 U.S. Army Corps of Engineers Accident Prevention Plan Checklist (cont'd)				Date of Inspection
Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable safety and occupational health risks and associated compliance plans. Using the EM 385-1-1 as a guide, plans, <u>programs</u>, <u>procedures</u> (assessments and evaluations), may include but not be limited to:				
<i>(1) Include a project-specific compliance plan, as applicable to the work being performed, and as identified below. The plans shall incorporate project-wide procedures to control hazards to which the employees of all project employers may be exposed.</i>				
<i>(2) These procedures shall be coordinated with all project employers and shall include project-specific, project-wide emergency response and evacuation procedures, PPE requirements, recordkeeping and reporting requirements, and training requirements.</i>				
<i>(3) The plans shall be prepared prior to the start of any work activities on the job site (as much as the information can be known at that point in time). The plans shall be updated throughout the life of the project to include changes in personnel, equipment, conditions, etc. Additional revisions shall be incorporated as necessary to reflect changing site conditions, construction methods, personnel roles and responsibilities and construction schedules.</i>				
<i>(4) No activity (DFOW) shall be started on site until the APP is revised and submitted to the GDA for acceptance, with the site-specific plans, programs and procedures required to complete the project.</i>				
Item Description	Yes	No	N/A	Remarks (Any NO or N/A item)
i. Plans (Programs, Procedures, Assessments, and Evaluations) required by the Safety Manual				
1. <u>Fatigue Management Plan</u> (01.A.20)				
2. Emergency Plans (01.E):				
(a) Procedures & Test (01.E.01)				
(b) Spill Plans (01.E.01, 06.A.02)				
(c) Fire Fighting Plan (01.E.01; 19.A)				
(d) Posting of Emergency Telephone Numbers (01.E.05)				
(e) Man overboard/abandon ship (19.A.04)				
(f) Plan for prevention of alcohol and drug abuse (01.C.02 & Specs)				
3. Site Sanitation/ <u>Housekeeping</u> Plan (02.B)				
4. Medical Support <u>Agreement</u> . Outline on-site medical support and off-site medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of on-site Contractor personnel trained in first aid and CPR. A minimum of two employees shall be certified in CPR and first-aid per shift/site (03.A.01, <u>03.A.03</u>)				
5. <u>Blood-borne Pathogen Program</u> (03.A.05)				
6. Exposure Control Plan (03.A.05)				
7. <u>Automatic External Defibrillator (AED) Program</u> (03.B.04)				
8. Site Layout Plan (04.A)				
9. Access/Haul Road Plan (04.B)				
10. <u>Hearing Conservation Program</u> (05.C)				
11. Respiratory Protection Plan (05.G)				
12. Health Hazard Control Program (06.A)				
13. Hazard Communication Program (06.B.01)				
14. Process Safety Management Plan (06.B.04)				
15. Lead <u>Compliance</u> Plan (06. <u>C.02</u> & Specifications)				
16. Asbestos Abatement Plan (06. <u>C.03</u> & Specifications)				

Form A-02 U.S. Army Corps of Engineers Accident Prevention Plan Checklist (cont'd)				Date of Inspection
<i>Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans, <u>programs, procedures (assessments and evaluations)</u>, may include but not be limited to:</i>				
Item Description	Yes	No	N/A	Remarks (Any NO or N/A item)
i. Plans (Programs, Procedures) continued.				
17. Radiation Safety Program (06.F)				
18. Abrasive Blasting Plan (06.I)				
19. Heat Stress Monitoring Plan (<u>HSMP</u>) (06.J.02)				
20. Cold Stress Monitoring Plan (<u>CSMP</u>) (06.J.04)				
21. <u>Indoor Air Quality Management Plan</u> (06.L)				
22. <u>Mold Remediation Plan</u> (06.L.04)				
23. <u>Chromium (VI) Exposure Evaluation</u> (06.M)				
24. Crystalline Silica Assessment (06.N.02)				
25. Lighting Plan for Night Operations (07.A.06)				
26. Traffic Control Plan (08.C.05)				
27. Fire Prevention Plan (09.A.01)				
28. Wild Land Fire Management Plan (09.L)				
29. <u>Arc Flash Hazard Analysis</u> (11.B)				
30. <u>Assured Equipment Grounding Control Program (AEGCP)</u> , (11.D.05, <u>Appendix E</u>)				
31. <u>Hazardous Energy Control Program and Procedures</u> (12.A.01)				
32. <u>Standard Pre-Lift Plan – LHE</u> (16.A.03)				
33. <u>Critical Lift Plan – LHE</u> (16.H)				
34. <u>Naval Architectural Analysis – LHE (Floating)</u> (16.L)				
35. <u>Floating Plant Inspection and Certification</u> (19.A.01)				
36. <u>Severe Weather Plan for Marine Activities</u> (19.A.03)				
37. <u>Emergency Plan for Marine Activities</u> (19.A.04)				
38. <u>Man Overboard/Abandon Ship Procedures</u> (19.A.04)				
39. <u>Float Plan for Launches, Motorboats, Skiffs</u> (19.F.04)				
40. <u>Fall Protection and Prevention Plan</u> (21.D)				
41. <u>Demolition/Renovation Plan</u> (to include engineering survey) (23.A)				
42. <u>Rope Access Work Plan</u> (24.H)				
43. <u>Excavation/Trenching Plan</u> (25.A.01)				
44. <u>Fire Prevention and Protection Plan for Underground Construction</u> (26.D.01)				
45. <u>Compressed Air Work Plan for Underground Construction</u> (26.I.01)				
46. <u>Erection and Removal Plan for Formwork and Shoring</u> (27.C)				
47. <u>Precast Concrete Plan</u> (27.D)				

<div>Form A-02</div> <div>U.S. Army Corps of Engineers</div> <div>Accident Prevention Plan Checklist (cont'd)</div>				Date of Inspection	
<p>Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans, programs, procedures (assessments and evaluations), may include but not be limited to:</p>					
Item Description	Yes	No	N/A	Remarks (Any NO or N/A item)	
i. Plans (Programs, Procedures) continued.					
48. Lift-slab Plans (27.E)					
49. Masonry Bracing Plan (27.F.01)					
50. Steel Erection Plan (28.B)					
51. Explosives Safety Site Plan (ESSP) (29.A)					
52. Blasting Plan (29.A; 26.J)					
53. Dive Operations Plan (30.A.14, 30.A.16)					
54. Safe Practices Manual for Diving Activities (30.A.15)					
55. Emergency Management Plan for Diving (30.A.18)					
56. Tree Felling/Maintenance Program (31.A.01)					
57. Aircraft/Airfield Construction Safety & Phasing Plan (CSPP) (32.A.02)					
58. Aircraft/Airfield Safety Plan Compliance Document (SPCD) (32.A.02)					
59. Site Safety and Health Plan (HTRW) (33.B)					
60. Confined Space Entry Procedures (34.A.05)					
61. Confined Space Program (34.A.06)					
j. Risk Management Processes (AHAs). Detailed project-specific hazards and controls shall be provided by Activity Hazard Analysis for each activity (DFOW). No work will begin on an activity (DFOW) until the initial AHA has been accepted by the GDA addressing the project-specific hazards. (01.A.14 & 01.A.15) <u>Note: USACE uses the Activity Hazard Analysis (AHA) as part of a total risk management process. Contractors and other individual employer's may use the AHAs or their own version [Job Safety Analyses (JSAs), Job Hazard Analyses (JHAs), or similar Risk Management assessment tools]. These documents are considered equivalent to, and acceptable substitutes for, the USACE's AHA provided the data collected is the same as that required by the AHA.</u>					
Remarks:					

<div><div>Form A-02</div><div>U.S. Army Corps of Engineers</div><div>Accident Prevention Plan Checklist (cont'd)</div></div>	<div>Date of Inspection</div>
<div>Other Remarks:</div>	

Activity Hazard Analysis (AHA)

Activity/Work Task:		Overall Risk Assessment Code (RAC) (Use highest code)					
Project Location:		Risk Assessment Code (RAC) Matrix					
Contract Number:		Severity	Probability				
Date Prepared:			Frequent	Likely	Occasional	Seldom	Unlikely
Prepared by (Name/Title):		Catastrophic	E	E	H	H	M
		Critical	E	H	H	M	L
Reviewed by (Name/Title):		Marginal	H	M	M	L	L
		Negligible	M	L	L	L	L
Notes: (Field Notes, Review Comments, etc.)		Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)					
		"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.				RAC Chart E = Extremely High Risk H = High Risk M = Moderate Risk L = Low Risk	
		"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible					
		Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.					
Job Steps		Hazards		Controls		RAC	
Equipment to be Used		Training Requirements/Competent or Qualified Personnel name(s)		Inspection Requirements			

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 Communications Red on the white background.

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/Division sign coordinator.

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

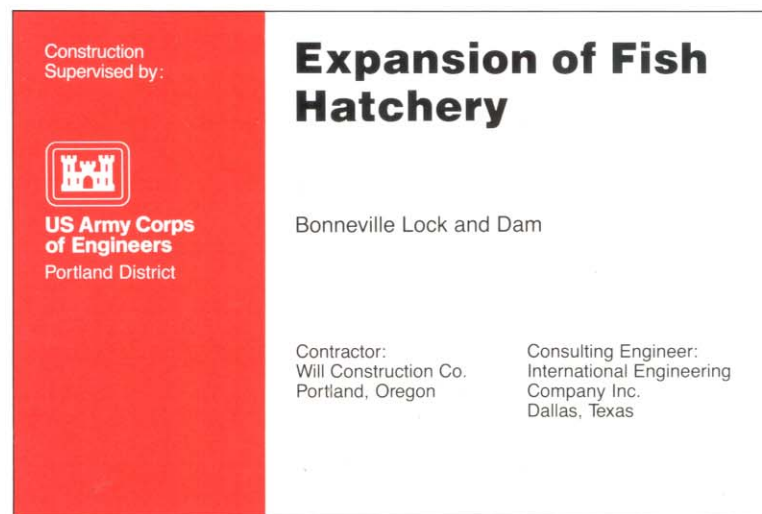
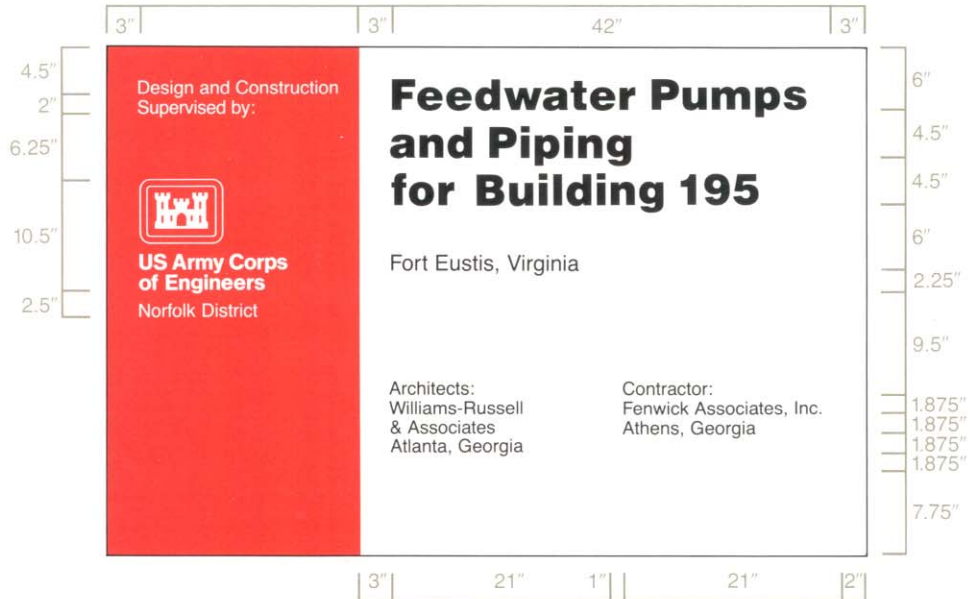
Legend Group 3: One- to three-line project title legend describes the work being done under this contract.
Color: Black
Typeface: 3" Helvetica Bold
Maximum line length: 42"

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.



Sign Type	Legend Size	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-01	various	4' x 6"	4' x 4"	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/Division sign coordinator.

Legend Group 1: Standard two-line title "Safety is a Job Requirement", with (8" od.) Safety Green First Aid logo. Color: To match PMS 347 Typeface: 3" Helvetica Bold Color: Black

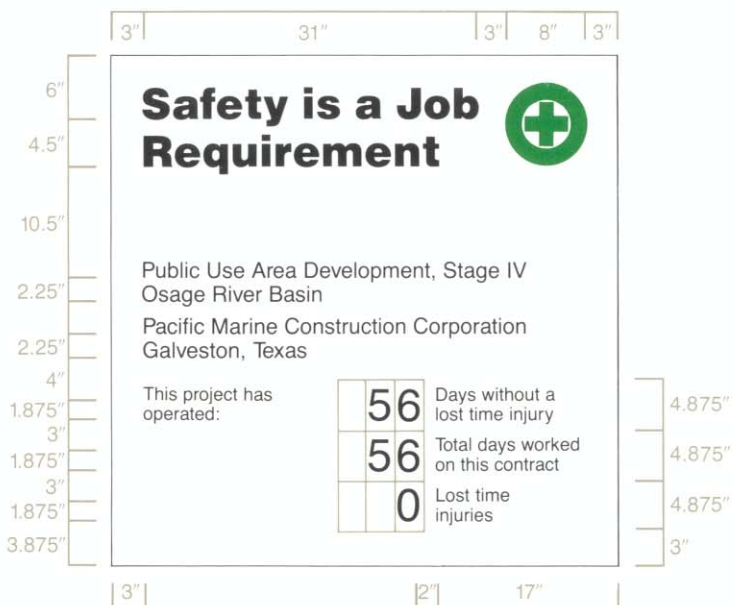
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project. Color: Black Typeface: 1.5" Helvetica Regular Maximum line length: 42"

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 .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	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4" x 4"	4" x 4"	HDO-3	48"	WH/BK-GR



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 and shall conform to the size, format, and typographic standards shown on

pages 16.2-3. 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 coordinator.

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 non-reflective vinyl film with positionable adhesive backing.

All graphics except for the Communications Red background with Corps signature on the project sign are to be die-cut or computer-cut non-reflective vinyl, pre-spaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16.2-3.

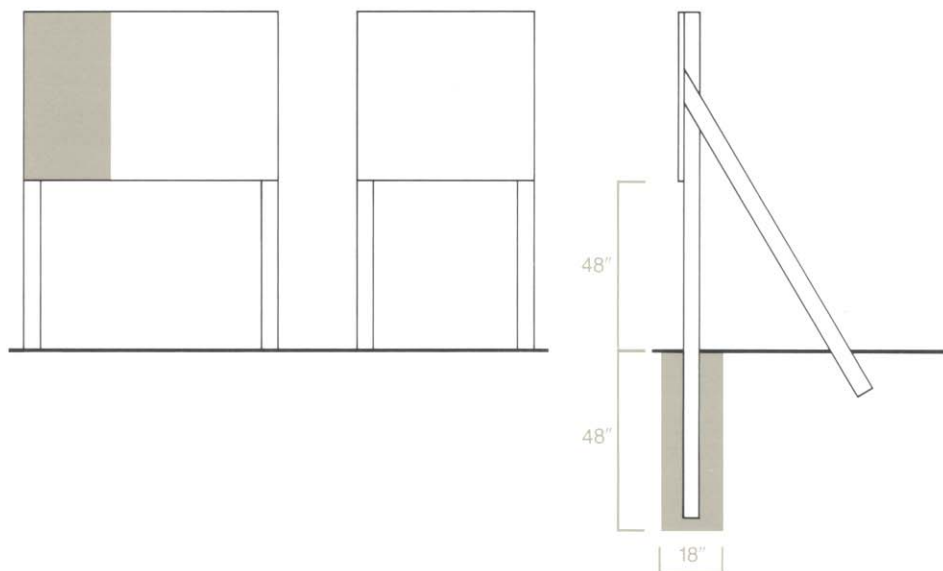
The 2' x 4' Communications Red panel (to match PMS-032) with full Corps signature (reverse version) is to be screen printed on the white background. Identification of the District or Division may be applied under the signature with white cut vinyl letters prepared to Corps standards. Large scale reproduction artwork for the signature is provided on page 4.8 (photographically enlarge from 6.875" to 10.5").

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 Sign Legend Group 1: Corps Relationship

1. _____
2. _____

Legend Group 2: Division/District Name

1. _____
2. _____

Legend Group 3: Project Title

1. _____
2. _____
3. _____

Legend Group 4: Facility Name

1. _____
2. _____

Legend Group 5a: Contractor/A&E

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

Legend Group 5b: Contractor/A&E

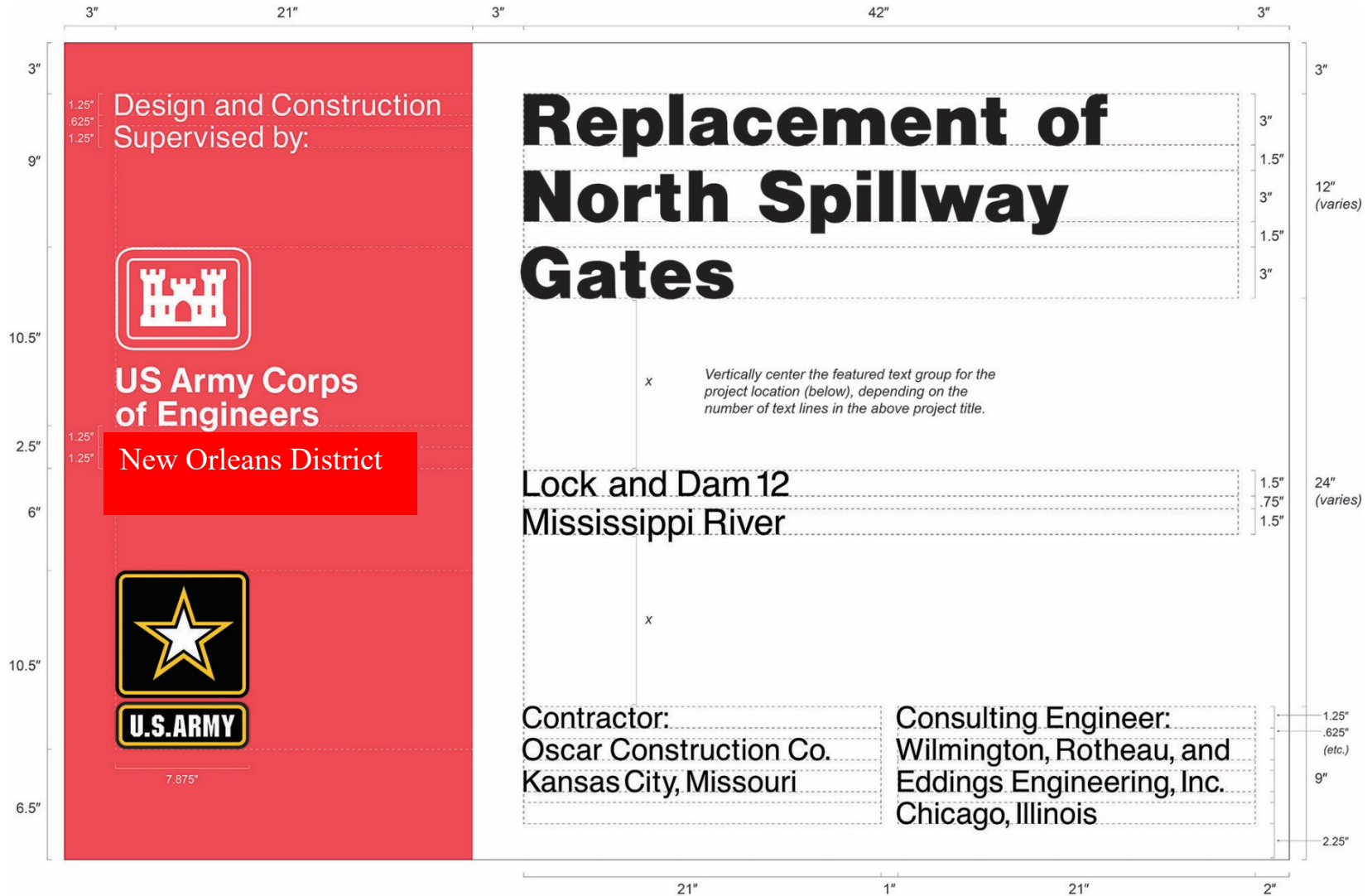
1. _____
2. _____
3. _____
4. _____
5. _____


Safety Performance Sign Legend Group 1: Project Title

1. _____
2. _____

Legend Group 2: Contractor/A&E

1. _____
2. _____



	3"	31"	3"	8"	3"														
6"	<h1>Safety is a Job Requirement</h1>  <p>Gap Closures at Pump Station #3, Interim Protection Plan, Phase 1</p> <p>U.D.H. Builders, Inc. Baton Rouge, Louisiana</p> <p>This project started</p> <table border="1"> <tr> <td></td><td>3</td> <td></td><td>5</td> <td>0</td><td>4</td> </tr> </table> <p>Date since last Lost time accident</p> <table border="1"> <tr> <td></td><td></td> <td></td><td></td> <td></td><td></td> </tr> </table> <p>Total lost time injuries</p> <table border="1"> <tr> <td></td><td>0</td> </tr> </table>						3		5	0	4								0
						3		5	0	4									
						0													
4.5"																			
10.5"																			
2.25"																			
3"																			
2.25"																			
3"																			
4.875"																			
4.875"																			
5"																			
	3"	21"	24"																

Example

(NOT TO SCALE)

.75"	0	0	0
3"	5	0	4
.75"	0	0	0
	2.5"	1.25"	2.5"

CATEGORY I – ACCEPTABLE SOURCES

January 2021

MVD Master List Stone Protection Sources

On the basis of information and data available, stone meeting the quality requirements in paragraph EVALUATION TESTING OF STONE of UFGS Section 35 31 19, STONE, CHANNEL, SHORELINE/COASTAL PROTECTION FOR STRUCTURES, has been produced from the sources listed. Acceptance of a source of stone is not to be construed as acceptance of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable for stone as determined by the Contracting Officer. The Contracting Officer also reserves the right to reject individual units of produced specified materials in stockpiles at the quarry, all transfer points, and at the project construction site when such materials are determined to be unsuitable.

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<u>ALABAMA</u>		
34° 26' 47"N 86° 15' 32"W Updated 2021	Guntersville Quarry - from the intersection of US Hwy 431 and AL Hwy 79, north of Guntersville, AL, travel north 0.7 miles on US HWY 431 to Convict Camp Road. Turn right onto Convict Camp Rd and travel 0.5 miles. Mine scale house will be on the right. TEL:256.582.2130	Madison Materials 692 Convict Camp Rd Guntersville, AL 35976 POC: Tom Bass TEL: 256.582.2656 tombass@whitaker-contracting.com
34° 11' 33"N 86° 29' 18"W Added Mar 2016	Summit Quarry - from the intersection of US Hwy 278 and US Hwy 231, near Brooksville, AL, travel north 2.8 miles on US Hwy 231N to Blount County Road 25. Turn right onto Blount County Road 25 and travel 1.5 miles to Hinds Road. Turn right onto Hinds Road and Travel 1.8 miles to quarry entrance. Quarry entrance will be on the right. TEL: 205.429.3807	Madison Materials 2335 Hinds Rd. Blountville, AL 35031 POC: Tom Bass TEL: 256.582.2656 tombass@whitaker-contracting.com
33° 37' 40"N 87° 00' 22"W Added Mar 2016	Flat Top Quarry – from the intersection of interstate I-22W and US Hwy 78, near Graysville, AL, take exit 85 toward Birmingham and travel 0.6 miles on US Hwy 78. Turn right onto first exit ramp (2 nd Ave. NW). Travel 0.4 miles on 2 nd Ave NW and merge onto Flat Top Road. Travel north on Flat Top Road 0.12 miles to quarry entrance on left.	Madison Materials 2335 Hinds Rd. Blountville, AL 35031 POC: Tom Bass TEL: 256.582.2656 tombass@whitaker-contracting.com

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
34° 33' 29.89"N 86° 34' 31.37"W Updated 2019	Lacey Spring Quarry – From Lacey Spring AL, go 1.7 miles north of intersection of US Hwy 231/AL Hwy 53 with AL Hwy 36 and turn right onto the southern end of 149 Parks Chapel Rd and go to quarry entrance on right. Lacey Spring Quarry 149 Parks Chapel Rd. Lacey Spring, AL 35754	Rogers Group Inc. Corporate Headquarters 421 Great Circle Rd. Nashville, TN 37228 615.242.0585 Rogers Group Inc. Administrative Office 520 Three Mile Lane Tuscumbia, AL 35674 256.383.1645 POC: Mr. Michael Wilkes - Quarry Manager
34° 39' 51.82"N 87° 37' 31.33"W Updated 2019	Tuscumbia Quarry – from the intersection of US Hwys 72 and 43, in Tuscumbia, take US Hwy 72/AL Hwy 20 east approximately 2 miles and then turn south on to Three Mile Road (County Rd 57) and go 2.3 miles to Quarry entrance on left. LEDGES 1,2 AND 3* *Ledge 3 – Randomly oriented fractures are present in the material. Failure can occur along existing fractures under F&T. Tuscumbia Quarry 520 Three Mile Lane Tuscumbia, AL 35674	Rogers Group Inc. Corporate Headquarters 421 Great Circle Rd. Nashville, TN 37228 615.242.0585 Roger Group Inc. Administrative Office 520 Three Mile Lane Tuscumbia, AL 35674 256.383.1645 POC: Mr. Michael Wilkes - Quarry Manager
34° 43' 24.70"N 88° 06' 59.75"W Updated January 2015	Allsboro Quarry- 8 miles east of intersection of MS Hwy 25 & Tish. Co. #957 at Midway, MS, just across AL. state line. Hoover Incorporated P. O. Box 613 Iuka, MS 38852 (256) 360-2400/(800) 535-2636	Hoover Incorporated 1205 Bridgestone Parkway P. O. Box 1700 LaVergne, TN 37086-1700 (615) 793-2600

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
32° 44' 05.14"N 86° 16' 12.72"W Updated January 2015	Hard Rock Hill Quarry – From intersection I-95/US-231 go 15 miles north to Wallasboro, AL. Continue north on US-231(AL-53&21) for approximately 8 miles to intersection of US-231 & CR-429 (Bucky Rd.) and go approx. 3.5 miles and turn right on to County Rd. 428 (Providence Rd) and go approx. 0.8 miles to quarry on left. Quarry Phone – 334.514.8800	North Montgomery Materials, LLC 2194 Providence Rd Titus Alabama 36080 P.O. Box 469 Millbrook, AL 36054 Office: 334.514.8800 E-mail: hardrockhill2@aol.com
34° 43' 33.46"N 87° 48' 28.66"W 2020 Data update submitted	Pride Quarry located on N side of US Hwy 72, Pride, AL. approx.8.2 miles west of intersection of US-72 and US-43 in Tuscumbia, AL Vulcan Materials, Pride Quarry P.O. 740250 18055 Hwy 72 Tuscumbia, AL 35674 205.310.6853-cell	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 Tim Wyatt – Area Manager wyattt@vmcmail.com 205.668.6001-office 205.310.6853-cell
34° 44' 40" N 87° 56' 0"W 2020	Cherokee Quarry- 3 miles east of Cherokee, AL on old Hwy 72. Vulcan Materials Co., Cherokee Quarry P.O. Box 459 Cherokee, AL 35616 POC: Tim Wyatt 205.310.6853 wyattt@vmcmail.com	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 POC: Tim Wyatt 205.310.6853 wyattt@vmcmail.com
<u>ARKANSAS</u>		

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>N 34° 57' 31.72" W 92° 4' 16.30"</p> <p>Updated 2015</p>	<p>Cabot Quarry - The quarry is located in Lonoke County off AR Highway 5 approx. 1.6miles north of US Highways 167/67 exit 16B, Cabot, AR.</p> <p>LEDGE 3</p> <p>Rogers Group, Inc. – Cabot Quarry 10302 AR Hwy 5, Cabot AR 72023</p>	<p>Rogers Group, Inc 1223 Front St. Arkansas 72032</p> <p>POC: Johnathan Lane</p>
<p>36° 05' 18.33"N 91° 06' 35.34"W</p> <p>Updated Jan 2018</p>	<p>Black Rock Quarry (Powhatan Quarry) - Take Hwy 63 north or south to Hwy 25/3rd street east. Travel approx .1 miles and turn right to stay on Hwy 25, quarry will be on right hand side approx two miles ahead.</p> <p>Powhatan Quarry Div. Capital Quarries Co. Inc, 4549 Hwy 25 Powhatan AR 72458</p>	<p>Capital Quarries Co. Inc, PO Box 105050 Jefferson City, Mo 65110</p> <p>Chris W. Pitts Phone (870) 248-1212 Fax (870) 248-0532 Cell (573) 694-0797</p>
<p>36° 17' 51.468"N 90° 58' 55.70"W</p> <p>Updated Jan 2018</p>	<p>Pocahontas Quarry - Take Hwy 67 north or south to the Hwy 90/115 junction west. Follow Hwy 90/115 until the two highways split, bear right to stay on Hwy 115. Stay on Hwy 115 approx two miles and turn left on Hwy 251. Proceed .1 miles and turn left onto Johnson Church Rd. The quarry is .5 miles ahead on left.</p> <p>Div. Capital Quarries Co. Inc, 632 Johnson Church Rd Pocahontas AR 72455</p>	<p>Capital Quarries Co. Inc, PO Box 105050 Jefferson City, Mo 65110</p> <p>Chris W. Pitts Phone (870) 248-1212 Fax (870) 248-0532 Cell (573) 694-0797</p>
<p>35° 51' 48"N 91° 19' 32"W</p> <p>Updated Dec 2017</p>	<p>Bradley/Batesville Quarry - From Cord, AR take AR-122 north to interception with AR 25 and continue north on AR-25 for a total distance of approx. 3.2 miles. Take Bradley Ln on left to the quarry.</p>	<p>Bradley Contracting 500 Bradley Lane Cord, AR 72524 (870) 799-2338 blakebci@gmail.com</p>

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>34° 40' 38"N 92° 15' 38"W</p> <p>Updated (2020)</p>	<p>Granite Mountain Quarry #1 is located on east side of AR I-530 and just north of Dixon Road, AR Hwy 338</p> <p>Granite Mountain Quarries P.O. Box 138 Sweet Home, AR 72164 (501) 490-1535</p>	<p>McGeorge Corporation P.O. Box 408 1425 Shamburger Lane Sweet Home, AR 72164 (501) 490-1456</p>
<p>34° 40' 38" N 92° 15' 38"W</p> <p>Updated (2020)</p>	<p>Granite Mountain Quarry #2 is located on west side of AR I-530 and just north of Dixon Road, AR Hwy 338</p> <p>Granite Mountain Quarries P.O. Box 138 Sweet Home, AR 72164 (501) 490-1535</p>	<p>McGeorge Corporation P.O. Box 408 1425 Shamburger Lane Sweet Home, AR 72164 (501) 490-1456</p>
<p>34° 34' 48"N 92° 27' 59"W</p> <p>Updated (2020)</p>	<p>Granite Mountain Quarry #3 is located 3 miles south of intersection of I-30 and AR Hwy 183 and south of Bryant, AR and 1 mile east on County Rd. #2</p> <p>Granite Mountain Quarries P.O. Box 886 Bryant, AR 72089</p>	<p>McGeorge Corporation P.O. Box 408 1425 Shamburger Lane Sweet Home, AR 72164 (501) 490-1456</p>
<p>34° 19' 21.08"N 93° 20' 56.81"W</p> <p>Updated September (2017)</p>	<p>River Mountain Quarry – From intersection of AR Hwy 7 and AR Hwy 22 in Dardanelle, AR, go west to Delaware, AR and turn north on AR Hwy 393, then go 0.9 miles and then turn left onto River Mountain Road and go 4.0 miles to entrance to quarry, at AR River Mile 218.5</p> <p>Two active pits: Area C or Berryhill pit Main or Lower East pit</p> <p>Pine Bluff Sand & Gravel, River Mountain Quarry 3979 River Mountain Rd. Delaware, AR 72835 (479) 938-7018</p>	<p>Pine Bluff Sand and Gravel P.O. Box 7008 Pine Bluff, AR 71611-7008 12615 Scenic Highway Baton Rouge, LA 70807 POC: Chris Abadie 318.308.5670 – cell 225.922.7861 – office Chris.abadie@pbsgc.com</p>

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
34° 41' 22.44"N 92° 17' 53.23"W Updated (2016)	Big Rock Quarry- Off AR Hwy 367, 0.5 mile north of junction with 65 th Street, Little Rock, AR	Arkansas Aggregates (3M Quarry) 1910 W. 65 th St. Little Rock, AR 72209 (501)565-5333
35° 16' 56.44"N 91° 40' 55.06"W Ledge 2 Updated (2015)	Searcy Quarry – from I-67, exit 48, Judsonia, AR exit (AR Hwy 385), turn to go toward Plainview, AR on AR Hwy 385, go approximately 1.5 miles and turn left into quarry, Rock Lane. Vulcan Materials Co., Searcy Quarry 125 Rock Road Judsonia, AR 72081 (501) 729-3925	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 (205) 298-3701
36° 8' 36.74"N 91° 9' 49.80"W Ledge 5 Updated (2015)	Verkler Quarry – Approx. 4 miles north of Black Rock, AR on U.S. Hwy. 63 to quarry on west side of highway. Vulcan Materials Co., Verkler Quarry P.O. Box 276 Black Rock, AR 72415 (870) 878-6245	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 (205) 298-3701
34° 8'46.58"N, 93°15'34.80"W (Sep 2019)	Hollywood Quarry located off Highway 53, 3 miles north of Hollywood, Arkansas, AR in Ouachita Mountain Range.	McGeorge Contracting Co. Inc. P.O Box 408 1425 Shamburger Lane Sweet Home AR 72164 Pine Bluff, Arkansas POC: Anthony Jones anthony.jones@mcgeorgecontracting.com office: 501.490.6079 Cell: 501.353.4515
<u>GEORGIA</u>		
32°36' 5.5"N 84° 56' 54.7"W Added December 2018	Columbus Quarry is located North of Columbus, Georgia near the small community of Fortson, on Smith Rd, 0.2 miles east of exit 14 Interstate I-185. 3001 Smith Rd. Fortson, Georgia 31808 POC: Dan Johnson	The Concrete Company Columbus Quarry 1030 1 st Ave. Columbus, GA 31901 (706) 569-4446 POC: Dan Johnson

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
ILLINOIS		
37° 28' 59.07"N 88° 58' 2.99"W December 2018	Buncombe Quarry: From Marion IL, take I-57 South to exit 45, turn right (east) MO-148 (N. Refuge Rd.), keep straight onto MO-37. The quarry is 3-4 miles South of Goreville. Top Ledge Delta Companies, Inc. SILS. 4800 State Route 37 N Goreville, IL 62939-3003 (618) 995-2392	Delta Companies, Inc www.deltacos.com (573) 785-2757 POC: Mike Martin
37° 28' 47.72" N 88° 7' 32.89" W Updated (2016)	Cave-In-Rock Quarry is located approximately 5 miles east of Cave in Rock, IL. From the flashing light on Illinois Highway 1, from the ferry across the Ohio River, head east past Cave-in-Rock State Park to intersection with next road and turn south toward river. Quarry is on right 0.25 miles from intersection.	Lafarge Holcim One Deerfield Center 13560 Morris Road, Suite 3350 Alpharetta, GA 30004 TEL: 678.867.1309 Ken Coats 205.492.7934
37° 19' 07.42"N 89° 01' 12.36"W Updated (Sep 2019)	Shawnee Stone, LLC- Cypress Plant From Cairo IL, go to north on I-57 to exit 18, Ullin and take ramp right. At the end of ramp turn right on Co. Rd. 7 (East), Ullin Rd. (Shawnee College Rd.), and proceed 7 mi. to St. Rt. 37. Turn left on St. Rt. 37 (North) and proceed north for 3.2 mi. and the quarry is on the right hand side of the road. Bottom Ledge Ledge 20 Ledge 70 NOTE: The Cypress plant quarry should provide rock from bottom of the Lower Ledge (Mammoth Cave Group. Ste. Genevieve Formation) which should produce riprap and stone protection meeting the required requirements.	Shakespeare Aggregates, Inc. 202 West Main Street Salem, IL 62881 Tel. No. 618.548.1585 www.shakespeare-oil.com

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<u>KENTUCKY</u>		
37° 02'55.14" N 88° 17'52.56" W Mar 2016	Grand Rivers Quarry – located at the Livingston County, KY. From the intersection of Interstate 24 and KY Hwy 453 (Dover Rd.), Grand Rivers, KY, take KY 453 1.7 miles north to the entrance quarry on the left. St. Louis/Salem Formation From Ledge A Lift 3 only	Winn Material of Kentucky, LLC 877 Dover Rd. Grand Rivers, KY 42045 POC: Bradley Walker TEL: 270.977.8860 TJ Palmer: TEL: 270.928-4757
37° 11' 36" N 88° 15' 59" W Updated October (2016)	Cumberland River Quarry (Formerly Smith Quarry) is located approximately 6 miles south of Salem, KY, at Cumberland River Mile 14.5. From the intersection of US Hwy 60 and KY Hwy 723 in Salem, KY go south approximately 3.5 miles and then turn right onto Maddox Road and go approximately 2.5 miles	Pine Bluff Sand and Gravel Co. 780 Spencer Road Salem, KY 42078 Tel: 870.541.4464 Fax: 870.541.4465 Email: chris.abadie@pbsgc.com Tel: 318.308.5670 Formerly Titan Cumberland Resources
37° 10' 36.37"N 88° 01' 18.15"W Updated (2016)	Fredonia Quarry – Take US Hwy 641 2.8 miles Southeast of Fredonia, KY and turn east onto Fredonia Quarry Road. 297 Fredonia Quarry Rd. Fredonia, KY 42411 (270) 545-9338 POC: Ken Coats robby.maxwell@lafarge.com	Lafarge Holcim One Deerfield Center 13560 Morris Road, Suite 3350 Alpharetta, GA 30004 TEL: 678.867.1309 Ken Coats 205.492.7934 john.pooler@lafarge.com bob.beste@lafarge.com
37° 11' 41.68"N 88° 22' 58.92"W Updated (2014)	Three Rivers Quarry – 7 miles northeast of Smithland, KY, off U.S. Hwy 60 (Cumberland Road). From I-24 exit 31 and go N on KY Hwy 453 to intersection with U.S. Hwy 60 and turn right and go over Cumberland River. Quarry is on the right 4.5 mile from bridge. POC: Eddie Cooper (270)-210-4993 eddie.cooper@lafarge.com	Lafarge of North America 800 N. Causeway Blvd. Ste 2A Mandeville, LA 70448 POC: John Pooler and Bob Beste (985)-727-7572 or (314) 910-9999 john.pooler@lafarge.com bob.beste@lafarge.com

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>37° 02' 13" N 88° 15' 00" W</p> <p>Updated (2015)</p>	<p>Grand Rivers Quarry (Gilbertsville Quarry) – On US Hwy 62/641, “Between the Dams”, Lake City, KY. From I-24 exit 31 and go S on KY Hwy 453 to ramp for US Hwy 62/641 and go west to quarry office on left.</p> <p>Ledge 2 through 9</p> <p>Ledge 3 – Can be used within a good portion of MVD based on the map in ASTM 5312 (20 cycles F&T)</p> <p>Vulcan Materials Co., Grand Rivers Quarry 947 U.S. Hwy 62 Grand Rivers, KY 42045 (270) 362-4264</p>	<p>Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 (205) 298-3701</p> <p>POC: Mr. Terry Teitloff</p>
<p>37° 11' 30.62"N 88° 13' 32.64"W & 37° 11' 39.58"N 88° 13' 26.63"W</p> <p>Updated April (2016)</p>	<p>Slats Lucas Quarry - is located in Livingston County, KY, From Paducah, KY take US Hwy 60N through Smithland, KY to Salem, KY. Turn South on KY Hwy 723 for 5.4 mi to Pinkneyville, KY and turn left onto Lee Rd Quarry.</p> <p>Bench D, Ledge 10 Bench D, Ledge 7</p> <p>712 Lee Road Pinkneyville, KY Mr. Daniel Adams Quarry Manager Mr. Colby Croft Assurance Technician (270)988.2647</p>	<p>Warren Paving Co. 562 Elks Lake Road P.O. Box 572 Hattiesburg, MS 39403 (601)544.7800 Bobby Sullivan 601.544.7811</p>
<u>MISSOURI</u>		
<p>37° 25' 25.15"N 89° 38' 7.83"W</p> <p>Added Aug 2018</p>	<p>Heartland Materials 1965 County Rd. 601 Jackson, MO 63755 Phone: 573.243.0063</p>	<p>Delta Companies – Corporate office 114 S. Silver Springs Rd. Capa Girardeau, MO 63701 573.334.5261 www.deltacos.com</p>

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
36° 40' 56.64"N 90° 27' 57.6"W July 2016	Cane Creek Stone, LLC Butler County, MO Ledge #1	Cane Creek Stone, LLC 2179 County Road 321 Poplar Bluff, Missouri 63901 Mr. Chris Williams (Owner)
39° 04' 06.15"N 90° 44' 42.44"W Updated (2020)	Foley Quarry is located approximately 1.4miles north of Foley, Missouri on the west side of Old State route 79 (presently known as Lincoln County Road 925). POC: Jake Fortner 636.266.8714 jfortner@magrudercompanies.com Ledge 1 and Ledge 2	Magruder Limestone Co., Inc 255 Watson Rd. Troy, MO 63379 POC: Harold Bono Harold_bono@magrudercompanies.com
37° 26' 04.17"N 89° 38' 02.39"W Added May 2018	Fruitland Quarry – Cape Girardeau County, Missouri, On I-55 starting from Cape Girardeau go North to Mile Marker 105. Get off of I-55 at the 105/Furitland exit and trun right on Hwy 61. Go northeast on Hwy 61 towards Fruitland for ¼ mile. The quarry is on the right between Rhodes 101 Convenience Store and Purcell Tire. POC: Kerry Bauman Quarry Manager Tel (cell): 573.880.0885 kerry@baserockminerals.com	Base Rock Minerals (New owner) 5154 US Highway 61 Jackson, MO 63755 POC: Dwayne Holst Aggregates Sales Tel (cell): 573.579.1074 dwayneh@baserockminerals.com

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>37° 54' 05.76"N 90° 31' 29.38"W</p> <p>Added May 2018</p>	<p>Bonne Terre Quarry – St. Francois Country, MO</p> <p>Starting in Farmington MO at the intersection of Hwy 67 and Hwy 32. Take Hwy 67 north about 8.0 miles to Desloge. Take the Desloge exit onto Bus 67/North Desloge Rd. Go about ¼ mile to first stop light and turn north onto State Drive/Votech Rd. The quarry entrance is on the west side of Votech Rd. just past the cemetery.</p> <p>POC: Kerry Bauman Quarry Manager Tel (cell): 573.880.0885 kerry@baserockminerals.com</p>	<p>Base Rock Minerals (New owner) 6801 Votech Road Bonne Terre, Mo 63628 POC: Dwayne Holst Aggregates Sales Tel (cell): 573.579.1074 dwayneh@baserockminerals.com</p>
<p>37° 14' 58.92"N 90° 05' 01.22"W</p> <p>Updated (2014)</p> <p>Waiting for the report</p>	<p>Arab Aggregates, LLC 3051 State Hwy 51 Zalma, MO 63787 Quarry POC: Dale Kreidler Tel: 573.222.2211</p>	<p>POC: Koreen Bassham FA Quarry & Hauling, LLC Burfordville Quarry Arab Aggregates, LLC 25501 State Route Z St. Mary, MO 63673 Tel: 573-543-5366 Mailing Address:</p>
<p>37° 15' 57.96"N 89° 33' 24.00"W</p> <p>Updated December (2018)</p>	<p>Cape Girardeau Quarry – is located on the Northeast corner of MO-72 and South Sprigg St. East of I-55, exit no. 93.</p> <p><u>LEDGE 3-4 ONLY</u></p> <p>Southeast Missouri Stone Co. 3155 Sprigg St. Cape Girardeau, MO 63702 (573) 986-9516</p>	<p>Delta Companies, Inc. - Corporate Office 114 S Silver Springs Rd Cape Girardeau, MO 63701 Phone: 573-334-5261 Fax: 573-986-9511</p>

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>Stockpile 37.047439; -90.308292</p> <p>Updated December (2018)</p>	<p>Shook Quarry is located in Shook, MO in Wayne County on the east side of Wappapello Lake. Take US-67 north from Poplar Bluff to Greenville, MO. Take State Road D east for approx. 10.4 miles to Shook, MO and the quarry will be on the left east of the highway.</p> <p>Shook Quarry (R200 Stockpile tested) Shook, MO</p>	<p>Delta Companies, Inc. - Corporate Office 114 S Silver Springs Rd Cape Girardeau, MO 63701 Phone: 573-334-5261 Fax: 573-986-9511</p>
<p>Top Ledge 36898187 -90.480115 Middle Ledge 36.895213 -90.475573</p> <p>December (2018)</p>	<p>Williamsville Stone Co. Quarry, State Highway 67N, Poplar Bluff, MO 63901 Take US-67 north from Poplar Bluff for approximately and quarry will be on the right (east) of highway just south of a bridge crossing the Black River. POC: Mike Martin</p> <p>ACCEPTABLE : TOP AND MIDDLE LEDGE</p> <p>(573) 785-2757</p>	<p>Delta Companies, Inc. - Corporate Office 114 S Silver Springs Rd Cape Girardeau, MO 63701 Phone: 573-334-5261 Fax: 573-986-9511</p>
<p>37° 13.867N 89° 32.028W</p> <p>Added Jan (2014)</p>	<p>Seminole Ag-Lime quarry direction - in Scott City, MO from the south on I-55 are: take Exit 89 onto Main St.; left (east) onto Main St.; 0.4 miles and left (north) onto Mulberry St.; 0.2 miles and continue on Warner Ave. (new concrete); 0.6 miles and left (east) on Rock Levee Rd.; 0.4 miles to quarry road on left.</p> <p>POC: Mike Crostic QC (314)775-5242</p> <p>Note: It is recommended that rock from overlying and other layers should not be intermixed with the rock from this ledge (MODOT Ledge 25).</p>	<p>Seminole Ag Lime 501 Rock Levee Rd. P.O. Box 4236 Scott City, MO POC: William R. Florman (573)388-4930 (573)388-4931 (fax)</p>

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>38° 05' 03"N 90° 12' 30"W</p> <p>Updated (2016)</p> <p>38 05 03N 90 12 30W</p>	<p>Brickeys Quarry (Old Menefee Quarry) @MRM 135.8 above the mouth of the Ohio River,- Take I-55 4 miles north of Bloomsdale, MO, exit 162, and take exit for County Rds. DD & OO and turn east and go 1 mile to US Hwy 61 and continue straight ahead thru intersection on Brickeys Rd. to quarry. (Formerly Brickeys Stone LLC) Ledges 50-48 - Burlington Ledge 46 - Kimmswick Ledges 43-42 Added Plattin Limestone formation - 2013</p>	<p>APAC 13588 Brickeys Rd. Bloomsdale, MO 63627 (573) 483-3475</p>
<p>37° 14' 40.02"N 90° 27' 17.04"W</p> <p>Updated Jan 2018</p>	<p>Lodi Quarry - From Cape Girardeau, MO take MO Highway 34 west to junction with the U.S. Highway 67 and turn north onto U.S. 67 and go approx. 5 miles and the quarry will be on the right.</p> <p>POC: J.W. Strack –owner Charles McCutcheon office manager</p>	<p>Strack Stone Lodi, LLC. HC1 Box 1169 Silva, MO 63964</p> <p>O:(573)-224-3621 F:(573)-224-3123 Owner: JW Strack -573.270.2024 e-mail: strackstone@gmail.com</p>
<p>38° 00' 36.68"N 90° 05' 42.47"W</p> <p>Updated (2015)</p>	<p>Bussen Quarry - 5 miles north of St. Genevieve, MO, MRM 127.6, above the mouth of the Ohio River, 19829 Lower Frenchman Rd.</p> <p>Zone 8, Zone 12, Ledge 8B, and Ledge 8T.</p> <p>Note: Ledge 8T and Zone 12 can only be used on regions that required 20 and 25 cycles of F&T.</p> <p>Tower Rock Stone Co. P.O. Box 111 St. Genevieve, MO 63670 (573) 883-7415</p>	<p>Tower Rock Stone Co. P. O. Box 50 Columbia, IL 62236 (618) 281-4106</p>
<p>37.853634o N 89.990964 o W Added 2020</p>	<p>FISCHER QUARRY AND HAULING 25501 STATE ROUTE Z ST. MARY, MISSOURI (573) 543-5366</p>	

CATEGORY I – ACCEPTABLE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<u>OHIO</u>		
41° 26' 25.87"N 83° 21' 23.92"W Added Mar 2014	Woodville Quarry – From Ohio Turnpike (I-90/80) exit 81, take MO Hwy 51 south for 2 miles and turn right on to US Hwy 23W toward Woodville. From intersection of Us – 23 & MO – 51 go 3.4 miles to N. Anderson Rd. and turn south go 0.5 miles and quarry entrance will be on your right. Located at Sandusky County. POC: Mr. Jim Bischoff – Quarry Manager	The Olen Corporation 4755 South High St. Columbus, OH 43207 614.491.1515 Area Aggregates 659 Anderson Rd. Woodville, Ohio 43469 419.849.3218
<u>HONDURAS, CENTRAL AMERICA</u>		
Bench 8 updated 2010 and Zone- 12 new source added 15° 10'N 87° 52'W Updated (2016)	Quarry is located in The State Of Cortez in Honduras. Located about 18 miles south of the city of El Progreso and 22 miles north of the city of Santa Barbara, Zacatales, Honduras Sources only tested for use along Gulf Coast at present time.)	Importaciones Rodriguez, S.A. 22543 Ventura Blvd., Ste 227 Woodland Hills, CA 91364 Metairie, LA 70002 Tel: (818) 224-4270 Fax: (818) 224-4736 Email: sebrown@looseb.com Contact: Sharon E. Brown American Stone Supply, Inc./ ABM Enterprises Inc. 3617 Aspen Dr. Harvey, Louisiana 70058 Tel: (504) 782- 6046 Tel: (818) 297- 6635 Fax: (866) 594- 3730 Email: abm.email@abmenterprise.com
<u>MEXICO, STATE OF VERACRUZ</u>		
19.524296 N, 96.426432 W Added September 2019	The quarry is located at 19.524296o N, 96.426432 o W, in the State of Veracruz, Mexico approximately 61 kilometers north and west of the Veracruz International Airport.	Wayne LeBaron, Alamo Construction 15088 Rufus White Road, Prairieville, LA 70769 Telephone 225.362.8997 wlebaron83@gmail.com

CATEGORY II – INACTIVE SOURCES
[EITHER NOT TESTED WITHIN THE LAST 5 YEARS OR CLOSED]

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<u>ALABAMA</u>		
2005	Kellerman Quarry, near Brookwood, AL, Black Warrior River Mile 354 (formerly operated by U.S. Crushed Stone)	Shippers & Sellers LLC P.O. Box 1349 Jasper, AL 35502-1349
34° 26.0'N 88° 03.2' W Last Tested August 2013	Red Bay Quarry – From Red Bay, AL take AL Hwy 24 and go east approx. 6 miles to Country Rd. 25 (near mile marker 6) approx. 0.8mile east of intersection of AL Hwy 24 and 27. Turn south onto County Rd 25 and go approx. 1 mile and bear right onto Cooney Rd. to quarry entrance on right. 250 Cooney Road Red Bay, Alabama (256)-356-4030	Limestone Red Bay, Inc. P.O. Box 8057 2601 Celda Drive POC: John Wroten (662)327-9224
33° 08' 51.648"N 85° 34' 15.383"W Last tested May 2013	Wadley Crushed Stone Quarry – go to north of Alabama 177, turn right on County Rd. 868, go about ½ mile. A wide unmarked gravel road is on you left, a baseball field on your right. Turn left on the gravel road and follow it to the quarry office and scale house.	Wadley Crushed Stone 874 County Road 838 Wadley, Alabama 36276 Office Phone Number is 256-914-1011 POC: Mike Fordham
<u>ARKANSAS</u>		
36° 17'51.49" N 90° 58' 55.70"W 2010 No test data update submitted	Black Rock Quarry (formerly Sloan Cavanaugh) - 4.5 miles northwest of Black Rock, AR off U.S. Hwy 63 on County Rd. 208. POC: Mr. Bill Brown (870.879.6201)	Martin Marietta Aggregates P. O. Box 260 Vulcan Rock, AR 72415 (870) 878-6201

CATEGORY II – INACTIVE SOURCES

[EITHER NOT TESTED WITHIN THE LAST 5 YEARS OR CLOSED]

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<p>34° 26' 01.62"N 92° 51' 30.78"W</p> <p>2009 No test data update submitted</p>	<p>Jones Mill Quarry is located off US Highway 270 approximately 2 miles west of I-30, exit 98, Malvern, AR POC: Gary Gray – Plant Manager 501.844.1640 Gary.gray@martinmarietta.com Doug Morin 501.520.7250 Douglas.morin@martinmarietta.com</p>	<p>Martin Marietta Aggregates Inc. 4202 Highway 270 West Malvern, AR 72104 501.844.1640 501.520.7250</p>
<p>34° 01' 04.98"N 94° 21' 15.54"W</p> <p>2009 No test data update submitted</p>	<p>Hatton Quarry is located off US Highway 59/71, Hatton AR. From US H-way 59/71 turn east on to Hatton Lane, go 0.3 miles and take a slight right onto County Rd. 15 for 0.6 miles to quarry. POC: Gary Gray – Plant Manager 501.844.1640 Gary.gray@martinmarietta.com Doug Morin 501.520.7250 Douglas.morin@martinmarietta.com</p>	<p>Martin Marietta Aggregates Inc. 4202 Highway 270 West Malvern, AR 72104 501.844.1640 501.520.7250</p>
ILLINOIS		
<p>37/88 (2005)</p>	<p>Golconda Quarry – from Golconda, IL go NE on IL Hwy 146 for 10 miles. At junction with IL Hwy 34, take a right towards Job Corps Center and Shetlerville, IL. Go approximately 2 miles and quarry will be on left.</p>	<p>Florida Rock Industries RR 1, Box 110 Golconda, IL 62938 (618) 285-6060</p>
<p>37N/89W (2005)</p>	<p>Gray's Point Quarry - MRM 46.2, above the mouth of the Ohio River. Take Exit 91 off I-55 on Rd. AB at Scott City, MO, and go east 4 miles to quarry.</p> <p>Tower Rock Stone Co. P.O. Box 4248 Scott City, MO 63780 (573) 264-3800</p> <p>CLASSIFIED AS INACTIVE</p>	<p>Tower Rock Stone Co. P. O. Box 50 Columbia, IL 62236 (618) 281-4106</p>

CATEGORY II – INACTIVE SOURCES
[EITHER NOT TESTED WITHIN THE LAST 5 YEARS OR CLOSED]

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
Ledge 006 370 20 24N 880 12 38W Ledge 007 370 19 41N 880 15 57W Ledge 009 370 18 42N 880 09 55W Ledge 011 370 21 56N 880 09 48W Added Dec 2012	Cave-In-Rock Quarry - take IL Hwy 1 from the flashing light in Cave In Rock, IL, just north of ferry landing on the Ohio River, 1.9 miles north to IL-146 and turn left. Go 1.9 miles on IL-146 to quarry entrance on right. POC - Don Hastie LEDGE 007 – UNACCEPTABLE	Hastie Mining and Trucking Co. Rt. 1 Box 55 Cave In Rock, IL 62919 Contact Terry Teitloff
<u>KENTUCKY</u>		
<u>MICHIGAN</u>		
45/87 (2003)	Grooveland Mine Randville Road Felch, MI 49837	Superior Rock Works 10304 Bay shore Drive Rapid River MI 49878 906-474-9242 superiorrockworks@yahoo.com
<u>MISSOURI</u>		
37/89 (2002)	Burfordville Quarry – Take I-55 north of Cape Girardeau, MO to interchange with MO Highways 72/34W. Take MO Hwy 34 W for approximately 5 miles to County Rd OO and turn south. Quarry will be on left 1 mile from intersection.	Burfordville Stone LLC 1211 County Road 00 Whitewater, MO 63785 573-624-7889
38/90 (2002)	Simpson South Quarry – Take St. Hwy 141 from I-55 to intersection with MO Hwy 21, go back toward I-55 to Cecos Lane, on north side of MO Hwy 21, to entrance to quarry.	Simpson Materials Co. PO Box 68 Valley Park, MO 63088-0068 (636) 343-4944

CATEGORY II – INACTIVE SOURCES
[EITHER NOT TESTED WITHIN THE LAST 5 YEARS OR CLOSED]

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37° 26' 04.08"N 89° 38' 14.88"W Added Dec 2012	Fruitland Quarry – located in Cape Girardeau County, MO. Take I-55 North from Cape Girardeau, MO, to exit 105 for Pocaahontas, MO and go 0.4 mile north on U.S. 61 to quarry entrance. Ledge #25 - Orange	Strack Stone Company 5120 State Highway 74 Cape Girardeau, MO 63701 (573)335-9430 New Owner Baserock Minerals

CATEGORY III – AWAITING SOURCES
[WAITING FOR THE UPDATE TEST DATA OR REPORT]

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
<u>MISSOURI</u>		
39° 14' 50.27"N 91° 14' 16.0"W Added Dec (2011)	Ashley quarry is located approximately two miles south of Ashley Missouri on the west side of Highway 161.	Magruder Limestone Company Inc. 255 Watson Rd. Troy, MO 63379
<u>ILLINOIS</u>		

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SECTION 01 32 16.00 12

CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for scheduling of all procurement and construction activities, and all costs associated therewith shall be included in the applicable contract unit or job prices contained in the Bidding Schedule.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Schedule; G

SD-07 Certificates

Monthly Updates

1.3 ACCEPTANCE

Prior to the start of work, prepare and submit to the Contracting Officer for acceptance a construction schedule in the form of a Bar Chart Schedule in accordance with the terms in Contract Clause FAR 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS, except as modified in this contract.

The acceptance of a Baseline Construction Schedule is a condition precedent to:

- a. The Contractor starting work on the demolition or construction stage(s) of the contract.
- b. Processing Contractor's invoice(s) for construction activities/items of work.
- c. Review of any schedule updates.

Submittal of the Baseline Schedule, and subsequent schedule updates, is understood to be the Contractor's certification that the submitted schedule meets all of the requirements of the Contract Documents, represents the Contractor's plan on how the work will be accomplished, and accurately reflects the work that has been accomplished and how it was sequenced (as-built logic).

1.4 SCHEDULE FORMAT

1.4.1 Bar Chart Schedule

The Bar Chart must, as a minimum, show work activities, submittals, Government review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities. The Bar Chart must be time scaled and generated using an electronic spreadsheet program.

1.4.2 Schedule Submittals and Procedures

Submit Bar Chart Schedules and updates in hard copy and on electronic media that is acceptable to the Contracting Officer. Submit an electronic back-up of the project schedule in an import format compatible with the Government's scheduling program.

1.5 SCHEDULE MONTHLY UPDATES

Update the Construction Schedule at monthly intervals or when the schedule has been revised. The updated schedule must be kept current, reflecting actual activity progress and plan for completing the remaining work. Submit copies of purchase orders and confirmation of delivery dates as directed by the Contracting Officer.

a. Narrative Report: Provide with schedule updates. Identify and justify;

- (1) Progress made in each area of the project
- (2) Critical Path
- (3) Date/time constraint(s), other than those required by the contract
- (4) Changes in the following; added or deleted activities, original and remaining durations for activities that have not started, logic, milestones, planned sequence of operations, and critical path
- (5) Status of Contract Completion Date and interim milestones;
- (6) Current and anticipated delays (describe cause of delay and corrective actions(s) and mitigation measures to minimize);
- (7) Description of current and future schedule problem areas.

Each entry in the narrative report must cite the respective Activity ID and Activity Description, the date and reason for the change, and description of the change.

1.6 3-WEEK LOOK AHEAD SCHEDULE

Prepare and issue a 3-Week Look Ahead schedule to provide a more detailed day-to-day plan of upcoming work identified on the Construction Schedule. Key the work plans to activity numbers when a NAS is required and update each week to show the planned work for the current and following two-week period. Additionally, include upcoming outages, closures, preparatory meetings, and initial meetings. Identify critical path activities on the Three-Week Look Ahead Schedule. The detail work plans are to be bar chart type schedules, maintained separately from the Construction Schedule on an

electronic spreadsheet program and printed on 8-1/2 by 11 inch sheets as directed by the Contracting Officer. Activities must not exceed 5 working days in duration and have sufficient level of detail to assign crews, tools and equipment required to complete the work. Deliver three hard copies and one electronic file of the 3-Week Look Ahead Schedule to the Contracting Officer no later than 8 a.m. each Monday, and review during the weekly CQC Coordination or Production Meeting.

1.7 CORRESPONDENCE AND TEST REPORTS

All correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and QC Daily Reports, material delivery tickets, photographs) must reference Schedule Activities that are being addressed. All test reports (e.g., concrete, soil compaction, weld, pressure) must reference Schedule Activities that are being addressed.

1.8 ADDITIONAL SCHEDULING REQUIREMENTS

Any references to additional scheduling requirements, including systems to be inspected, tested and commissioned, that are located throughout the remainder of the Contract Documents, are subject to all requirements of this section.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

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PART 2 PRODUCTS

PART 3 EXECUTION

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for submittal requirements as specified herein. Payment for the work covered under this section shall be distributed throughout the existing bid items. Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

SD-01 Preconstruction Submittals

- Certificates of insurance.
- Surety bonds.
- List of proposed subcontractors.
- List of proposed products.
- Construction Progress Schedule.
- Submittal register.
- Schedule of prices.
- Health and safety plan.
- Work plan.
- Quality control plan.
- Environmental protection plan.
- Traffic Control Plan.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended

product warranties.

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

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. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which 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 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 purpose of which is to further quality of 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-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and Safety Data Sheets concerning impedances, hazards and safety precautions.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

1.2.2 Approving Authority

Office or designated person authorized to approve 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.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal Register; G

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Clause in Section 00700 CONTRACT CLAUSES, entitled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21), they are considered to be "shop drawings." Any reference to Government approval by the Contracting Officer (CO) includes the approving authority of the CO, the Administrative Contracting Officer (ACO), or the Contracting Officer's Representative (COR).

1.4.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of

the Contract Clause referred to above.

1.5 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved 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.

1.6 DISAPPROVED SUBMITTALS

The Contractor shall respond to all concerns expressed by the Contracting Officer and promptly make any corrections necessary to address those concerns. The Contractor shall promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Clause in Section 00700 CONTRACT CLAUSES, entitled CHANGES (FAR 52.243-4), shall be given promptly to the Contracting Officer.

1.7 GENERAL

The Contractor shall submit all items listed on the Submittal Register (ENG Form 4288) or specified in the other sections of these specifications. The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include 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. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.8 SUBMITTAL REGISTER

At the end of this section is a submittal register showing items of equipment and materials for which submittals are required by the specifications; this submittal register may not be all inclusive and additional submittals may be required. The Contractor shall 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 in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall track all submittals.

1.9 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

1.10 TRANSMITTAL FORM (ENG FORM 4025)

The transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government-approved and information-only submittals in accordance with the instructions on the reverse side of the form. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the contract specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item. In order to expedite review of submittals, an electronic copy of all submittals shall be sent to the Contracting Officer's Representative along with the hard copies. Each submittal shall be submitted, with its complete backup material, in paper and electronic form. Electronic files shall be .pdf, .dgn, .doc, .docx, or other format acceptable to the Contracting Officer's Representative.

1.11 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.11.1 Procedures

Procedures for submittals will be stipulated by the Contracting Officer at the preconstruction conference.

1.11.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.12 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.13 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Five (5) copies of the submittal will be retained by the Contracting Officer and 2 copies of the submittal will be returned to the Contractor. The Contractor shall submit electronic copies (i.e., .pdf files) of all submittals in accordance with Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM) for review and approval process.

1.14 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to 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. The Contractor shall also submit electronic copies (i.e., .pdf files) of all submittals to expedite the review and approval process.

1.15 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR
(Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

PUA & ACUD #1 Drinking Water Infrastructure Improvements

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	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)
		01 32 16.00 20	SD-01 Preconstruction Submittals														
			Construction Schedule	1.3	G												
			SD-07 Certificates														
			Monthly Updates	1.5													
		01 33 00	SD-01 Preconstruction Submittals														
			Submittal Register	1.7	G												
		01 45 04.00 10	SD-01 Preconstruction Submittals														
			Contractor Quality Control Plan	3.2	G CD												
		01 55 26.00 12	SD-01 Preconstruction Submittals														
			Traffic Control Device Plan	3.2	G												
		01 78 02.00 10	SD-02 Shop Drawings														
			'As-Built' Drawings	1.3.1	G DO												
		02 41 00	SD-01 Preconstruction Submittals														
			Demolition Plan	1.4.2	G												
			Existing Conditions	1.9													
		03 30 04.00 12	SD-03 Product Data														
			Air-Entraining Admixture	2.3.1													
			Water-Reducing or Retarding Admixture	2.3.2													
			Curing Materials	2.8													
			Reinforcing Steel	2.5													
			Nonshrink Grout	2.10													
			Batching and Mixing Equipment	3.1.4.3													
			Conveying and Placing Concrete	3.2													
			Formwork	2.6													
			SD-06 Test Reports														

SUBMITTAL REGISTER

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TITLE AND LOCATION

PUA & ACUD #1 Drinking Water Infrastructure Improvements

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/	APPROVING AUTHORITY				MAILED TO CONTR/	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		03 30 04.00 12	Aggregates	2.2													
			Concrete Mixture Proportions	1.6.3	G												
			SD-07 Certificates														
			Cementitious Materials	2.1													
			Aggregates	2.2													
		03 42 13.00 10	SD-01 Preconstruction Submittals														
			Quality Control Procedures	1.5.2.2													
			SD-02 Shop Drawings														
			Standard Precast Concrete Units	2.1.1	G												
			Standard Precast Concrete Units	2.1.1	G												
			Custom-Made Precast Units	2.1.2	G												
			SD-03 Product Data														
			Standard Precast Concrete Units	2.1.1													
			Standard Precast Concrete Units	2.1.1													
			Accessories	2.2.4													
			SD-05 Design Data														
			Design Calculations	2.1.2													
			Concrete Mix Proportions	2.1.3.1													
			SD-06 Test Reports														
			Test Reports	1.5.2.4													
			SD-07 Certificates														
			Quality Control Procedures	1.5.2.2													
		31 00 00	SD-01 Preconstruction Submittals														
			Dewatering Work Plan	1.4.1	G												
			SD-03 Product Data														
			Utilization of Excavated Materials	3.5	G												

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

PUA & ACUD #1 Drinking Water Infrastructure Improvements

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/	APPROVING AUTHORITY				MAILED TO CONTR/	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		32 12 16	SD-03 Product Data														
			Mix Design	2.4	G												
			Quality Control Plan	3.2.1	G												
			Material Acceptance	3.3	G												
			SD-04 Samples														
			Asphalt Cement Binder	2.3													
			Aggregates	2.2													
			SD-06 Test Reports														
			Aggregates	2.2	G												
			SD-07 Certificates														
			Asphalt Cement Binder	2.3	G												
			Testing Laboratory	3.2.2													
		32 15 00.00 12	SD-06 Test Reports														
			Sampling and Testing	1.5.2	G												
		43 21 29	SD-01 Preconstruction Submittals														
			Utility Disruption Plan	1.7													
			SD-03 Product Data														
			Flow measuring equipment	1.3													
			Encoder Register	2.2.4													
			SD-06 Test Reports														
			Flow measuring equipment	1.3													
			SD-08 Manufacturer's Instructions														
			Flow measuring equipment	1.3													
			Training Plan	3.1.1	G												
			SD-11 Closeout Submittals														
			Warranty	1.6	G												

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

PUA & ACUD #1 Drinking Water Infrastructure Improvements

CONTRACTOR

[illegible]

U.S. Army Corps of Engineers (USACE) TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE For use of this form, see ER 415-1-10; the proponent agency is CECW-CE.					DATE		TRANSMITTAL NO.	
SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS <i>(This section will be initiated by the contractor)</i>								
TO:			FROM:		CONTRACT NO.		CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____	
SPECIFICATION SEC. NO. <i>(Cover only one section with each transmittal)</i>			PROJECT TITLE AND LOCATION			THIS TRANSMITTAL IS FOR: <i>(Check one)</i> <input type="checkbox"/> FIO <input type="checkbox"/> GA <input type="checkbox"/> DA <input type="checkbox"/> CR <input type="checkbox"/> DA/CR <input type="checkbox"/> DA/GA		
ITEM NO. <i>(See Note 3)</i> a.	DESCRIPTION OF SUBMITTAL ITEM <i>(Type size, model number/etc.)</i> b.	SUBMITTAL TYPE CODE <i>(See Note 8)</i> c.	NO. OF COPIES d.	CONTRACT DOCUMENT REFERENCE		CONTRACTOR REVIEW CODE g.	VARIATION Enter "Y" if requesting a variation <i>(See Note 6)</i> h.	USACE ACTION CODE <i>(Note 9)</i> i.
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			
REMARKS				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	
SECTION II - APPROVAL ACTION								
ENCLOSURES RETURNED <i>(List by item No.)</i>			NAME AND TITLE OF APPROVING AUTHORITY			SIGNATURE OF APPROVING AUTHORITY		DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.
3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.
4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.
5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.
6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing the detailed reason for the variation.
7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.
8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.
Submittal types are the following:

SD-01 - Preconstruction	SD-02 - Shop Drawings	SD-03 - Product Data	SD-04 - Samples	SD-05 - Design Data	SD-06 - Test Reports
SD-07 - Certificates	SD-08 - Manufacturer's Instructions	SD-09 - Manufacturer's Field Reports	SD-10 - O&M Data	SD-11 - Closeout	
9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

A -- Approved as submitted.	F -- Receipt acknowledged.
B -- Approved, except as noted on drawings. Resubmission not required.	X -- Receipt acknowledged, does not comply with contract requirements, as noted.
C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required.	G -- Other action required (<i>Specify</i>)
D -- Will be returned by separate correspondence.	K -- Government concurs with intermediate design. (<i>For D-B contracts</i>)
E -- Disapproved. Refer to attached comments.	R -- Design submittal is acceptable for release for construction. (<i>For D-B contracts</i>)
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

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SECTION 01 42 00
SOURCES FOR REFERENCE PUBLICATIONS

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 1.2 ORDERING INFORMATION

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-- End of Section Table of Contents --

SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

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 CONCRETE INSTITUTE (ACI)
38800 Country Club Drive
Farmington Hills, MI 48331
Ph: 248-848-3700
Fax: 248-848-3701
E-mail: bkstore@concrete.org
Internet: <http://www.concrete.org>

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)
444 North Capital Street, NW, Suite 249
Washington, DC 20001
Ph: 202-624-5800
Fax: 202-624-5806
E-Mail: info@aaashto.org
Internet: <https://www.transportation.org/>

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1899 L Street, NW, 11th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
E-mail: storemanager@ansi.org
Internet: <https://www.ansi.org/>

AMERICAN WATER WORKS ASSOCIATION (AWWA)
6666 W. Quincy Avenue
Denver, CO 80235 USA
Ph: 303-794-7711 or 800-926-7337
Fax: 303-347-0804
Internet: <https://www.awwa.org/>

AMERICAN WELDING SOCIETY (AWS)
8669 NW 36 Street, #130
Miami, FL 33166-6672
Ph: 800-443-9353
Internet: <https://www.aws.org/>

ASPHALT INSTITUTE (AI)
2696 Research Park Drive
Lexington, KY 40511-8480
Ph: 859-288-4960
Fax: 859-288-4999
E-mail: info@asphaltinstitute.org
Internet: <http://www.asphaltinstitute.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/>

CSA GROUP (CSA)
178 Rexdale Blvd.
Toronto, ON, Canada M9W 1R3
Ph: 416-747-4044
Fax: 416-747-2510
E-mail: member@csagroup.org
Internet: <https://www.csagroup.org/>

LOUISIANA ADMINISTRATIVE CODE (LAC)
Office of State Register
P.O. Box 94095
Baton Rouge, LA 70804-9095
Ph: 225-342-5015
Internet:

LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016
Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
(LADOTD)
P.O. Box 94245
Baton Rouge, LA 70804-9245
Ph: 225-379-1200
Fax: 225-379-1851
Internet:

NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA)
1320 City Center Drive, Suite 200
Carmel, IN 46032
Ph: 800 366 7731
Fax: 317-571-0041
Internet: <https://precast.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. ENVIRONMENTAL PROTECTION AGENCY (EPA)

1200 Pennsylvania Avenue, N.W.

Washington, DC 20004

Ph: 202-564-4700

Internet: <https://www.epa.gov>

--- Some EPA documents are available only from:

National Technical Information Service (NTIS)

5301 Shawnee Road

Alexandria, VA 22312

Ph: 703-605-6060 or 1-800-363-2068

Fax: 703-605-6880

TDD: 703-487-4639

E-mail: info@ntis.gov

Internet: <https://www.ntis.gov/>

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

1200 New Jersey Ave., SE

Washington, DC 20590

Ph: 202-366-4000

E-mail: ExecSecretariat.FHWA@dot.gov

Internet: <https://www.fhwa.dot.gov/>

Order 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/>

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

General Services Administration

1800 F Street, NW

Washington, DC 20405

Ph: 1-844-472-4111

Internet: <https://www.gsaelibrary.gsa.gov/ElibMain/home.do>

Obtain documents from:

Acquisition Streamlining and Standardization Information System
(ASSIST)

Internet: <https://assist.dla.mil/online/start/>; account
registration required

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 --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 45 00.15 10

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

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- 1.2 MEASUREMENT AND PAYMENT
- 1.3 CONTRACT ADMINISTRATION
 - 1.3.1 Correspondence and Electronic Communications
 - 1.3.2 Other Factors
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- 1.6 CONTRACT DATABASE - CONTRACTOR
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 - 1.6.1.1 Contractor Information
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PART 2 PRODUCTS

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-- End of Section Table of Contents --

SECTION 01 45 00.15 10

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

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 and Health Requirements Manual

RMS CM Guide (2021) Resident Management System (RMS) User Manual For Contractors

1.2 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the Resident Management System requirements as specified herein. Payment for the work covered under this section shall be distributed throughout the existing bid 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 Contract Clause, (FAR 52.236-15) SCHEDULES FOR CONSTRUCTION CONTRACTS; Contract Clause, (FAR 52.232-27) PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS; Contract Clause, (FAR 52.232-5) PAYMENTS UNDER FIXED-PRICED CONSTRUCTION CONTRACTS; Section 01 32 16.00 20 CONSTRUCTION PROGRESS SCHEDULE; Section 01 33 00 SUBMITTAL PROCEDURES; and Section 01 45 04.00 10 CONTRACTOR 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 (RMS CM Guide), access and installation instructions, program updates and training information are available from the RMS website (<https://rms.usace.army.mil/datafiles/rmsdocwebsite/default.html>). 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, 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 16.00 12 CONSTRUCTION PROGRESS SCHEDULES.

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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SECTION 01 45 04.00 10

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No measurement or payment will be made for providing and maintaining an effective Contractor Quality Control program, and all costs associated therewith shall be included in the applicable contract unit prices or job prices contained in the Bidding Schedule.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control Plan; G, CD

1.3 ELECTRONIC TEST REPORT DATA

As part of the contractor's Quality Control program, his/her selected QC laboratory shall provide electronic transmission of test report data in the prescribed formats with the original hard copy test report data to the Government. The New Orleans District Construction Control Manual (NODCC Manual) specifies the minimum number of tests to be performed, and includes forms which shall be used to report the test data. A copy of the NODCC Manual is attached at the end of this section. The Technical Specification sections may include testing and/or frequency requirements other than those listed in the NODCC manual. These additional requirements shall be followed in addition to the aforementioned. Test results shall be emailed to mvn-cd-q-testresults@usace.army.mil and to the Government Project Engineer. In addition, all test results shall be uploaded to the Resident Management System Contractor Mode (RMS CM).

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Clause in Section 00700 CONTRACT CLAUSES, entitled INSPECTION OF CONSTRUCTION (FAR 52.246-12). The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to

the proposed construction sequence. The site project superintendent and Quality Control Manager will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice of award, the Contractor Quality Control Plan proposed to implement the requirements of the Contract Clause FAR 52.246-12. The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 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 features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started. A sample CQC Plan is attached at the end of the section.

3.2.1 Content of the CQC Plan

The CQC Plan shall 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 shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.
- 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. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall 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 shall 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. These procedures shall establish verification 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 may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may 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 his/her 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, the Contractor shall 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, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 14 calendar days prior to the Coordination Meeting. During the Coordination Meeting, a mutual understanding of the system details shall 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 shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall 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 shall maintain 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 shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a construction person with a minimum of 3 years (full time) experience in related equivalent work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager may not have any other duties than quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager when this individual is acting as the CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, mechanical, electrical, and structural. These individuals may be employees of the prime or subcontractor; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan. A single person may cover more than one area provided that they are qualified to perform QC activities in each designated field of expertise and if his/her workload allows.

Experience Matrix

Area	Qualifications
a. Civil	Graduate Civil Engineer or Construction Manager with 2 years experience in the type of work being performed on this project or technician with 5 yrs related experience
b. Mechanical	Graduate Mechanical Engineer or Construction Manager with 2 yrs experience or person with 5 yrs related experience
c. Electrical	Graduate Electrical Engineer or Construction Manager with 2 yrs related experience or person with 5 yrs related experience
d. Structural	Graduate Structural Engineer or Construction Manager with 2 yrs experience or person with 5 yrs related experience

3.4.4 Additional Requirement

In addition to the above experience and education requirements, the CQC System Manager, and his/her alternate, shall have completed the course entitled "Construction Quality Management for Contractors" within the past 3 years. This course is periodically offered at the New Orleans District and other Corps of Engineers districts.

3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall 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, shall be made as specified in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control 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 shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase shall be 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 shall include:

- a. A review of each paragraph of applicable specifications
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or 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. A physical 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. A 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. A 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 Quality Assurance personnel shall be notified at least 48 hours in advance of beginning the preparatory control phase. The Contractor shall submit a written agenda of the topics to be discussed at the preparatory meeting on the day prior to the meeting date. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), Government Quality Assurance personnel, and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of 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.
- 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 shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be 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

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted 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

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. The Contractor shall notify the Contracting Officer's Representative (COR) at least 24 hours prior to all quality control testing in order to coordinate simultaneous quality assurance tests if the COR elects to do so. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Depending upon the workload by

the Government inspecting agency, acceptance or rejection of the Contractor proposed testing laboratory is usually done approximately 60 to 120 days after notification is received from the Contractor. The certification will be valid for two years. The Contractor shall 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. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.
- f. Field soil sampling and testing locations shall be recorded using GPS coordinates accurate to the meter range.
- g. An informational electronic copy (PDF file of actual test result) of all material tests performed (regardless of whether performed by an offsite test facility or an on-site test facility) shall be electronically transmitted to the Government via email at mvn-cd-q-testresults@usace.army.mil and uploaded to RMS within 24 hours of test report completion. An electronic data entry form (Excel based) will be provided by the Government to enter electronic data, in a format prescribed by the Government. This data file shall contain the results of the required material tests. The Government has provided the required template for data transmission at the end of this section in the New Orleans District Construction Control Manual_Appendices A-C.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

All laboratory facilities, personnel, and equipment used to test soil, concrete, and asphalt shall be part of a validated laboratory that has been inspected or audited by the USACE Materials Testing Center, Vicksburg, MS.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$5000.00 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 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

For All Materials Except Painting Materials and
Quality Assurance Concrete Test Cylinders:

U.S. Army Engineer Research and Development Center (ERDC)
Waterways Experiment Station
Geotechnical and Structures Laboratory
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

For Painting Materials: (Liquid samples must have Safety Data
Sheets enclosed with the sample):

Sample Delivery Address:

U. S. Army Engineer Research and Development Center
Construction Engineering Research Laboratory Warehouse
Attn: Paint Technology Center
2902 Farber Drive
Champaign, Illinois 61822

Mailing Address:

U. S. Army Engineer Research and Development Center
Construction Engineering Research Laboratory
Attn: Paint Technology Center
PO Box 9005
Champaign, Illinois 61826-9005

Physical address:

U.S. Army Construction Engineering Research Laboratory
2902 Newmark Drive
Champaign, Illinois 61821

For Quality Assurance Concrete Test Cylinders:

U.S. Army Corps of Engineers
New Orleans District
Soils and Materials Processing Unit, Room 105
7400 Leake Ave
Room 105
Soils and Materials Processing Unit
New Orleans, Louisiana 70118-3651

Concrete test cylinders shall only be delivered on Federal workdays between 8:30 AM and 3:00 PM. Coordination for each specific test, exact delivery location, and dates will be made through the Area Office. Details on the soils and materials testing laboratory and additional instructions for delivery of the QA samples will be given at the

preconstruction conference.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Section 00700 CONTRACT CLAUSES, entitled COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10) or stated elsewhere in the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall 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 is complete. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall 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 shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from the New Orleans District, Mississippi Valley Division, and local interest 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. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall 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 with the Clause in Section 00700 CONTRACT CLAUSES, entitled INSPECTION OF CONSTRUCTION (FAR 52.246-12).

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum,

the following information:

- a. Contractor/subcontractor and their area of responsibility.
- 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/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (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/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 12 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, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

Sample forms for guidance in preparing the CQC Plan are 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. The Contractor shall take

immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may 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 shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --



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

Construction Control Manual

**Sampling & Testing Construction Materials
Reporting Test Results**

**CEMVN CD 415-Q-11
14 March 2016**



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

CEMVDN-CD

Pamphlet
Number CEMVN-CD-415-Q-11

14 March 2016

Construction

CONSTRUCTION CONTROL MANUAL

1. Purpose. This manual describes the means and methods for the Contractor Quality Control (QC) and Government Quality Assurance (QA) testing of some of the more common construction materials incorporated into New Orleans District projects. Information is given on sampling, the test required, testing frequency, reporting requirements, and database maintenance. This manual only describes a minimum testing program on a limited number of common construction materials and the specifications may require additional tests that demonstrate compliance with the contract documents.

2. Applicability. This manual applies to all New Orleans District elements having responsibility for the design and construction of assigned projects.

3. Scope of the Manual. This manual is intended to guide the Quality Control and Quality Assurance process and provide for the construction of a project whose quality and durability is a direct reflection of the Contractor's and the Government's efforts in meeting the project's goals and objectives. If there is a conflict between this manual and the technical specification sections, the most stringent requirements shall govern.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

Number CEMVN-CD-415-Q-11

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Chapter 1 Introduction

1. General:

This manual describes the means and methods for the Contractor Quality Control and Government Quality Assurance testing of construction materials incorporated into the New Orleans District (CEMVN) projects. Information is given on sampling, the test required, testing frequency, reporting requirements, and database maintenance. This manual only describes a minimum testing program on a limited number of common construction materials and the specifications may require additional tests that demonstrate compliance with the contract documents. If there is a conflict between this manual and the technical specification sections, the most stringent requirements shall govern. The most recent version of this manual at the time of contract solicitation will supplement the construction material control requirements for a specific contract unless noted otherwise.

The Contractor shall only use those laboratories, including his own that have been validated by an inspection or audit performed by the USACE Materials Testing Center, Vicksburg, MS.

2. Definitions:

- a. **Quality Management System.** Quality management is defined as all control, inspection, and other assurance activities instituted to achieve the product quality established by the contract plans and specifications.
- b. **Contractor Quality Control.** Contractor Quality Control (QC) is that part of the system by which the Contractor regulates, tests and inspects their own, suppliers, and sub-Contractors procedures, equipment, materials, and personnel so that the completed product will comply with the requirements of the project's contract documents.
- c. **Government Quality Assurance.** Government Quality Assurance (QA) is that part of the system by which the Government verifies or assures that the Contractor's Quality Control system is performing properly and the completed product conforms to the contract documents. The number of QC test observed by QA personnel should be generally related to the consistency in QC and QA test results.

3. Responsibility, Compilation, and Submittal of Test Results:

- a. The Contractor is responsible for complying with the contract documents in the performance of all required tests and the preparation, submittal, and maintenance of those test reports outlined in this manual and the contract specifications. The test results from QC and QA testing shall be compiled separately as outlined in this manual.
- b. The Contractors' QC Laboratory shall appoint a Registered Professional Civil Engineer to certify QC inspections and test results prior to the start of work. The certification shall state that the tests and observations were performed by or under the direct supervision of the Registered Professional Civil Engineer and that the results are representative of the

materials and conditions being certified by the tests. The certification shall be submitted within two weeks after final inspections and testing is complete. The certification shall be submitted to USACE for the referenced project in accordance with the New Orleans Construction Control Manual, Appendix A. Failure to submit certifications as stated may result in nonpayment for related work performed and disapproval of the QC test facility for this contract.

- c. Acceptance of the Contractors' QC 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 to the QC Plan and operations including removal of personnel and QC Laboratory, as necessary, to obtain the quality specified.
- d. All test results will be entered into the CEMVN Quality Assurance Control Center (QACC) construction material testing database as described in Appendix A by the QC laboratory performing the testing. Test results will be entered into the testing database within 48 hours from sampling. Payment for any material placed, as well as for any subsequent construction, will not be made until test results are entered into the database and analyzed by Quality Assurance personnel. The Contractor shall maintain a hard copy of the materials testing log, test reports and control charts at the Contractor's field office. These records will be available at all times for review by Government personnel. The original test report will be distributed to the Administrative Contracting Officer (ACO) within 48 of completion of the test. This original test report (supporting documentation) submission is in addition to any required electronic submission.
- e. Any tests not conforming to the contract documents will be immediately reported to the Administrative Contracting Officer along with the recommended corrective action to bring the work into complete compliance with the specifications. The Administrative Contracting Officer may designate additional re-sampling or retesting to verify the work represented by the failing test. This testing is at the Contractor's expense.
- f. Reference to standard test methods and testing procedures for sampling and testing of common construction materials are given in each chapter of this manual. Additional testing may also be required in the contract documents.
- g. Laboratory Facilities. For work that involves aggregates, concrete, masonry, rock or soil the QC Laboratory shall, at its own expense, obtain and maintain validation as an approved testing laboratory by the Materials Testing Center (MTC) of the Engineering Research and Development Center (ERDC). This shall be done in accordance with ER 1110-1- 8100 and ER 1110-1-261. Appendix B further describes this requirement. Refer to Chapter 4 for welding laboratories.

For work that involves vibration, steel, steel reinforcing bars, coatings inspections and other specialized construction material testing and inspection the QC Laboratory shall maintain personnel, procedures and equipment that meet applicable industry standards.

- h. Field sampling and testing locations shall be recorded using Latitude/Longitude coordinates reported in decimal degree format to the millionth decimal and be surveyed using techniques to achieve ± 10 feet accuracy.

Report Form input example: 29.934003, -90.133745

Chapter 2 Soils

1. Scope:

This chapter specifies methods and procedures for the Contractor Quality Control (QC) and Government Quality Assurance (QA) testing of materials used, but not limited to, compacted levee embankments, compacted berms, un-compacted berms, ramps, and structural backfill. The Government will also perform checks, and assurance testing of control testing required by the Contractor.

2. Samples:

Samples shall be collected and secured in accordance applicable ASTM testing procedures.

3. Testing Personnel:

The individuals who inspect, monitor, sample and test Embankment construction as required in this specification shall meet the following minimum criteria of certification and/or documented experience. Work experience shall be related to the field for which the inspector is being qualified and may be obtained by working either for an inspection/testing agency or engineering firm as a technician, inspector or engineer.

- Current NICET Level II certification in Geotechnical Engineering technology/construction, or
- Current ICC Soils Special Inspector with one year related experience, or
- Geologist-in-Training with one year related experience, or
- Engineer Intern with one year related experience, or
- Registered Geologist, or
- Registered Professional Engineer.

The Contractors' QC laboratory shall submit certification and/or documentation to provide evidence of qualification. The appointed Registered Professional Civil Engineer, identified in Chapter 1, Section 3.b to certify inspections and test results, remains responsible for compliance of all inspection and testing activities.

All Laboratory facilities, personnel and equipment used to test soils as required in this specification shall be part of a Laboratory that has been validated by the USACE Materials Testing Center, Vicksburg, MS.

4. Typical Test Requirements:

Testing and reporting shall be performed in accordance with the latest American Society of Testing and Materials (ASTM) Standard, as indicated in Table 2-1.

Table 2-1
ASTM References

Gradation	
ASTM C 117	Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing
ASTM C 136	Sieve Analysis of Fine and Course Aggregates
ASTM D 1140	Amount of Material in Soils Finer than No. 200 (75- μ m) Sieve
ASTM D 6913	Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
Moisture Content	
ASTM D 2216	Laboratory Determination of Water, (Moisture) Content of Soil and Rock by Mass (Method B)
ASTM D 4643	Determination of Water (Moisture) Content of Soil by Microwave Method
Moisture/Density Relationship	
ASTM D 698	Laboratory Compaction Characteristics of Soil Using Standard Efforts (12,400ft lbs/ft ³ (6000KN))
ASTM D 1557	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 kN-m/m ³))
Field Density	
ASTM D 1556	Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 6938	In-Place Density and Water Content of Soil and Soil-Aggregate Nuclear Methods (Shallow Depth)
Materials Classification	
ASTM D 2487	Classification of Soils for Engineering Purposes
ASTM D 4318	Liquid Limit (One-Point Method B), Plastic Limit, and Plasticity Index of Soils
Organic Content	
ASTM D 2974	Moisture, Ash, and Organic Matter of Peat and Other Organic Soils (Method C)
Unconfined Compressive Strength	
ASTM D 1633	Compressive Strength of Molded Soil-Cement Cylinders
ASTM D 2166	Unconfined Compressive Strength of Cohesive Soil

5. Sampling and Testing of Compacted Fill:

This sampling and testing shall be in accordance with the standard procedures referred to in this manual. The minimum number of QC tests to be performed shall be as indicated in Table 2-2.

The Government will also perform checks, and assurance testing of the other control testing required by the Contractor.

Table 2-2
Type of Tests and Frequency of Testing
Compacted Embankments and Berms, Ramps, and Structural Backfill Material

Property	Form	Minimum Frequency	Standard
Nuclear Field Density	MVNQS11	One test per 1,500 cubic yards of compacted fill placed per lift, but not less than one density test per 500 linear feet per lift. A lift placed on any one side of an existing embankment will be considered as a separate lift. At least one test shall be performed in any shift that compacted fill is placed.	ASTM D 1556 or ASTM D 6938
Nuclear Field Density Relative Density	MVNQS12	Used to record test results from testing uncohesive material. One density test per lift per 150 linear feet of the base course. Isolated repairs (less than 150 linear feet) must have at least one density test per isolated area per lift.	ASTM D 6938
Sand Cone Field Density	MVNQS03	One test to be obtained for every ten (10) Nuclear Field Density locations to verify Nuclear Field Density.	ASTM D 1556
Compaction Control Curve	MVNQS02	Control Compaction Curves shall be established in accordance with ASTM D 698 - Laboratory Compaction Characteristics of Soil Using Standard Effort. A Compaction Control Curve will be required for each type of material from each source or a minimum of one Compaction Control Curve every 25,000 cubic yards of compacted fill placement. Where construction operations result in the blending of material, two representative Compaction Control Curves will be required for each resulting blend of material. The samples collected for the resultant blended material shall be collected from separate locations. If the borrow or source of fill material changes, new Compaction Control Curves shall be performed. Material test samples for Compaction Control Curve shall be prepared by air-dry, rewet, and cured.	ASTM D 698
One-Point Proctor Verification	MVNQS02	One test to be obtained for every five (5) field density locations.	ASTM D 698 (modified)
Moisture Content	MVNQS11	One test at each field density test location.	ASTM D 2216 or ASTM D 4643
Organic Content	MVNQS07	One test at each field density test location.	ASTM D 2974 (Method C)
Materials Classification	MVNQS06	One test obtained for each Control Compaction Curve and one test for each field density test. Determine Atterberg Limits (LL One-Point Method B), minus #200 and Sand Content.	ASTM D 2487 ASTM D 1140 ASTM D 4318
Unconfined Compressive (UC) Strength	MVNQS05	For Deep Soil Mixing (DSM) QC operations a minimum of three percent of the DSM columns per site will be drilled and three UC strength samples collected and tested at each test column.	ASTM D 2166 ASTM D 1633

6. Sampling and Testing of Un-Compacted Berm Material:

This sampling and testing shall be in accordance with the standard procedures referred to in this manual. The minimum number of QC tests to be performed shall be as indicated in Table 2-3. The Government will also perform check and assurance testing of the other control testing required by the Contractor.

Table 2-3
Type of Tests and Frequency of Testing
Un-Compacted Berm Material

Property	Form	Frequency	Standard
Organic Content	MVNQS07	One test at materials classification test location.	ASTM D 2974 (Method C)
Materials Classification	MVNQS06	One test per 3,000 cubic yards of un-compacted fill placed, but not less than one test per 1,000 linear feet of un-compacted fill placed. At least one test shall be performed in any shift that un-compacted fill is placed. Determine Atterberg Limits (LL One-Point Method B), minus #200 and Sand Content.	ASTM D 2487 ASTM D 1140 ASTM D 4318

7. Compilation of Test Data for Submittal:

The results of the test and inspections shall be recorded in the MVN database as directed in Appendix. Samples of the reporting forms and instruction for each form are provided on the MVN SharePoint site; **Test Form Examples** and are described as follows. The latest forms should be referenced on the MVN SharePoint site and described in Appendices. All data is to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.**

- a. **MVNQS01** Sieve Analysis – ASTM C 117, ASTM C 136 and ASTM D 1140. This form is to be used in reporting the material finer than No 200 sieve and a sieve analysis of coarse grain material.
- b. **MVNQS02** (Compaction Control Curve) ASTM D 698. This form is to be used in reporting the determination of the optimum moisture content and the maximum dry density. The moisture-density curve shall be plotted based on a minimum of five compaction test specimens. A one-point Proctor test – ASTM D 698 (modified, Figure 2-2) shall be obtained for every five (5) field density test locations, and reported with same. The soil One-Point proctor result obtained from the in-place density test location will serve as the basis for determining the applicable compaction control curve.

- c. **MVNQS03** (Field Density Sand Cone Method) ASTM D 1556. This form is to be used in reporting the determination of the degree of compaction and moisture content. Contract specifications shall govern the required compaction effort.
- d. **MVNQS05** (Unconfined Compressive Strength) ASTM D 2166. This form is to be used to report the compressive strength of an intact, remolded or reconstituted cohesive soil, using a strain-controlled application of the axial load. Contract specifications shall govern the acceptable strength requirements.
- e. **MVNQS06** (Unified Soil Classification System) ASTM D 2487. This form is to be used to report the determination of the liquid limit (One-point Method B), plastic limit, plasticity index, % sand content and % fines. MVNQS01 Sieve Analysis – ASTM C 117 and ASTM C 136 is to be used to report the results of gradation tests of the material if a granular material is specified. The final soil classification in accordance with ASTM D 2487 shall be stated on the same forms. Contract specifications shall govern the acceptable Atterberg limits, gradation limits, and material classification. If the Nuclear Method (ASTM D 6938) is used for field density determinations, the soil sample utilized for material classification shall come from within a radius of 12 inches of the center of the in-place density test site. The soil classification obtained from in-place density test location will serve as a basis for determining the applicable compaction control curves.
- f. **MVNQS07** (Moisture, Ash, and Organic Content Determination) ASTM D 2974 (Method C). This form is to be used in reporting the determination of the organic content of the material. Determination of organic content shall be performed in accordance with ASTM D 2974; Method C. Contract specifications shall govern the acceptable limits of organic content.
- g. **MVNQS09** (Moisture Content Determination) ASTM D 2216, ASTM D 4643 and ASTM D 6938. This form is to be used in reporting the determination of the moisture content of the in-place material when ASTM D 2216, ASTM D 4643 or ASTM D 6938 is the test method utilized. This form is not to be used when performing Field Density Test Nuclear Method with Moisture Content Determination. Contract specifications shall govern the acceptable limits of moisture content.
- h. **MVNQS11** (Field Density Test Nuclear Method). This form is to be used in reporting the determination of the degree of compaction and moisture content by oven, microwave or nuclear gauge. Contract specifications shall govern the required compaction effort and moisture range. If the nuclear method is selected for field density testing, the Sand-Cone Method shall be used to confirm the accuracy of the Nuclear Method. This shall be accomplished by performing an initial comparison test of the two methods when a nuclear gage is brought on-site for the first time. If the Nuclear Method wet density is within 3 percent of the Sand Cone Method, no correction of the Nuclear Method wet density will be required and the testing may continue with the Nuclear Method. The Nuclear Method wet density shall be verified throughout the project at a rate of one Sand-Cone test for every ten nuclear tests per nuclear gage thereafter. If the variance at any time between the Nuclear Method and the Sand Cone Method exceeds 3 percent, testing

with the Nuclear Method shall stop until the Contractor provides a Root Cause Analysis and five consecutive comparison tests are performed as evidence that Corrective Actions will provide results within 3 percent. For comparison purposes, the nuclear and sand-cone wet densities should represent the same layer thickness within the testing area selected. When a nuclear density result is in doubt, the sand-cone density test shall be used for acceptance.

- i. **MVNQS12** (Field Density (Relative Density) Nuclear Method). This form is to be used in reporting the determination of the Relative degree of compaction as determined based on relationship of the Minimum Dry density and Maximum Dry density. Contract specifications shall govern the required Relative Density.

8. Soil Electronic Conductivity (EC) and Total Soluble Salt Analysis:

The following test method shall be used for determining the Total Soluble Salt (Total Salinity) of Embankment soils. This method shall be followed when testing embankment soil salinity levels. Sampling of materials shall be performed by a USACE Validated Laboratory.

- A. **Sampling;** Sampling shall consist of one 12,500 gram composite sample per 1,000 linear feet per lift. A Composite soil sample is defined as 5 separate representative 2,500 gram samples taken randomly at relatively evenly spaced intervals within the 1,000 linear foot. A lift on any one side of the levee will be considered one lift. The locations of the samples shall be as directed by the Contracting Officer. When a composite soil sample is collected, it should be handled in accordance with ASTM D 4220, Group B Standard Practices for Preserving and Transporting Soil Samples.

As directed by the Contracting Officer, when samples are to be split for replicate testing, the entire composite sample shall be processed over a No. 4 (4.75 mm) sieve by the contractors QC laboratory. The material passing the No. 4 sieve shall be thoroughly mixed and split in accordance with ASTM C 702 Standard Practice for Reducing Samples of Aggregate to Testing Size.

- B. **Sample Preparation;** Composite soil samples passing a No. 4 sieve are to be thoroughly remixed and reduced to a minimum 200 g sample for testing in accordance with ASTM C 702 Standard Practice for Reducing Samples of Aggregate to Testing Size.

The reduced composite soil sample is air dried at a temperature not to exceed 140° F for a minimum of 18 hours. After the sample is air dried, process and collect material passing No. 10 (2 mm) sieve. Material retained on the No. 10 sieve will be discarded.

- C. **Procedure; (EC 1:2 preparation)** To determine soil EC, collect a representative 20 gram sample from the sieved air-dried material and mix with 40 mL deionized water in a 125 mL Erlenmeyer flask.

The container is sealed and the mixture is either agitated for 1 hour in a mechanical shaker or mixed by hand every 30 minutes for 3 hours.

The mixture is filtered through a Whatman 42 filter paper. EC (dS/m) of the filtrate is determined immediately using a standard conductivity meter. Follow manufacture's direction for standard conductivity meter operations and temperature corrections.

- D. Reporting; The directly-measured EC 1:2 is converted to Saturated Extract-Equivalent EC (EC_e) by multiplying by a factor of 2. (Southern Cooperative Series Bulletin No. 419 ISBN# 1581614195 January, 2014)

Total soluble salts (TSS) concentration in ppm (mg/L) is calculated by multiplying EC_e (dS/m) by 640 for EC readings <5.0 dS/m or by 800 for EC readings >5.0 dS/m. (Rhoades, 1996)

The report shall include at a minimum;

1. All sample identifications documented during sampling that at a minimum include, sample date, received date, test/sample number, location of composite sample (GPS, station, lift, , elevation, offset)
2. USCS visual description
3. Make/Model and Serial # of conductivity meter
4. Notes should include any deviations from this test method.
5. The Soil Electronic Conductivity (EC) shall be reported in decisiemens per metre (dS/m).
6. Total Soluble Salt shall be reported as Total Salinity in parts per million (ppm).

9. Field and Laboratory Determination of Non-Soil Volume for Levee Fill:

- A. The field excavation testing shall be performed by excavating a 10' wide x 10' long and to a depth of the lift thickness for each lift that is in question. The volume of the excavation shall be verified using the end area method through measuring the dimensions of the excavation with the use of survey equipment at each corner of the hole. A difference of +/- 10% of the theoretical excavation is allowed. The Contractor shall bring all material excavated to the lab in sealed airtight containers. All excavations shall be completely backfilled by the Contractor within 72 hours of inspection unless directed otherwise by the COR. All backfill shall be in accordance with the existing contract documents, especially EMBANKMENT.
- B. The unit weight of the soil shall be determined by ASTM D 6938 Field Density – Nuclear Method, ASTM D 1556 Field Density – Sand Cone Method, or ASTM D 698 Compaction Characteristics of Soil. All material testing shall be performed by a Corps validated lab.
- C. Once all the excavated material is delivered to a Corps validated lab, any clay pieces adhering to the non-soil pieces that can be removed by hand without damaging the non-soil piece shall be removed.
- D. All non-soil pieces shall be weighed in their existing conditions immediately prior to testing (wet weight as excavated). If all non-soil pieces do not fit in the Measure Box, then the non-soil pieces may be split into smaller sampling sizes for testing purposes and the cumulative volume reported.

E. Sturdy Measure Box containers shall be used for the non-soil volume determination processes. The minimum volume of the Measure Box is 0.8 cubic feet. This volume dimension is a minimum and may be enlarged if desired. The weight of the empty containers shall be determined using a calibrated scale and with the weight recorded to the nearest 0.1 lb. The container shall be filled in two layers with silica sand. The first layer of sand shall be densified by use of a Shake Table and vibrated such that the Silica sand achieves its maximum density. The second layer of silica sand shall be added and vibrated, with additional sand added as needed to “top off” the container as the sand achieves a greater density. The weight of the container filled with densified Silica sand shall be recorded to the nearest 0.1 lb using a calibrated scale. Determine the weight of the measure container plus sand three times to determine the average value. The maximum unit weight of the silica sand is the weight of the measure plus sand minus the weight of the measure divided by the known volume of the container and reported to the nearest 0.1 lb/ft³.

F. The volume of the non-soil shall be determined by the following USACE MVN developed procedure, Non-Soil Volume Determination.

- 1) **Volume and Weight Determination of Measures (annual):** The volume of the Measure Box shall be determined and verified on an annual basis by the water filled method as specified in ASTM C29/C29M paragraph 8 and recorded to the nearest 0.1 ft³.
- 2) **Density Sand:** Obtain silica sand also known as US Silica Sand. Verify that the quality of the silica or “Silica” sand meets the requirements specified in ASTM D1556 paragraph 6.2. The sand can be re-used, but it should be cleaned to comply with the previously referenced standard by sieving and/or rinsing, and oven drying prior to reuse.
- 3) **Determining Densified Sand within a Measure Box:** Before any tests determining non-soil volume content, a calibration test shall be run each day that testing is to be performed, to determine the standard weight of the sand in the Measure Box as discussed in section E. The three repeated determinations of densified sand weight per unit volume shall be within 2.0 pcf of each other.

A Measure Box shall be used to determine the densified sand and will be based upon use of a Shake Table and placement within layers. Clean and dry silica sand is placed loosely within each layer using a large scoop or the edge of a bucket by flowing and distributing the sand evenly across the surface area. The Shake Table is then to be used. The number and duration of vibrations will be determined as noted in the following trial. These times are approximate and should be modified by each laboratory to fit the Shake Table being used to achieve a consistent sand weight per unit volume.

MEASURE BOX – (1) Position measure over a large catch pan for collecting excess sand. Place loose Silica sand in one layer (half height of measure); (2) Using the Shake Table, vibrate the sand for 4-8 seconds; (3) Place loose silica sand in a second layer (full height of measure); (4) Vibrate the sand for 4-8 seconds. The sand should consolidate below the top rim of the measure; (5) Place additional (excess) sand above the top of the measure. It should appear to overflow. Vibrate for the sand for an additional 3-4 seconds. It is desired to have excess sand above the top of the rim after vibration of about 1/8 inch; (6) Using a straight metal bar, strike off the excess sand, leaving the sand flush with the top rim of the measure; (7) Weigh the measure and densified sand recorded to the nearest 0.1 lb; (8) Determine the weight per unit volume of the measure by subtracting the weight of the measure plus sand minus the weight of the measure then dividing by the known volume of the container and report to the nearest 0.1 lb/ft³; (9) Repeat steps 1 thru 8 for a total of three determinations of densified sand weight per unit volume, and calculate the average weight per unit volume to the nearest 0.1 lb/ft³.

- 4) **Standard Wood or Metal for Verification (annual):** Eight pieces of wood or metal, labeled A thru G, measuring 5 inches by 1 inch by 2 inches are to be used to verify the volume determination by the densified sand method as detailed in 5) below. Determine the weight and linearly measured volume of the eight standard pieces of wood or metal to verify the calculated non-soil content from the use of densified silica sand within Measure Boxes of known volume.
- 5) **Non-soil Verification (annual):** Wood or metal pieces measured in Step 4) above will be used in each measure by densifying sand and four wood or metal pieces in each layer, for a total of eight wood or metal pieces within each measure. The same procedures outlined in Step 4) above are used to place and densify the sand and wood or metal within the measures. The wood or metal is placed within each layer with at least ½ inch of loose sand beneath and around the wood or metal pieces. The weight of the densified sand, measure, and wood or metal is used to determine the density and subsequent volume of the wood or metal. The calculated volumes shall be compared to the known volumes of the wood or metal pieces to see if any change in shaking time or sand type is needed. If the calculated and known volumes are within +/- 2% of each other, the test verification is successful. See below for the step by step procedures for this:

MEASURE BOX - (1) Determine the volume and weight of the measure as noted in Step 1) above; (2) Determine the average densified sand weight per unit volume as noted in Step 3) above; (3) Determine volume and weight of pre-cut pieces of wood or metal as noted in Step 4) above; (4) Densify wood or metal in layers following the similar method noted in Step 3) above; (5) Determine the densified sand and wood or metal weight in the unit measure; (6) Calculate the volume of wood or metal as shown below:

- (a) Volume of Measure Box (ft³)
- (b) Weight of Measure Box (lb)

- (c) Average weight per unit volume of densified sand (lb/ft³)
- (d) Wood or metal Pieces total weight (lb)
- (e) Wood or metal Pieces total volume (ft³)
- (f) Average determined densified sand, wood or metal, & measure weight (lb)
- (g) Densified sand only weight (no wood or metal) = (c) x (a)
- (h) Densified sand only weight (with wood or metal) = (f) – (b) – (d)
- (i) Volume of wood or metal (from densified sand test) = [(g) – (h)] / (c)
- (j) % actual volume wood or metal = 100 x (e) / (a)
- (k) % tested volume wood or metal = 100 x (i) / (a)

- 6) **Non-soil Volume Determination:** Determination of non-soil volume for a test sample is as follows. Determine the wet weight of the sample prior to placement into the loose sand layers. Cleaned non-soil pieces from a sample are placed in one of the tested measures above by following procedures as outlined in Step 3). The non-soil pieces are placed within each layer of loose sand with at least ½ inch of loose sand beneath and around the various non-soil pieces. The non-soil piece may be cut to fit into the measure but care should be used to ensure that all pieces of the sample are measured. The weight of the combined densified sand, measure, and non-soil shall be recorded to the nearest 0.1 lb. To determine the density and subsequent volume of the non-soil pieces, see calculations below.

MEASURE BOX - (1) Determine the volume and weight of the measure as noted in Step 1) above; (2) Determine the average densified sand weight per unit volume as noted in Step 3) above; (3) Determine weight of sample pieces of non-soil; (4) Densify non-soil pieces in layers following the similar method noted in Step 3) above; Determine the densified sand and non-soil pieces weight in the unit measure; (5) Calculate the volume of non-soil pieces as shown below:

- (a) Volume of Measure Box (ft³)
- (b) Weight of Measure Box (lb)
- (c) Average weight per unit volume of densified sand (lb/ft³)
- (d) Weight of Sample Non-soil Pieces (lb)
- (e) Determined densified sand, non-soil pieces, & measure weight (lb)
- (f) Densified sand only weight (no non-soil pieces) = (c) x (a)
- (g) Densified sand only weight (with non-soil pieces) = (e) – (b) – (d)
- (h) Volume of non-soil pieces (from densified sand test) = [(f) – (g)] / (c)
- (i) Volume of excavation (ft³)
- (j) % tested volume non-soil pieces = 100 x (h) / (i)

- 7) **Documentation:** As a minimum, calibrations of Measure Boxes should be documented annually on the Unit Weight Measure Volume Determination Record. The Densified Sand unit weight shall be documented on the Densified Sand Calibration Record. Test records for samples shall be documented on the Non-soil pieces Volume Determination Record. Contact MVN-CD-Q for latest test forms.

- G. The percent volume determined in Step 6) (j) above shall be compared versus the acceptable value listed in the specifications. If the test shows the percent volume is greater than the acceptable value, the Contractor shall follow the corrective actions as noted in the contract specifications.

10. Additional Testing:

In addition to the above frequency of tests, additional tests may be required as follows:

- a. Where the Administrative Contracting Officer (ACO) or Contracting Officer's Representative (COR) has reason to doubt the adequacy of the compaction, moisture content, or organic content control.
- b. Where the Contractor is concentrating fill operations over a relatively small area.
- c. When embankment materials change substantially, the Administrative Contracting Officer or Contracting Officer's Representative (COR) may direct additional testing.
- d. Where special compaction procedures are being used.
- e. When the contract specifications require additional testing.
- f. When areas are found not meeting the specified in-place density, Atterberg limits, moisture content, and/or in-place organic content requirements; the Contractor shall retest, at no additional costs to the Government, after corrective measures have been applied.

Chapter 3 Concrete

1. Scope:

This chapter specifies methods and procedures for the Contractor Quality Control (QC) and Government Quality Assurance (QA) methods and procedures for the testing of fresh concrete and concrete aggregate. The Government will also perform checks, and assurance testing of control testing required by the Contractor.

2. Samples:

Fresh concrete samples shall be secured in accordance with ASTM C 172. Concrete aggregates shall be sampled in accordance with ASTM D 75. Sampling locations shall be randomly selected.

3. Testing Personnel:

The individuals who inspect, monitor, sample and test Concrete construction as required in this specification shall meet the following minimum criteria of certification and/or documented experience. Work experience shall be related to the field for which the inspector is being qualified and may be obtained by working either for an inspection/testing agency or engineering firm as a technician, inspector or engineer.

- Current ICC Reinforced Concrete Certificate with 1 year related experience, or
- ACI Concrete Construction Special Inspector Certificate, or
- Engineer Intern with one year related experience, or
- Registered Professional Engineer.

The individuals who perform testing of concrete or the constituents of concrete as required in this specification shall have an applicable and current ACI certification for testing being performed; ACI Concrete Strength Testing, ACI Concrete Laboratory Testing – Level 1, ACI Aggregate Testing Technician – Level 1, ACI Concrete Field Grade I.

The Contractors' QC laboratory shall submit certification and/or documentation to provide evidence of qualification. The appointed Registered Professional Civil Engineer, identified in Chapter 1, Section 3.b to certify inspections and test results, remains responsible for compliance of all inspection and testing activities.

All Laboratory facilities, personnel and equipment used to test soils as required in this specification shall be part of a Laboratory that has been validated by the USACE Materials Testing Center, Vicksburg, MS.

4. Typical Test Requirements:

Test requirements specified in the contracts documents may be more stringent than those listed below in Tables 3-2, 3-3 and 3-4. All test results will be entered into the MVN material testing database as described in Appendices by the laboratory performing the testing. Acceptable test values are contained in the contract documents.

The laboratory performing the tests shall be validated by the Materials Testing Center, Vicksburg, MS. and conform to ASTM C 1077.

Table 3-1
ASTM References

Concrete Lab Testing	
ASTM C 33	Specification for Concrete Aggregates
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 117	Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing
ASTM C 136	Sieve Analysis of Fine and Course Aggregates
ASTM C 511	Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes
ASTM C 566	Total Evaporable Moisture Content of Aggregate by Drying
ASTM C 617	Capping Cylindrical Concrete Specimens
ASTM C 702	Reducing Samples of Aggregate to Testing Size
ASTM C 1231	Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders
CRD-C 104	Calculation of Fineness Modulus of Aggregate
Concrete Field Testing	
ASTM C 31	Making and Curing Concrete Test Specimens in the Field
ASTM C 138	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C 143	Slump of Hydraulic-Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 173	Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 1064	Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM D 75	Sampling Aggregates

5. Compilation of Test Data for Submittal:

The results of the test and inspections shall be recorded in the MVN database as directed in Appendix. Samples of the reporting forms and instruction for each form are provided on the MVN SharePoint site; **Test Form Examples** and are described as follows. The latest forms should be referenced on the MVN SharePoint site and described in Appendices. All data is to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.**

- a. **MVNQC01** (Concrete Compression Test Data – ASTM C 39). This form is to be used in reporting the results of laboratory concrete compression testing. Contract specifications shall govern the required concrete compressive strength.
- b. **MVNQC02** (Concrete Field Data). This form is to be used in reporting the data collected by the laboratory while monitoring and testing concrete during placement. Contract specifications shall govern the required concrete properties during placement.
- c. **LMN FORM 853-R** (Concrete Compression Test Specimen Data). This form is to be filled out and provided to the QA laboratory for each set of cylinders delivered. This form should be filled out with information documented during concrete placement. The information on this form should match the information provided on the associated MVNQC01 and MVNQC02 test forms. The Order number on this form shall match the Batch Ticket number on the associated concrete supplier batch ticket, the MVNQC01 and the MVNQC02 test form for sample tracking purposes. The form also serves as a bill of lading for the delivered concrete samples.

Table 3-2
Test Requirements
AGGREGATE, FINE

Property	Method	Frequency	Remarks
Deleterious Substances	ASTM C 33	1 per week	
Fineness Modulus	CRD-C 104	1 per shift per batch plant when concrete plant is operating	Calculation based on gradation test results
Gradation	ASTM C 117 ASTM C 136	1 per shift per batch plant when concrete plant is operating.	Tests selected randomly.
Moisture Content	ASTM C 566	If moisture meter is working properly, 2 per week to verify	Tests selected randomly for each aggregate size.
		If moisture meter is not working, 4 every 8 hours of mixing plant operation	
		Additional tests if slump is out of control or variability is excessive	
Sampling Method	ASTM D 75	As specified for the individual material property.	

Table 3-3
Test Requirements
AGGREGATE, COURSE

Property	Method	Frequency	Remarks
Deleterious Substances	ASTM C 33	1 per week per batch plant, or as directed by COR	
Gradation	ASTM C 117 ASTM C 136	1 per shift per batch plant when concrete plant is operating	Tests selected randomly.
Moisture Content	ASTM C 566	If moisture meter is working properly, 2 per week to verify	Tests selected randomly for each aggregate size.
		If moisture meter is not working, 4 every 8 hours of mixing plant operation	
		Additional tests if slump is out of control or variability is excessive	
Sampling Method	ASTM D 75	As specified for the individual material property.	

Table 3-4
Test Requirements
FRESH CONCRETE

Property	Form	Method	Frequency	Remarks
Compression Cylinders (Quality Assurance)	MVNQC01 MVN 835	ASTM C 31 ASTM C 39	To be molded by the Contractor Quality Control Laboratory and tested by the Quality Assurance Laboratory. Mold one set of cylinders per 8 hour shift or for every 150 cubic yards placed.	Quality Assurance Cylinders shall be molded from the same sample of concrete that the Quality Control cylinders are molded.
Compression Cylinders (Quality Control)	MVNQC01 MVNQC02	ASTM C 31 ASTM C 39	To be molded and tested by the Contractor Quality Control Laboratory. Mold one set of cylinders per 8 hour shift or for every 150 cubic yards placed.	On randomly selected batches for each separate concrete mix produced. Cylinders used shall conform to paragraph 6.1 of ASTM C 31. Initial Cure in accordance with paragraph 10.1.2 of ASTM C 31.
			As a minimum; A set of test specimens for concrete with a 28-day specified strength shall consist of two cylinders to be tested at 7 days and two 6-inch by 12-inch cylinders or three 4-inch by 8-inch cylinders at 28 days. A set of test specimens for concrete with a 56-day or 90-day specified strength shall consist of two cylinders to be tested at 7 days, two 6-inch by 12-inch cylinders or three 4-inch by 8-inch cylinders at 28 days and two 6-inch by 12-inch cylinders or three 4-inch by 8-inch cylinders at 90 days.	
			Additional sets when mix proportions change or low strengths are detected.	
Compression Cylinders (QC- for putting concrete into service or other purposes indicated in paragraph 4.3 of ASTM C 31)	MVNQC01 MVNQC02	ASTM C 31 ASTM C 39	1 set of multiple pairs of QC cylinders per item to be evaluated.	Cylinders used shall conform to paragraph 6.1 of ASTM C 31. Initial Cure in accordance with paragraph 10.1.2 of ASTM C 31. Cylinders to be field cured shall conform to 10.2 of ASTM C 31.
Air Content Slump Temperature	MVNQC01 MVNQC02	ASTM C 231 ASTM C 143 ASTM C 1064	1 every time concrete cylinders are molded	On randomly selected batches for each separate concrete mix produced
			Plus 2 additional during each 8 hours of concrete production	
			Additional tests if workability variation is excessive.	

Chapter 4 Welding Inspection

1. Scope:

This chapter specifies methods and procedures for the Contractor Quality Control (QC) weld inspection for Group 1 and Group 2 carbon steels as defined by AWS D1.1, Table 3.1 and their ASTM A709 counterparts. Welding of sheet metal, reinforcement bars, castings, stainless steel, aluminum and other non ferrous metals are not included in this document and should reference the appropriate AWS or ASME Code. An approved schedule of welding procedures (WPS) is required before fabrication commences (Section 05 50 03.00 12). The Government will also perform checks, and assurance testing of control testing required by the Contractor.

2. Definitions:

- a. **Fracture Critical Welds.** Fracture critical members or member component welds as defined by ER 1110-2-8157 are tension members or tension components of bending members (including those subject to reversal of stress), the failure of which would be expected to result in collapse of the hydraulic steel structure. The designation “FCM” shall mean fracture critical member or member component. Members and components that are not subject to tensile stress under any condition of live load shall not be defined as fracture critical. FCMs, in general, are dewatering components (needle girders, bulkheads, needles), lifting eyes, or other tension members. This includes any members welded to these members as cracks could propagate to these members and cause failures also. These welds should either be shown on the drawings or called out in the specifications. Tubular welds are not applicable to AWS D1.5. AWS D1.5, Section 12 is the applicable code for these welds.
- b. **Other Welds.** These welds are the remaining welds that are not considered Fracture Critical Welds. AWS D1.1 is the applicable code for these welds.

3. Testing Personnel:

- a. **Visual Inspection.** Visual inspection shall be performed by Certified Welding Inspectors (CWI) that are qualified and certified in accordance with the provisions of AWS QC1. Verification of documentation may be obtained from the AWS web site. Note: Certification number is required for this verification.
- b. **Nondestructive Testing Technicians.** All ASNT Level III personnel shall be qualified in accordance with ASNT CP-189. Only individuals qualified for NDT Level II or individuals qualified for Level I and working under the direct supervision of a Level II shall perform nondestructive testing. Level I and Level II personnel shall be qualified in accordance with either ASNT CP-189 or ASNT SNT-TC-1A. Level III NDT Inspectors shall possess a currently valid ASNT Level III certificate in each of the processes they are qualifying inspectors to. Copies of the certifications, including the Level III NDT Technician that certified the Level I and Level II Technicians shall be included in the submittals. Verification of Level III documentation may be obtained from the ASNT web site. Note: Either Certification number or name is required for this verification.

4. Visual Inspection Requirements:

Visual inspection of welds shall conform to the requirements of AWS D1.1, Section 6, or AWS D1.5, Section 12, as applicable.

5. Nondestructive Testing Requirements:

- a. **Ultrasonic Testing.** Ultrasonic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part F or AWS D1.5, Subsection 12.16, as applicable.
- b. **Radiographic Testing.** Radiographic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part E or AWS D1.5, Subsection 12.16, as applicable. Only film types designated as “fine grain” or “extra fine” shall be employed.
- c. **Magnetic Particle, Liquid Penetrant Testing.** Magnetic particle and liquid penetrant testing of welds shall conform to the applicable provisions of ASTM E 709 or AWS D1.5 Subsection 12.16, as applicable and in addition all magnetic particle testing of welds shall be made using the Wet Contrasting Black on White Method.

6. Acceptance Criteria:

- a. **Visual, Magnetic Particle and Liquid Penetrant Testing.** Welds shall be unacceptable if shown to have defects prohibited by AWS D 1.1/D 1.1M, Section 6, Part C. Visual, magnetic particle and liquid penetrant testing acceptance criteria shall be for the applicable criteria for either “Cyclically Loaded Nontubular Connections” or “Tubular Connections” per AWS D 1.1/D 1.1M, Table 6.1. Fracture critical welds shall be unacceptable if shown to have defects prohibited by AWS D 1.5/D 1.5M, Section 12. All welds shall be assumed in tension for the acceptance criteria for visual and the appropriate nondestructive testing method.
- b. **Ultrasonic Testing.** Ultrasonic acceptance criteria shall be the applicable criteria for either “Cyclically Loaded Nontubular Connections” or “Tubular Connections, Class R”. Fracture critical welds shall be unacceptable if shown to have defects prohibited by AWS D 1.5/D 1.5M, Section 12. All welds shall be assumed in tension for the acceptance criteria for visual and the appropriate nondestructive testing method.
- c. **Radiographic Testing.** Radiographic acceptance criteria shall be the applicable criteria for either “Cyclically Loaded Nontubular Connections (Tensile Stress)” or “Tubular Connections”. Fracture critical welds shall be unacceptable if shown to have defects prohibited by AWS D 1.5/D 1.5M, Section 12. All welds shall be assumed in tension for the acceptance criteria for visual and the appropriate nondestructive testing method.

7. Frequency of Testing:

The frequency specified is the minimum required. The design engineer shall determine the required frequency and include this information in the specifications and/or drawings. The design engineer shall also specify the locations of radiographic testing.

- a. **Visual Inspection.** All welds shall be visually inspected by a CWI to insure compliance with the requirements of the applicable AWS Welding Code. Prior to any welding, a CWI shall visually inspect the preparation of material for welding to assure compliance with the applicable AWS Code (D1.1 or D1.5) and approved WPS. The CWI shall also perform VT inspection throughout the welding process to assure compliance with the applicable AWS Code (D1.1 or D1.5) and approved WPS. All completed welds shall be cleaned free of oxide, flux, scale, or other foreign matter before inspection.
- b. **Full Penetration Welds.** Full penetration welds shall be examined by the Contractor using ultrasonic testing (UT) procedures described above. In addition to the full penetration welds specified for testing, a randomly chosen twenty-five percent (25%) of the remaining full penetration welds shall be ultrasonically tested to ensure the quality of the procedure and process. The random testing shall include a representative sample of welds from all welders and each of the processes each welder used. The random testing shall be spread throughout the project.
- c. **Full Penetration Butt Splice Welds.** All full penetration butt splices shall be examined using ultrasonic testing (UT) and radiographic testing (RT) procedures described above. These welds shall be defined in the specification or noted on the drawings.
- d. **Fillet Welds and Partial Penetration Groove Welds.** Fillet welds and partial penetration groove welds shall be examined by the Contractor using magnetic particle testing (MT) procedures described above. In addition to the fillet and partial penetration welds specified for testing, a randomly chosen twenty-five percent (25%) of the remaining fillet and partial penetration welds shall be magnetic particle tested to ensure the quality of the procedure and process. The random testing shall include a representative sample of welds from all welders and each of the processes each welder used. The random testing shall be spread throughout the project.

8. Compilation of Test Data for Submittal:

The results of the test and inspections shall be recorded in the MVN database as directed in Appendix. Samples of the reporting forms and instruction for each form are provided on the MVN SharePoint site; **Test Form Examples** and are described as follows. The latest forms should be referenced on the MVN SharePoint site and described in Appendices. All data is to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.**

- a. **MVNQW06** (Combined Weld Examinations). This form is to be used in reporting the inspection and testing of welded steel connections. Contract specifications shall govern the required compaction effort. The results shall be submitted electronically within 24 hours of the test.

Appendix A – Test Form Management

1. Report Numbering:

Each soil sample (location) is identified with a unique Test ID created by concatenating the Report No and Test No.

All soil sample locations will be reported on test forms with the same Report No and Test No throughout entire range of tests performed on that sample location. This is particularly important when reporting tests that contain 1 test per test form such as MVNQS03 (Sand Cone tests) and MVNQS02 (Compaction-Moisture Density Relationship).

It is also necessary to give the same Report No and Test No to each sample location for test form MVNQS06 (Unified Soil Classification System), MVNQS07 (Organic Content), and MVNQS10 (Field Density-Nuclear) which allow for entry of up to 5 soil samples. The soil tests included in a suite of tests allows for entry of 5 samples.

Examples of all forms are available on the SharePoint site for review.

2. Naming the Test Form Files:

Each file shall be named using the following convention:

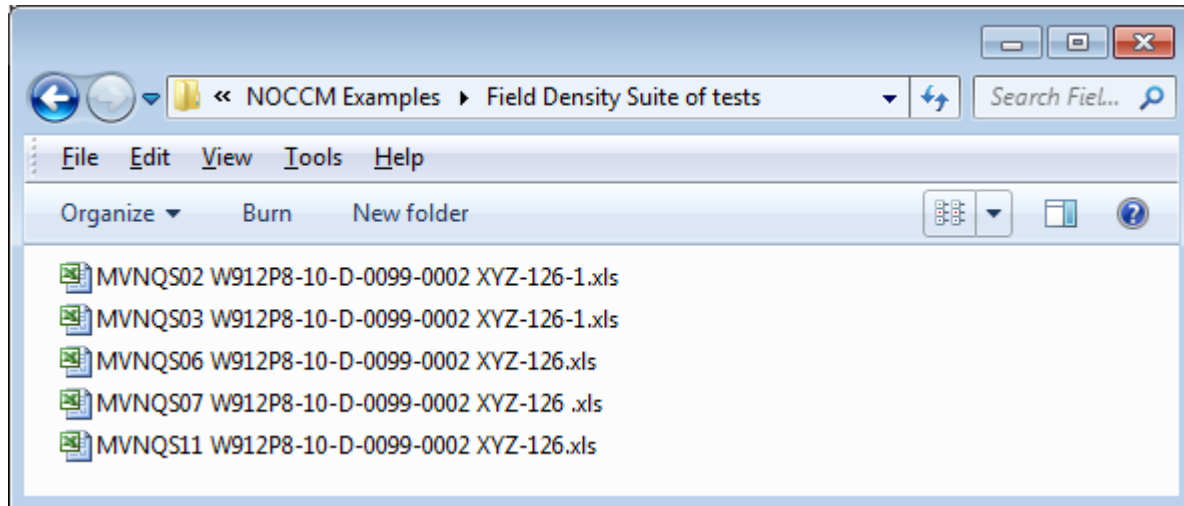
[Test Form Name][USACE Contract No][Report No][Test No (if necessary)]

Each part of the filename should be separated by a single space only, not a dash or other delimiter. Details of each portion of the filename convention are given below.

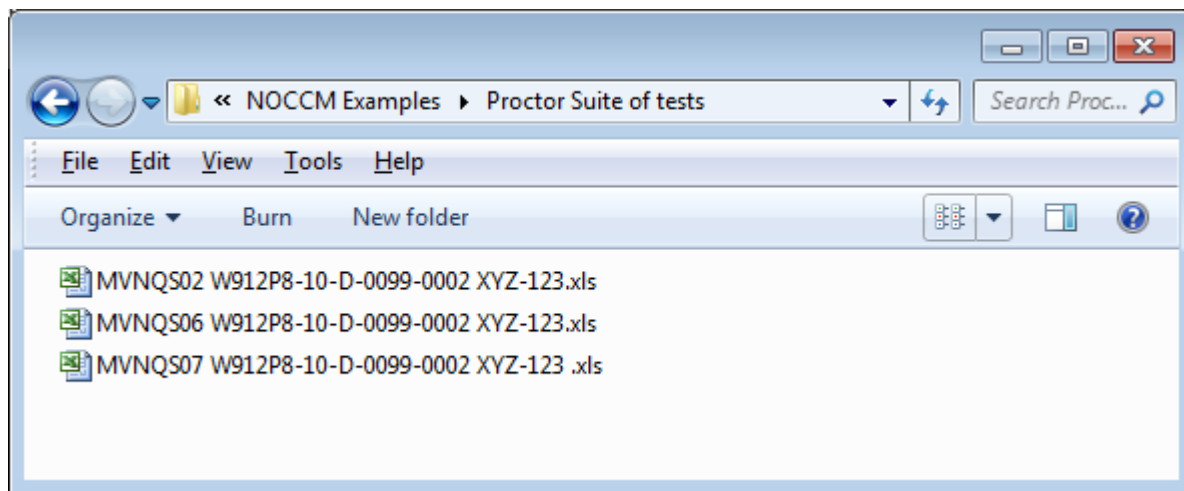
- **[Test Form Name]** is the name of the template MVNQ(C, S or W)##, for example MVNQS02. The variable letter are related to the type of test; C is for concrete, S is for soil and W is for Welds.
- **[USACE Contract No]** is the construction contract number. This must be the complete contract number including the task order if applicable. The contract numbers that contain a C or Z do not have task order numbers, whereas all contracts that contain a D have a task order number.
- **[Report number]** will be dependant on the labs report number system.
- **[Test No]** is only included in filename when necessary. This is applicable for tests reported 1 per form, as in the case of the exception listed below.

The exception to naming convention is dealing with forms that contain 1 test per test form such as MVNQS03 (Sand Cone tests), MVNQS02 (Compaction-Moisture Density Relationship) and MVNQS01 (Sieve Analysis). For these 3 Test Form types the file name will end with the Test No. The Test No is determined by the lab but should be unique to each soil sample and field location per Report No. See the Examples below for illustration of this.

Below is an example of file names for a suite of soil tests including 5 samples locations reported on a MVNQS11 (Field Density Nuclear) form, a MVNQS07 (Organic Content) form, a MVNQS06 (Unified Soil Classification System) form and a MVNQS03 (Field Density Sand Cone) form. These files are also the files included as example test forms on the SharePoint site. In this example The Report No is XYZ-126.



Below is another example for proctor data containing a MVNQS02 (Compaction-Moisture Density Relationship) test form, a MVNQS06 (Unified Soil Classification System) form and a MVNQS07 (Organic Content) form.



3. Submitting Test Forms:

All forms are to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing**. This is necessary since contract specifications require laboratory results to confirm compliance or failure before Contractor construction work can continue. Delays in submitting test results may result in construction delays that are to be avoided. Supporting documentation for tests should be submitted in PDF format with the same file naming convention. This completes the documentation record of data transfer to all parties.

4. How to Access USACE QACC SharePoint Site

In order to access the MVN Quality Assurance Control Center (QACC) SharePoint site each user must have an account. If a user does not have an account contact the MVN-CD Branch to receive a **USACE External Network Access Request** form. Once your account has been established you will have access to the QACC SharePoint site that contains MVNQ Test Form Templates, a QA Wiki, a QA Discussion area, a Shared Documents library, a Discrepancy Report library, and a library where completed test forms are to be uploaded; **Test Form**. The following is contact information for MVN-CD.

MVN-CD Phone;	(504) 862-2235
MVN-CD Email;	CEMVN-CD@Usace.Army.Mil
MVN-CD Public Webpage;	http://www.mvn.usace.army.mil/About/Offices/Construction.aspx
MVN QACC SharePoint;	https://partners.usace.army.mil/sites/MVN/QACC/default.aspx

5. Uploading test forms.

The exact procedure for uploading test forms to the MVN Quality Assurance Control Center (QACC) SharePoint is dependent on the computer system the user is using. Once an account has been established MVN-CD can assist each user individually by introducing the QACC system and going through the processes needed to upload test files and supporting documents. If at any point a user has questions please contact the MVN-CD-Q Branch for assistance.

Important notes before beginning the upload process; The QACC SharePoint site does have restrictions on characters (delimiters) that can be used for a file name. The following characters are not accepted by the QACC SharePoint site; \ / : * ? " < > | # { } % ~ &. If these characters are used, the QACC SharePoint site may lock up or give an error that indicates 'a nonexistent file'. If this occurs remove the delimiters used in the file name, upload the files again and verify that all files upload because this will stop the upload process for all the files. If it is determined that certain files did not upload repeat the upload process.

The second note is that the QACC SharePoint site will time out and requires logging back in after an extended time of inactivity. The QACC SharePoint site will not indicate it timed out until attempting to perform a function on the site. The site will return to the Log in screen. If this happens, the function previously being performed may not have been performed completely.

6. Revisions and Special Naming Considerations:

When resubmitting files with revisions, the same filename is to be used if possible. If a file is to be submitted to the QACC SharePoint site it is not necessary to include a revision indication in the file name, such as R1 or R2 in the filename. The test form revision should be judicated in the appropriate revision field on the form. The QACC SharePoint site does allow files to be uploaded to the **Test Form** library when the same file name exists. In general, the idea is to keep the filename as simple as possible and the same throughout the submittal and revision process. Do not add unnecessary details to the filename.

If more information is needed, see the Wiki or Discussion board on the MVN Quality Assurance Control Center (QACC) SharePoint. The QA managers are also available if there are other questions.

Appendix B - Material Testing Laboratory Requirements

1. Purpose:

All construction material testing laboratories used in support of the Contractor's Quality Control (QC) testing and the Government's Quality Assurance (QA) testing must receive validation by the Material Testing Center (MTC), Engineering and Research Development Center (ERDC), in Vicksburg Mississippi. This includes all Contractor and government on-site laboratories or commercial laboratories used either for QC or QA testing.

2. Applicability:

This procedure applies to all projects being managed by the New Orleans District for which testing of construction materials is conducted

3. References:

[ASTM E 329-06a, Agencies Engaged in the Construction Inspection and/or Testing](#)

[ER 1110-1-261 \(28 April 99\), Quality Assurance of Laboratory Testing Procedures](#)

[ER 1110-1-8100 \(31 Dec 97\), Laboratory Investigations and Testing](#)

Corps of Engineers Validated Laboratories;

Engineering Research and Development Center - Material Testing Center

<http://www.erd.c.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/9254/Article/476661/materials-testing-center.aspx>

New Orleans Construction Division Operating Manual (CDOM), 1 March 2002

4. Responsibilities:

The Administrative Contracting Officer (ACO) / Contracting Officer's Representative (COR) is responsible for ensuring that all testing laboratories used for QC or QA testing are on the electronic validated list for the tests to be performed and for requesting that New Orleans District coordinate as necessary to pursue validation of a desired laboratory.

5. Procedures:

After award, the Contractor submits a QC Plan which delineates the scope of the testing program and identifies the testing laboratory (s) proposed specific tests. Contract specific Quality Assurance Plans will include requirements for QA verification testing by a Corps validated laboratory.

The Administrative Contracting Officer (ACO) / Contracting Officer's Representative (COR) will ensure that the QC laboratory is independent of the QA laboratory and will work with the Contractor if necessary to select another laboratory for QC or QA testing. The QC plan will

reflect the selected laboratories. If the laboratory proposed by the Contractor is not a currently validated lab, then the Administrative Contracting Officer (ACO) / Contracting Officer's Representative (COR) will notify the Contractor and request an inspection of the selected laboratory coordinated by MVN-CD-Q in accordance with the procedures described in Construction Division's Operating Manual (CDOM). For planning purposes, the validation process may require a period of six months to complete.

Briefly, the MTC validation process is described as follows:

Validation of a laboratory may consist of either (1) an inspection of the laboratory and their processes or (2) an audit of inspection reports and other documentation furnished by other validating agencies or organizations.

MTC will perform inspections in accordance with ASTM E 329 and applicable tests in ER 1110-2-1906 or tests required by project specifications.

The MTC may validate a laboratory if it has been accredited by the Concrete and Cement Reference Laboratory (CCRL) or AASHTO Materials Reference Laboratory (AMRL) within the past two years using ASTM E 329. Inspection by the MTC may be required after auditing if one or more of the critical testing procedures required in the project specifications were not included in the CCRL or AMRL inspection report or if there is any question that the laboratory may not be able to provide the required services for the specified tests.

More information about the validation process is available at the following:

Phone; (601) 634-3123

Email; MTC-info@usace.army.mil

Public Website;

<http://www.erdc.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/9254/Article/476661/materials-testing-center.aspx>

6. Records:

Records demonstrating laboratory validation will be maintained by MTC web site for the most current laboratory listing.

Appendix C - Filling Out Test Form Templates

1. Test Form Templates:

The latest Construction Material Testing report forms are located at the following locations:

Navigate to the **MVNQ Test Form Template** library to download the most up to date forms.

<https://partners.usace.army.mil/sites/MVN/QACC/TFT/Forms/AllItems.aspx>

For access to the Extranet SharePoint site, follow procedures in Appendix A or contact the MVN Construction Division Quality Branch. Once access is granted, reference the Extranet SharePoint site to download the latest test form templates in the MVNQ Test Form Template library, as they are periodically updated and/or revised. Failure to submit the latest version of the test form template will prevent data from being loaded into the QACC database. The rejected form will be required to be resubmitted on the proper test form template.

The Test Form Examples library on the SharePoint site provides guidelines for completing several of the test form templates. Further information, definition and updates can be found in the MVNQTERMS documents and the QACC Wiki located on the Extranet SharePoint site.

On all forms, the Sample Date is defined as the date the test was performed in the field and not the date the sample was tested in the lab. Please use the Remarks section on each form for any comments that pertain to the tests performed. Comments may include items such as: meet specs, meet specs of xx% (for different types of material, say embankment is 90% compaction and trench is only 85%), in-situ material, failing tests reported to John Smith, etc. There is no such thing as too much detail or information.

This reporting and submittal system is to be used for all Corps of Engineers work in the MVN division.

2. MVNQ Terms Document:

The MVNQ Terms document located on the Extranet SharePoint site provides a list of terms that are referenced directly from the MVNQ Test Forms. This document will define the terms used on the MVNQ Test Forms, and in some cases, provide examples of the information needed in associated cells. If there is a term that is not provided, an error or a term that is not defined clearly please contact a QA Manager.

C-1 List of Forms

Form Name	Procedure(s)	Form ID
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Soil Testing Forms

#200 Wash and Sieve Analysis	ASTM C 117- C136	MVNQS01
Lab Compaction of Soil Standard Effort	ASTM D 698	MVNQS02
Density by Sand Cone	ASTM D 1556	MVNQS03
Unconfined Compression Strength	ASTM D 2166	MVNQS05
Classification of Soils – USCS	ASTM D 2487	MVNQS06
Moisture, Ash and Organic Matter of Soils	ASTM D 2974	MVNQS07
Moisture Content Determination	ASTM D 2216-4643	MVNQS09
In-place Density and Moisture of Soils	ASTM D 6938	MVNQS11
Field Density (Relative Density) - Nuclear Method	ASTM D 6938	MVNQS12

Concrete Forms

Concrete Compression Test	CCT	MVNQC01
Concrete Field Test	CFD	MVNQC02

Welding Forms

Welds – LIQUID	MVNQW06
Welds - MAGNETIC	MVNQW06
Welds - RADIO	MVNQW06
Welds - UT	MVNQW06
Welds - VISUAL	MVNQW06

Contractor Quality Control

attachments

....follow this page....

CONTRACTOR QUALITY CONTROL PLAN

Contract No. W912P8-__-__-__

Project Name: _____

Contractor: _____

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8.0 Quality Control Program

9.0 Forms

1.0 COMPANY POLICY

_____ Construction, Corp. considers quality control to be an inherent safeguard to ensure quality work and to guarantee that all work is done according to the contract documents in a professional manner. Noncompliance with plans and specifications must be detected promptly, and proper action taken to assure that this policy is a viable tool in monitoring the work.

2.0 PLAN PURPOSE

It is the intent of this Quality Control Plan (QCP) to establish and explain how this construction corporation plans to organize, control, and review all activities according to the plans and specifications provided by the U. S. Army Corps of Engineers with regard to quality for the above reference project. The plans primary purposes are to provide for the level of construction quality required by strict accordance with the plans and specifications.

3.0 QUALITY CONTROL ORGANIZATION

3.1 CQC System Manager

The CQC System Manager (CQCM) has front line responsibility for quality control. He will become thoroughly familiar with all aspects of the project and ultimately inspect all work to ensure quality is being maintained by all craftsmen, vendors and subcontractors. The CQCM is ultimately responsible for inspecting, documenting, and reporting to the contracting officer all aspects of the work described and detailed in the plans and specifications. He is responsible for implementing and enforcing the Quality Control Plan. His duties include, but are not limited to:

- a. Implementation of the 3-phase control system for all definable features of work.
- b. Day-to-day inspection of the work.
- c. Daily on site documentation
- d. Ensure that all in-place work meets or exceeds all minimum standards set forth in the plans and specifications.
- e. Detect discrepancies or problems on site and immediately bring the same to

the attention of the Contracting Officer's Representative, as should be necessary.

f. Preparation and review of submittals and certification of submittals prior to submission.

g. Maintain document control.

h. Maintain As-built conditions.

i. Interface with the owner and outside agencies as required.

The CQCM proposed for this project is _____. See section 4.0 for a copy of his resume'.

3.2 CQC System Manager Alternate

The CQC system manager alternate will assume responsibilities for all aspects of quality control as required by our Quality Control Plan and the Contract Documents should the CQCM not be able to perform his duties. The CQC system manager alternate for this project is _____.

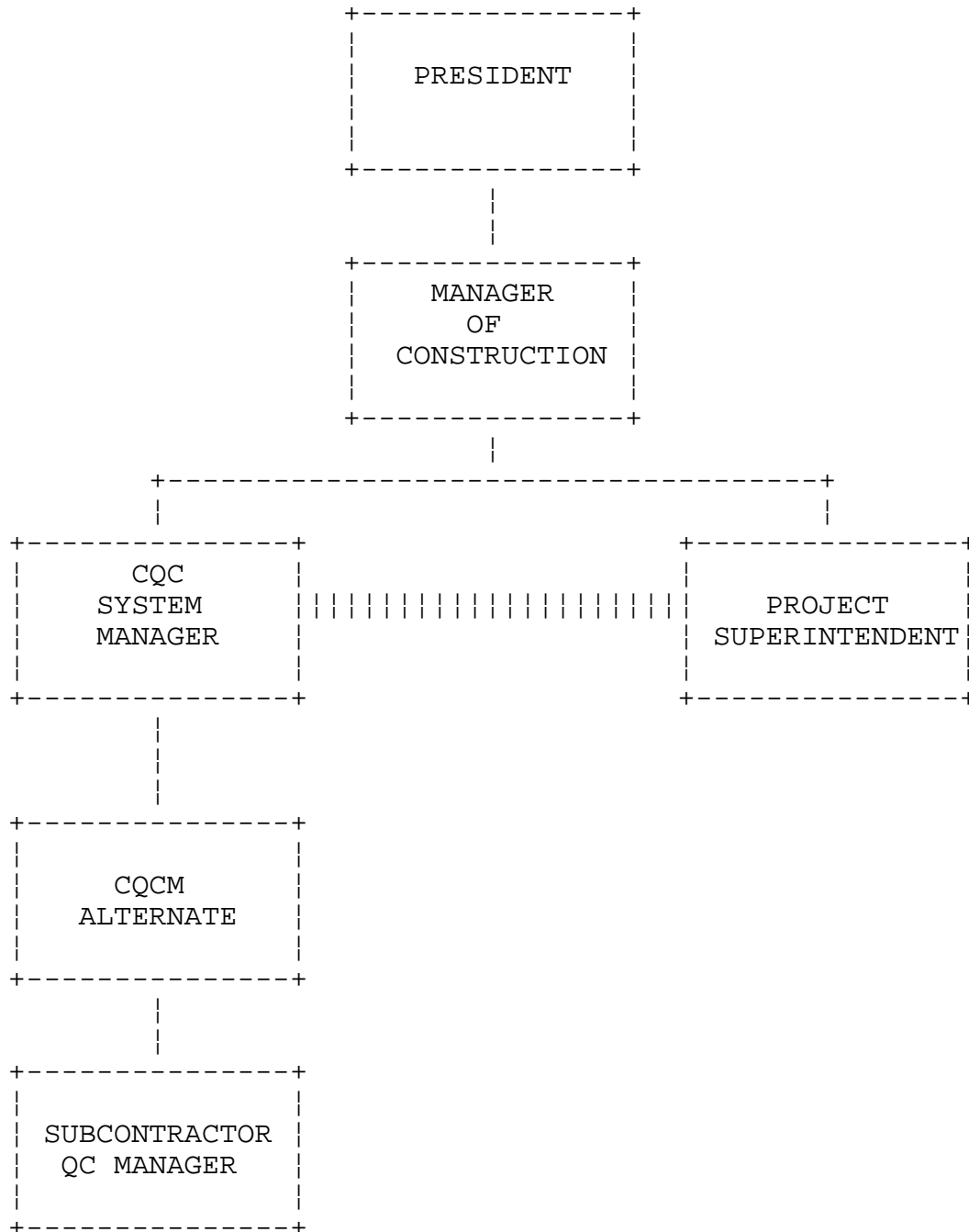
3.3 Manager of Construction

The Manager of Construction for this corporation is based in the home office in _____ and has a major responsibility for quality control through a supervisory role of the CQCM. The Manager of Construction will at all times keep the field forces focused on the company's commitment to quality in all phases of the work. The Manager of Construction will make routine visits to the site of work. The Manager of Construction for this company is _____.

4.0 RESUME OF PERSONNEL

Attached are resumes of all personnel in the above described organization. The Contracting Officer's approval will be requested before any staff changes occur, if they should become necessary.

**QUALITY CONTROL
ORGANIZATIONAL CHART**
CONTRACT NO. W912P8-__-__-__



4.1 Resume' of _____, CQC System Manager

Personal Data and Education

Date of Birth:

Residence:

Graduate of:

Completed courses in:

Professional Experience

4.2 Resume' of _____, CQCM Alternate

Personal Data and Education

Date of Birth:

Residence:

Graduate of:

Completed courses in:

Professional Experience

4.3 Resume' of _____, Manager of Construction

Personal Data and Education

Date of Birth:

Residence:

Graduate of:

Completed courses in:

Professional Experience

5.0 DESIGNATION OF CQC SYSTEMS MANAGER

(Contractor)

Date

Mr. _____

(Mailing Address)

SUBJECT: Contract No. W912P8-__-__-____
(Project Name)

Mr. _____:

This letter is to designate you as the Contract Quality Control Systems Manager for the subject project. In this capacity, you will be responsible for all aspects of quality control as required by our Quality Control Plan and the Contract Documents. You have complete authority to implement these programs including authorization to stop work which fails to comply with the requirements of the Contract Documents.

Sincerely,

_____, President

6.0 DESIGNATION OF CQC SYSTEM MANAGER ATERNATE

(Contractor)

Date

Mr. _____

(Mailing Address)

SUBJECT: Contract No. W912P8-__-__-_____
(Project Name)

Mr. _____

This letter is to designate you as the Quality Control System Manager Alternate for the subject project. Should for any reason Mr. _____ not be able to perform his duties as CQCM, you will assume responsibility for all aspects of quality control as required by our Quality Control Plan and Contract Documents. To enable you to fulfill this responsibility, you have complete authority to implement these programs including authorization to stop work which fails to comply with the requirements of the Contract Documents.

Sincerely,

_____, President

7.0 PROCEDURES

7.1 Scheduling and Managing Submittals.

The CQCM will be the submittal manager. The CQCM has full authority to act for the firm in all submittal matters. His responsibilities include scheduling, review, updating and any submittals required from subcontractors.

Within 7 days of the Notice to Proceed, the CQCM will complete the submittal register contained in Section 01300 and submit to the Contracting Officer 4 copies for approval. Contractor schedule dates will be coordinated with the progress schedule and shall reflect 30-day minimum period for review and approval.

The CQCM will review the submittal register a minimum of every 10 days. The submittal register will be utilized to plan and monitor submittal progress so as to ensure timely approval of methods/materials prior to their scheduled need times. The submittal register will be available for inspection by the Contracting Officer at all times. An updated submittal register will be forwarded to the CO at 60-day intervals or as requested.

The CQCM will review the submittal register during preparatory phase of quality control to ensure that all submittals for the ensuing feature of work are approved and will take action to correct any deficiencies in submittal requirements.

All submittals required by the specifications or as needed for approval of deviation will be submitted by the CQCM in original and 4 copies utilizing ENG form 4025 in accordance with submittal register schedule dates or sooner. Prior to submittal, all shop drawings, data, samples, certifications, and test reports will be reviewed by the CQCM to ensure compliance with the contract requirements. Corrections and revisions will be requested where necessary.

7.2 Control Testing

7.2.1 Test List - A listing of all tests indicated in the contract specifications and additional tests as needed to establish quality control will be incorporated in the Contractor Quality Control Program found in section 8.0 of this plan. This listing will include the name of the test, specification para. number, feature of work tested, responsible person, and frequency.

7.2.2 Testing Facilities - The proposed testing lab for use on this project is:

_____ Testing Laboratories
PO Box _____
_____, LA _____

If required, a resume' of _____ facilities and personnel qualifications will be furnished to the Contracting Officer.

7.2.3 Test Records - All testing activities will be recorded on the CQC report, indicating the name of the test performed, specification paragraph reference, and

location performed. Results of the tests will be recorded on the daily CQC report or attachments. Actual test reports will be furnished promptly to the Contracting Officer as directed by the specifications.

7.3 Inspection

7.3.1 Materials - The CQCM will inspect all material/equipment deliveries for: (1) compliance with approved submittals, (2) damage, (3) correct dimensions and quantities, and (4) required labeling and documentation. The Contracting Officer will be notified of any materials/equipment failing to meet requirements. A record of inspection will be noted in the CQC report and any necessary corrective action will be initiated. Proper storage will be checked.

7.3.2 Off-Site Inspection - The CQCM will inspect manufacturing facilities and material sources as specifically directed by the specifications. Additional inspections will be conducted as necessary to ensure compliance with the specifications. The CQCM will record off-site surveillance activities in the CQC report. Where instances of noncompliance are observed, corrective action will be initiated.

7.3.3 On-Site Inspection - Each craftsman will be charged with the responsibility of performing his or her work in a workman like manner and continually striving for the highest degree of quality. Only craftsman who exhibit an ability to perform and desire to achieve quality will be employed.

The CQCM will routinely and continually inspect the work for compliance with contract documents. His duties, as outlined in 3.1 above, are for the purpose of maintaining and documenting the work as required to achieve a high degree of quality.

The Contract Quality Control Program outlined in paragraph 8.0 of this plan will provide an outline for the CQCM with regard to all definable features of the work. The CQCM's inspection of these work features will be accomplished through implementation of the 3-phase control procedure outline in para 7.4.

7.3.4 Completion Inspection - After completion of all work, the CQCM will conduct a completion inspection of all work features. A punchlist will be developed to identify all items which are not in compliance with the specifications and drawings. The CQCM will establish a date by which each deficiency will be corrected and note such date on the punchlist. A follow-up inspection will be conducted to verify completion of all punchlist items. The completion inspection and any resulting corrective action will be accomplished within the contract performance period. The Contracting Officer will be notified upon completion of the punchlist and corrective work. The punchlist will be made part of the Quality Control documentation by attachment to the CQC report.

7.4 Control Procedures

A 3-phase control system shall be implemented by the Quality Control staff to ensure that construction, including subcontractors and suppliers, complies with the requirements of the contract documents. This system of management will address each definable feature of work beginning with early planning stage requirements and ending with the finished work. Each phase will allow the opportunity to prevent problems and deficiencies and ensure that the accident prevention program is implemented. The 3 control phases are outlined in para 7.4.1 thru 7.4.3.

7.4.1 Preparatory Phase - This phase will be performed prior to beginning work on each definable feature of work. This phase will be conducted at a meeting involving the CQCM/Project Superintendent, QA personnel, and the foreman involved in the particular work feature. The Contracting Officer will be notified 48 hours in advance of the preparatory phase. This phase will include:

- a. A review of the applicable section of the specifications and contract drawings. (review specs)
- b. A review of the submittal register to ensure that all required submittals are submitted and approved. Take corrective action when necessary. Submittal data will be discussed to acquaint all team members with technical aspects and points particular to the work feature. (review submittals)
- c. A check to ensure that materials and equipment are in compliance with approved submittals and specifications. Verify that required materials/equipment are on hand and properly stored. (check material)
- d. Verify that preliminary work is completed.
- e. Review control testing requirements and verify that testing facilities are approved. Verify that necessary provisions are made for testing. (review testing)
- f. A consensus will be reached on planned construction procedures and the required level of quality expected from the CQCM in order to meet contract specifications. (set standards)
- g. Review appropriate Activity Hazard Analysis to assure safety requirements are met. The CQCM will inspect all equipment to ensure that minimum requirements for safety provisions in accordance with EM 385-1-1 and applicable regulations are met. (safety check)
- h. The above described activities will be documented on the COE form

"Preparatory Phase Checklist". This form will be attached to the CQC report and furnished to the Contracting Officer. Problems and deficiencies apparent during the preparatory phase and corrective action initiated will be noted in this report.

7.4.2 Initial Phase - This phase is performed once a representative portion of work has taken place for each definable feature of work and will be conducted at a meeting involving the CQCM/Project Superintendent and foreman involved in the particular work feature. The Contracting Officer will be notified 48 hours in advance of this phase. Initial phase will include:

- a. A check to ensure that preliminary work is completed.
- b. Verify that materials/equipment and construction procedures are in compliance with the contract documents.
- c. Review control testing requirements.
- d. Set standards of quality required to meet contract specifications.
- e. Review the Activity Hazard Analysis to ensure safety requirements are met. Check equipment for safety provisions.
- f. The above described activities will be documented on the COE form "Initial Phase Checklist". This form will be attached to the CQC report and furnished to the Contracting Officer. Problems and deficiencies apparent during the initial phase and corrective actions initiated will be noted in this report. The initial phase will be repeated any time the CQCM feels that quality standards and safety requirements must be reinforced.

7.4.3 Follow-Up Phase - This phase is accomplished through the daily inspections by the CQCM, also through performance of the required control testing. Follow-up phase efforts will ensure a continuation of quality and safety standards established during preparatory and initial phases until completion of the work feature. The CQCM's follow-up phase activities, including deficiencies noted, corrective action taken, and control testing results will be recorded in the daily CQC report.

7.5 Reporting and Documentation

The CQCM will maintain records of all quality control activities including documentation of control testing and inspection, and maintain integrity of the contract documents through use of the following described forms and procedures. Additional reports will be formulated or added as needed.

7.5.1 Daily Record - The CQCM will utilize the COE furnished forms titled "*Contractor Quality Control CQC Form*" to record daily control activities and resources used, work performed, and other data indicated on this form. The original and two copies will be furnished to the Contracting Officer within 12 hours of the reporting date. The CQCM will maintain copies for his files. Test reports will be included in the CQC report.

7.5.2 Control Phase Checklists - The CQCM will utilize the COE furnished forms entitled "*Preparatory Phase Checklist*" and "*Initial Phase Checklist*" to document these control phase activities. Original and two copies will be attached to the CQC report for the date on which the control phase is completed. A log will be posted at the jobsite office in chart form to record the dates on which preparatory and initial phases were completed for each definable feature of work so as to allow easy verification of control activities.

7.5.3 Tracking Construction Deficiencies - The form for tracking construction deficiencies is the Deficiency Report (DR). A DR can be issued by the CQCM/Project Superintendent or Manager of Construction. All DR's shall be kept and updated by the CQCM. The DR log will be available for inspection by the Contracting Officer. See attached forms for the example of a DR.

The DR tracking log will be in chart form and bound in a log book maintained on site. See attached example of the deficiency report tracking log. The DR log book is available for inspection by the Contracting Officer at all times.

A construction deficiency for the purposes of this plan is defined as:

1. An occurrence in which defective work or work lacking some essential part has been covered or is otherwise left as complete.
2. Products are furnished to the site or incorporated into the work which do not meet the conditions of the contract documents.
3. Inspection points or contract requirements affecting quality of the work that have not been met. Minor defects in work on which construction is underway is not to be considered a Construction Deficiency.

7.5.4 Contract Document Control - The CQCM will maintain a record in log form of the most up-to-date documents issued for construction and adjustments. No contract documents will be replaced or revised without receipt of a modification or direction from the Contracting Officer. The CQCM will maintain As-Built contract drawings.

7.6 Changes to the CQC Plan - Periodically, and at least once weekly, the CQCM

will review the CQC plan with the possible need for changes in mind. During the course of work on this contract, it is reasonable to expect the need for some changes to arise. When they do, the QC Manager will incorporate these changes in the form of written amendments and copies will be furnished to the Contracting Officer.

8.0 QUALITY CONTROL PROGRAM

(Sample only, this is done for each definable feature of work)

**Q. C. ACTIVITIES & TESTING REQUIREMENTS
FOR DEFINABLE FEATURES OF WORK**

CONTRACT W912P8-__-__-__

Definable Feature: Cast In-Place Structural Concrete
Section 03301

Definable Feature		Submittal	Quality Control Activities		
Description	Spec. Para.	Req'd	Description of Observation Procedure or Test Required	Freq.	Remarks
Concrete - Grout, Water	03301-15.1.4.1 03301-15.5.1.6	Submittal Register	Grout certificate, equipment & method used, & source of mixing & curing water	Once prior to placement	
Concrete - Finishing Formed Surfaces	03301-12.2	QC Report	Visually inspect all finishing is started within 24 hours of form removal, tie rod holes & defective concrete voids and honeycombs are filled properly, smooth surface	After each placement	
Concrete - Fine Aggregate	03301-15.2.1.1	QC Report	Sieve analysis and fineness modulus determination	At least once each delivery	Testing by _____ Laboratory
Concrete - Coarse Aggregate	03301-15.2.2	QC Report	Sieve Analysis	At least once each delivery	Testing by _____ Laboratory
Concrete - Moisture Test	03301-15.2.2.2	QC Report	Test for moisture content for each size coarse aggregate	At least once each delivery	Testing by _____ Laboratory
Concrete - Mixer Uniformity	03301-15.2.12	QC Report	Uniformity of concrete determined in accordance with ASTM C 94.	Prior to concrete placement & 1/ 6 mo	

**Q. C. ACTIVITIES & TESTING REQUIREMENTS
FOR DEFINABLE FEATURES OF WORK**

CONTRACT W912P8-__-__-__

Definable Feature: Cast In-Place Structural Concrete
Section 03301

Definable Feature		Submittal	Quality Control Activities		
Description	Spec. Para.	Req'd	Description of Observation Procedure or Test Required	Freq.	Remarks
Concrete	03301-5.3	Submittal Register	Submit batch plant details, mixer details, conveying methods and equipment, placing, joint clean-up, curing, and weather requirements	once 14 days prior to placement	
Concrete	03301-3.1.1	Submittal Register	Submit 500 lb sample of aggregate to Waterway Experiment Station for testing if an approved supplier is not used	Once prior to concrete placement	
Concrete	03301-5.1.1	Submittal Register	Submit concrete mixture proportion	Once	
Concrete - Materials	03301-5.1.2	Submittal Register	Submit cement cert. of compliance	Once	Testing by supplier or _____ Lab
	03301-5.1.5		Submit sieve analysis for aggregates		
	03301-5.2.3		Submit air-entraining agent cert. of compliance		
	03301-5.2.5		Submit curing compound cert. of compliance		

**Q. C. ACTIVITIES & TESTING REQUIREMENTS
FOR DEFINABLE FEATURES OF WORK
CONTRACT W912P8-__-__-__**

Definable Feature: Cast In-Place Structural Concrete
Section 03301

Definable Feature		Submittal	Quality Control Activities		
Description	Spec. Para.	Req'd	Description of Observation Procedure or Test Required	Freq.	Remarks
Concrete - Placement Preparations	03301-15.2.7	QC Report & LMV Form 1246	Visually & Measure as needed, prior to placement, foundations, const. joints, forms, embedded items, etc., to verify that concrete placement OK	Prior to placement	
Concrete - Air Content	03301- 15.2.6.1	QC Report	Test Concrete for air content	Twice per day	Use _____ Laboratory
Concrete - Slump	03301- 15.2.5.2	QC Report	Test Concrete slump	Twice per day	Use _____ Laboratory
Concrete - Placement	03301-15.2.8	QC Report	Visually inspect placement operations to verify proper equipment, methods, time interval, temp., yardage placed, & placement method	Each Placement	
Concrete - Curing	03301-13.2,4	QC Report	Inspect all surfaces subject to moist curing & impervious sheet curing	At least once/day	Including weekend/hol.
Concrete - Curing	03301-13.3	QC Report	Assure that curing compound is mixed properly, & meets minimum pressure and coverage requirements	After removal of forms	Measure & visual
Concrete - Vibration	03301-15.2.9	QC Report	Test frequency and amplitude of vibrator	Prior to 1st use & 1/month	

9.0 FORMS

CONTRACTOR QUALITY CONTROL (CQC) FORM

Contractor's Name

Daily Report No: _____

Date: _____

Contract No: W912P8-__-__-__

Project Title and Location: _____

Weather: _____ Rain: ____in. Temp: ____Min. ____ Max.

1. Contractor/Subcontractors and Area of Responsibility:

NUMBER	TRADE	HOURS	EMPLOYER	LOCATION/DESCRIPTION

2. Operating Plant of Equipment. (Not hand tools)

PLANT/ EQUIPMENT	DATE OF ARRIVAL/ DEPARTURE	LEASED/ OWNED L OR O	DATE OF SAFETY CHECK	HOURS USED	HOURS IDLE	HOURS REPAIR

CQC Report Form (Cont'd)

3. Work performed today: (Indicate location and description of work performed by prime and/or subcontractor by letter in table above.)

4. Results of control activities: (Indicate whether P - preparatory, I - Initial, or F - Follow-up Phase. When a P or I meeting is conducted, complete appropriate forms, attached.)

5. Test performed as required by plans and/or specifications:

6. Materials received:

CQC REPORT FORM (CONT'D)

7. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action

8. Off-site surveillance activities, including action taken:

9. Job Safety: (Report violations; Corrective instructions given, taken.)

10. Environmental Protection: (Report violations; Corrective instructions given, taken.)

11. Remarks: (Instructions received or given. Conflicts in Plans and/or Specifications.)

Contractor's Verification: On behalf of the contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the plans and specifications, to the best of my knowledge, except as noted above.

Authorized CQC System Manager

Date

PREPARATORY PHASE CHECKLIST FORM

Contract No.: W912P8-__ - __

Date: _____

Definable Feature:

Government Representative Notified 48 Hours in Advance

Yes____ No ____

I. Personnel Present:

Name	Position	Company/Government

(List Additional Personnel on reverse side)

II. Submittals

1. Review Submittals and/or submittal log 4288. Have all submittals been approved? Yes____ No____

If No, what items have not been submitted?

a.

b.

c.

2. Are all materials on hand? Yes____ No____

If No, what items are missing?

a.

b.

c.

PREPARATORY PHASE CHECKLIST FORM (CONT'D)

3. Check approved submittals against delivered material. (This should be done as material arrives.) Comments:

III. Material storage

Are materials stored properly? Yes___ No___

If No, what action will be taken?

IV. Specifications:

1. Review each paragraph of specifications.

2. Discuss procedure for accomplishing the work. (Include labor and equipment to be used)

3. Clarify any differences from specifications.

V. Preliminary Work - Ensure preliminary work is correct.

If not, what action will be taken?

PREPARATORY PHASE CHECKLIST FORM (CONT'D)

VI. Testing

1. Identify test to be performed, frequency and by whom.

2. When required?

3. Where required?

4. Review Testing Plan.

VII. Safety

1. Review applicable portion of COE EM 385-1-1.

2. Activity Hazard Analysis Approved? Yes___ No___

3. All equipment checked and checklists recorded? Yes___ No___
If not, what action will be taken?

VIII. Corps of Engineers comments during meeting.

CQC Representative

INITIAL PHASE CHECKLIST FORM

Contract No.: W912P8-__-__-__

Date: _____

Definable Feature:

Government Representative Notified 48 Hours in advance Yes___ No___

I. Personnel Present:

Name	Position	Company/Government

(List Additional Personnel on Reverse Side)

II. Is work in full compliance with plans, specifications and submittals. Are procedures and quality control measures being used acceptable.

INITIAL PHASE CHECKLIST FORM (CONT'D)

III. Preliminary work. Ensure preliminary work is complete and correct. If not, what action will be taken?

IV. Establish Level of Workmanship.

1. Where is work located?

2. Quantity of work performed?

3. Is a sample panel required? Yes___ No___

4. Will the initial work be considered as a sample? Yes___ No___

V. Are standards of acceptance mutually agreed upon? Resolve any differences.

VI. Check Safety.

Review job condition using COE EM 385-1-1 and job hazard analysis. Comments:

CQC Representative

DEFICIENCY REPORT

Contract No.: W912P8-__-__-__

DCR NO.: _____

Project

Name: _____

Contractor:

Description of Deficiency:

Sketch Attached: Yes___ No___

Issued By: _____ Date: _____

Approved and Logged By: _____ Date: _____

CQCM

~~~~~

Planned Corrective Action:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CO or Representative: \_\_\_\_\_ Date: \_\_\_\_\_

CQCM: \_\_\_\_\_ Date: \_\_\_\_\_

Corrective Action Implemented: \_\_\_\_\_ Date: \_\_\_\_\_

Project Super.

Corrective Action Inspected: \_\_\_\_\_ Date: \_\_\_\_\_

CQCM

# DEFICIENCY REPORT TRACKING LOG

Contract No. W912P8-\_\_-\_\_-\_\_\_\_

| DR<br>NUMBER | DATE<br>ISSUED | ISSUED<br>BY<br>(Initial) | WORK FEATURE<br>(See DR Report<br>for details) | DATE<br>CORRECTED | DATE<br>INSPECTED | INSPECTOR<br>(INITIAL) |
|--------------|----------------|---------------------------|------------------------------------------------|-------------------|-------------------|------------------------|
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |
|              |                |                           |                                                |                   |                   |                        |



*Contractor Quality Control*

*attachments*

*....follow this page....*

# CONTRACTOR QUALITY CONTROL PLAN

Contract No. W912P8-\_\_-\_\_-\_\_

Project Name: \_\_\_\_\_

Contractor: \_\_\_\_\_

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    - 7.5.4 Contract Document Control
    - 7.5.5 Changes to the CQC Plan

## 8.0 Quality Control Program

## 9.0 Forms

## 1.0 COMPANY POLICY

\_\_\_\_\_ Construction, Corp. considers quality control to be an inherent safeguard to ensure quality work and to guarantee that all work is done according to the contract documents in a professional manner. Noncompliance with plans and specifications must be detected promptly, and proper action taken to assure that this policy is a viable tool in monitoring the work.

## 2.0 PLAN PURPOSE

It is the intent of this Quality Control Plan (QCP) to establish and explain how this construction corporation plans to organize, control, and review all activities according to the plans and specifications provided by the U. S. Army Corps of Engineers with regard to quality for the above reference project. The plans primary purposes are to provide for the level of construction quality required by strict accordance with the plans and specifications.

## 3.0 QUALITY CONTROL ORGANIZATION

### 3.1 CQC System Manager

The CQC System Manager (CQCM) has front line responsibility for quality control. He will become thoroughly familiar with all aspects of the project and ultimately inspect all work to ensure quality is being maintained by all craftsmen, vendors and subcontractors. The CQCM is ultimately responsible for inspecting, documenting, and reporting to the contracting officer all aspects of the work described and detailed in the plans and specifications. He is responsible for implementing and enforcing the Quality Control Plan. His duties include, but are not limited to:

- a. Implementation of the 3-phase control system for all definable features of work.
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- e. Detect discrepancies or problems on site and immediately bring the same to

the attention of the Contracting Officer's Representative, as should be necessary.

f. Preparation and review of submittals and certification of submittals prior to submission.

g. Maintain document control.

h. Maintain As-built conditions.

i. Interface with the owner and outside agencies as required.

The CQCM proposed for this project is \_\_\_\_\_. See section 4.0 for a copy of his resume'.

### 3.2 CQC System Manager Alternate

The CQC system manager alternate will assume responsibilities for all aspects of quality control as required by our Quality Control Plan and the Contract Documents should the CQCM not be able to perform his duties. The CQC system manager alternate for this project is \_\_\_\_\_.

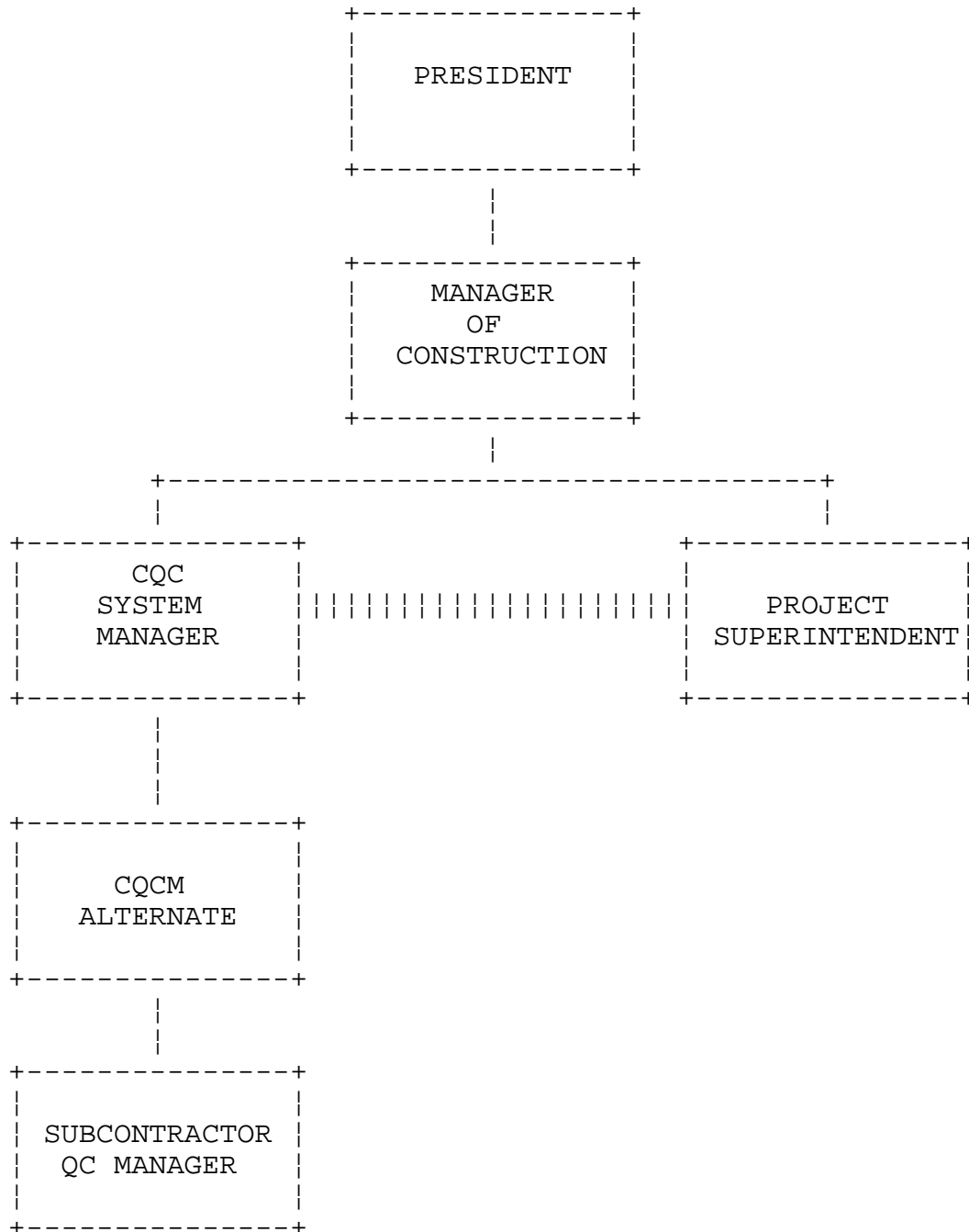
### 3.3 Manager of Construction

The Manager of Construction for this corporation is based in the home office in \_\_\_\_\_ and has a major responsibility for quality control through a supervisory role of the CQCM. The Manager of Construction will at all times keep the field forces focused on the company's commitment to quality in all phases of the work. The Manager of Construction will make routine visits to the site of work. The Manager of Construction for this company is \_\_\_\_\_.

## 4.0 RESUME OF PERSONNEL

Attached are resumes of all personnel in the above described organization. The Contracting Officer's approval will be requested before any staff changes occur, if they should become necessary.

**QUALITY CONTROL  
ORGANIZATIONAL CHART**  
**CONTRACT NO. W912P8-\_\_-\_\_-\_\_**



4.1 Resume' of \_\_\_\_\_, CQC System Manager

Personal Data and Education

Date of Birth:

Residence:

Graduate of:

Completed courses in:

Professional Experience

4.2 Resume' of \_\_\_\_\_, CQCM Alternate

Personal Data and Education

Date of Birth:

Residence:

Graduate of:

Completed courses in:

Professional Experience

4.3 Resume' of \_\_\_\_\_, Manager of Construction

Personal Data and Education

Date of Birth:

Residence:

Graduate of:

Completed courses in:

Professional Experience

5.0 DESIGNATION OF CQC SYSTEMS MANAGER

(Contractor)

Date

Mr. \_\_\_\_\_

(Mailing Address)

SUBJECT: Contract No. W912P8-\_\_-\_\_-\_\_\_\_  
(Project Name)

Mr. \_\_\_\_\_:

This letter is to designate you as the Contract Quality Control Systems Manager for the subject project. In this capacity, you will be responsible for all aspects of quality control as required by our Quality Control Plan and the Contract Documents. You have complete authority to implement these programs including authorization to stop work which fails to comply with the requirements of the Contract Documents.

Sincerely,

\_\_\_\_\_, President

## 6.0 DESIGNATION OF CQC SYSTEM MANAGER ATERNATE

(Contractor)

Date

Mr. \_\_\_\_\_

(Mailing Address)

SUBJECT: Contract No. W912P8-\_\_-\_\_-\_\_\_\_\_  
(Project Name)

Mr. \_\_\_\_\_

This letter is to designate you as the Quality Control System Manager Alternate for the subject project. Should for any reason Mr. \_\_\_\_\_ not be able to perform his duties as CQCM, you will assume responsibility for all aspects of quality control as required by our Quality Control Plan and Contract Documents. To enable you to fulfill this responsibility, you have complete authority to implement these programs including authorization to stop work which fails to comply with the requirements of the Contract Documents.

Sincerely,

\_\_\_\_\_, President

## 7.0 PROCEDURES

### 7.1 Scheduling and Managing Submittals.

The CQCM will be the submittal manager. The CQCM has full authority to act for the firm in all submittal matters. His responsibilities include scheduling, review, updating and any submittals required from subcontractors.



Within 7 days of the Notice to Proceed, the CQCM will complete the submittal register contained in Section 01300 and submit to the Contracting Officer 4 copies for approval. Contractor schedule dates will be coordinated with the progress schedule and shall reflect 30-day minimum period for review and approval.

The CQCM will review the submittal register a minimum of every 10 days. The submittal register will be utilized to plan and monitor submittal progress so as to ensure timely approval of methods/materials prior to their scheduled need times. The submittal register will be available for inspection by the Contracting Officer at all times. An updated submittal register will be forwarded to the CO at 60-day intervals or as requested.

The CQCM will review the submittal register during preparatory phase of quality control to ensure that all submittals for the ensuing feature of work are approved and will take action to correct any deficiencies in submittal requirements.

All submittals required by the specifications or as needed for approval of deviation will be submitted by the CQCM in original and 4 copies utilizing ENG form 4025 in accordance with submittal register schedule dates or sooner. Prior to submittal, all shop drawings, data, samples, certifications, and test reports will be reviewed by the CQCM to ensure compliance with the contract requirements. Corrections and revisions will be requested where necessary.

## 7.2 Control Testing

7.2.1 Test List - A listing of all tests indicated in the contract specifications and additional tests as needed to establish quality control will be incorporated in the Contractor Quality Control Program found in section 8.0 of this plan. This listing will include the name of the test, specification para. number, feature of work tested, responsible person, and frequency.

7.2.2 Testing Facilities - The proposed testing lab for use on this project is:

\_\_\_\_\_ Testing Laboratories  
PO Box \_\_\_\_\_  
\_\_\_\_\_, LA \_\_\_\_\_

If required, a resume' of \_\_\_\_\_ facilities and personnel qualifications will be furnished to the Contracting Officer.

7.2.3 Test Records - All testing activities will be recorded on the CQC report, indicating the name of the test performed, specification paragraph reference, and

location performed. Results of the tests will be recorded on the daily CQC report or attachments. Actual test reports will be furnished promptly to the Contracting Officer as directed by the specifications.

### 7.3 Inspection

7.3.1 Materials - The CQCM will inspect all material/equipment deliveries for: (1) compliance with approved submittals, (2) damage, (3) correct dimensions and quantities, and (4) required labeling and documentation. The Contracting Officer will be notified of any materials/equipment failing to meet requirements. A record of inspection will be noted in the CQC report and any necessary corrective action will be initiated. Proper storage will be checked.

7.3.2 Off-Site Inspection - The CQCM will inspect manufacturing facilities and material sources as specifically directed by the specifications. Additional inspections will be conducted as necessary to ensure compliance with the specifications. The CQCM will record off-site surveillance activities in the CQC report. Where instances of noncompliance are observed, corrective action will be initiated.

7.3.3 On-Site Inspection - Each craftsman will be charged with the responsibility of performing his or her work in a workman like manner and continually striving for the highest degree of quality. Only craftsman who exhibit an ability to perform and desire to achieve quality will be employed.

The CQCM will routinely and continually inspect the work for compliance with contract documents. His duties, as outlined in 3.1 above, are for the purpose of maintaining and documenting the work as required to achieve a high degree of quality.

The Contract Quality Control Program outlined in paragraph 8.0 of this plan will provide an outline for the CQCM with regard to all definable features of the work. The CQCM's inspection of these work features will be accomplished through implementation of the 3-phase control procedure outline in para 7.4.

7.3.4 Completion Inspection - After completion of all work, the CQCM will conduct a completion inspection of all work features. A punchlist will be developed to identify all items which are not in compliance with the specifications and drawings. The CQCM will establish a date by which each deficiency will be corrected and note such date on the punchlist. A follow-up inspection will be conducted to verify completion of all punchlist items. The completion inspection and any resulting corrective action will be accomplished within the contract performance period. The Contracting Officer will be notified upon completion of the punchlist and corrective work. The punchlist will be made part of the Quality Control documentation by attachment to the CQC report.

## 7.4 Control Procedures

A 3-phase control system shall be implemented by the Quality Control staff to ensure that construction, including subcontractors and suppliers, complies with the requirements of the contract documents. This system of management will address each definable feature of work beginning with early planning stage requirements and ending with the finished work. Each phase will allow the opportunity to prevent problems and deficiencies and ensure that the accident prevention program is implemented. The 3 control phases are outlined in para 7.4.1 thru 7.4.3.

7.4.1 Preparatory Phase - This phase will be performed prior to beginning work on each definable feature of work. This phase will be conducted at a meeting involving the CQCM/Project Superintendent, QA personnel, and the foreman involved in the particular work feature. The Contracting Officer will be notified 48 hours in advance of the preparatory phase. This phase will include:

- a. A review of the applicable section of the specifications and contract drawings. (review specs)
- b. A review of the submittal register to ensure that all required submittals are submitted and approved. Take corrective action when necessary. Submittal data will be discussed to acquaint all team members with technical aspects and points particular to the work feature. (review submittals)
- c. A check to ensure that materials and equipment are in compliance with approved submittals and specifications. Verify that required materials/equipment are on hand and properly stored. (check material)
- d. Verify that preliminary work is completed.
- e. Review control testing requirements and verify that testing facilities are approved. Verify that necessary provisions are made for testing. (review testing)
- f. A consensus will be reached on planned construction procedures and the required level of quality expected from the CQCM in order to meet contract specifications. (set standards)
- g. Review appropriate Activity Hazard Analysis to assure safety requirements are met. The CQCM will inspect all equipment to ensure that minimum requirements for safety provisions in accordance with EM 385-1-1 and applicable regulations are met. (safety check)
- h. The above described activities will be documented on the COE form

"Preparatory Phase Checklist". This form will be attached to the CQC report and furnished to the Contracting Officer. Problems and deficiencies apparent during the preparatory phase and corrective action initiated will be noted in this report.

7.4.2 Initial Phase - This phase is performed once a representative portion of work has taken place for each definable feature of work and will be conducted at a meeting involving the CQCM/Project Superintendent and foreman involved in the particular work feature. The Contracting Officer will be notified 48 hours in advance of this phase. Initial phase will include:

- a. A check to ensure that preliminary work is completed.
- b. Verify that materials/equipment and construction procedures are in compliance with the contract documents.
- c. Review control testing requirements.
- d. Set standards of quality required to meet contract specifications.
- e. Review the Activity Hazard Analysis to ensure safety requirements are met. Check equipment for safety provisions.
- f. The above described activities will be documented on the COE form "Initial Phase Checklist". This form will be attached to the CQC report and furnished to the Contracting Officer. Problems and deficiencies apparent during the initial phase and corrective actions initiated will be noted in this report. The initial phase will be repeated any time the CQCM feels that quality standards and safety requirements must be reinforced.

7.4.3 Follow-Up Phase - This phase is accomplished through the daily inspections by the CQCM, also through performance of the required control testing. Follow-up phase efforts will ensure a continuation of quality and safety standards established during preparatory and initial phases until completion of the work feature. The CQCM's follow-up phase activities, including deficiencies noted, corrective action taken, and control testing results will be recorded in the daily CQC report.

## 7.5 Reporting and Documentation

The CQCM will maintain records of all quality control activities including documentation of control testing and inspection, and maintain integrity of the contract documents through use of the following described forms and procedures. Additional reports will be formulated or added as needed.

7.5.1 Daily Record - The CQCM will utilize the COE furnished forms titled "*Contractor Quality Control CQC Form*" to record daily control activities and resources used, work performed, and other data indicated on this form. The original and two copies will be furnished to the Contracting Officer within 12 hours of the reporting date. The CQCM will maintain copies for his files. Test reports will be included in the CQC report.

7.5.2 Control Phase Checklists - The CQCM will utilize the COE furnished forms entitled "*Preparatory Phase Checklist*" and "*Initial Phase Checklist*" to document these control phase activities. Original and two copies will be attached to the CQC report for the date on which the control phase is completed. A log will be posted at the jobsite office in chart form to record the dates on which preparatory and initial phases were completed for each definable feature of work so as to allow easy verification of control activities.

7.5.3 Tracking Construction Deficiencies - The form for tracking construction deficiencies is the Deficiency Report (DR). A DR can be issued by the CQCM/Project Superintendent or Manager of Construction. All DR's shall be kept and updated by the CQCM. The DR log will be available for inspection by the Contracting Officer. See attached forms for the example of a DR.

The DR tracking log will be in chart form and bound in a log book maintained on site. See attached example of the deficiency report tracking log. The DR log book is available for inspection by the Contracting Officer at all times.

A construction deficiency for the purposes of this plan is defined as:

1. An occurrence in which defective work or work lacking some essential part has been covered or is otherwise left as complete.
2. Products are furnished to the site or incorporated into the work which do not meet the conditions of the contract documents.
3. Inspection points or contract requirements affecting quality of the work that have not been met. Minor defects in work on which construction is underway is not to be considered a Construction Deficiency.

7.5.4 Contract Document Control - The CQCM will maintain a record in log form of the most up-to-date documents issued for construction and adjustments. No contract documents will be replaced or revised without receipt of a modification or direction from the Contracting Officer. The CQCM will maintain As-Built contract drawings.

7.6 Changes to the CQC Plan - Periodically, and at least once weekly, the CQCM

will review the CQC plan with the possible need for changes in mind. During the course of work on this contract, it is reasonable to expect the need for some changes to arise. When they do, the QC Manager will incorporate these changes in the form of written amendments and copies will be furnished to the Contracting Officer.

## ***8.0 QUALITY CONTROL PROGRAM***

(Sample only, this is done for each definable feature of work)

**Q. C. ACTIVITIES & TESTING REQUIREMENTS  
FOR DEFINABLE FEATURES OF WORK**

**CONTRACT W912P8-\_\_-\_\_-\_\_**

**Definable Feature:** Cast In-Place Structural Concrete  
Section 03301

| Definable Feature                             |                                  | Submittal             | Quality Control Activities                                                                                                                                                         |                                                |                                   |
|-----------------------------------------------|----------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------|
| Description                                   | Spec. Para.                      | Req'd                 | Description of Observation<br>Procedure or Test Required                                                                                                                           | Freq.                                          | Remarks                           |
| Concrete -<br>Grout, Water                    | 03301-15.1.4.1<br>03301-15.5.1.6 | Submittal<br>Register | Grout certificate, equipment & method<br>used, & source of mixing & curing<br>water                                                                                                | Once<br>prior to<br>placement                  |                                   |
| Concrete -<br>Finishing<br>Formed<br>Surfaces | 03301-12.2                       | QC Report             | Visually inspect all finishing is<br>started within 24 hours of form<br>removal, tie rod holes & defective<br>concrete voids and honeycombs are<br>filled properly, smooth surface | After<br>each<br>placement                     |                                   |
| Concrete -<br>Fine Aggregate                  | 03301-15.2.1.1                   | QC Report             | Sieve analysis and fineness modulus<br>determination                                                                                                                               | At least<br>once each<br>delivery              | Testing by<br>_____<br>Laboratory |
| Concrete -<br>Coarse<br>Aggregate             | 03301-15.2.2                     | QC Report             | Sieve Analysis                                                                                                                                                                     | At least<br>once each<br>delivery              | Testing by<br>_____<br>Laboratory |
| Concrete -<br>Moisture Test                   | 03301-15.2.2.2                   | QC Report             | Test for moisture content for each<br>size coarse aggregate                                                                                                                        | At least<br>once each<br>delivery              | Testing by<br>_____<br>Laboratory |
| Concrete -<br>Mixer<br>Uniformity             | 03301-15.2.12                    | QC Report             | Uniformity of concrete determined in<br>accordance with ASTM C 94.                                                                                                                 | Prior to<br>concrete<br>placement<br>& 1/ 6 mo |                                   |



**Q. C. ACTIVITIES & TESTING REQUIREMENTS  
FOR DEFINABLE FEATURES OF WORK**

**CONTRACT W912P8-\_\_-\_\_-\_\_**

Definable Feature: Cast In-Place Structural Concrete  
Section 03301

| Definable Feature       |             | Submittal             | Quality Control Activities                                                                                                                     |                                           |                                        |
|-------------------------|-------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------|
| Description             | Spec. Para. | Req'd                 | Description of Observation<br>Procedure or Test Required                                                                                       | Freq.                                     | Remarks                                |
| Concrete                | 03301-5.3   | Submittal<br>Register | Submit batch plant details, mixer<br>details, conveying methods and<br>equipment, placing, joint clean-up,<br>curing, and weather requirements | once 14<br>days prior<br>to<br>placement  |                                        |
| Concrete                | 03301-3.1.1 | Submittal<br>Register | Submit 500 lb sample of aggregate to<br>Waterway Experiment Station for<br>testing if an approved supplier is<br>not used                      | Once<br>prior to<br>concrete<br>placement |                                        |
| Concrete                | 03301-5.1.1 | Submittal<br>Register | Submit concrete mixture proportion                                                                                                             | Once                                      |                                        |
| Concrete -<br>Materials | 03301-5.1.2 | Submittal<br>Register | Submit cement cert. of compliance                                                                                                              | Once                                      | Testing by<br>supplier or<br>_____ Lab |
|                         | 03301-5.1.5 |                       | Submit sieve analysis for aggregates                                                                                                           |                                           |                                        |
|                         | 03301-5.2.3 |                       | Submit air-entraining agent cert.<br>of compliance                                                                                             |                                           |                                        |
|                         | 03301-5.2.5 |                       | Submit curing compound cert. of<br>compliance                                                                                                  |                                           |                                        |

**Q. C. ACTIVITIES & TESTING REQUIREMENTS  
FOR DEFINABLE FEATURES OF WORK  
CONTRACT W912P8-\_\_-\_\_-\_\_**

**Definable Feature:** Cast In-Place Structural Concrete  
Section 03301

| Definable Feature                       |                    | Submittal                       | Quality Control Activities                                                                                                                               |                                  |                           |
|-----------------------------------------|--------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------|
| Description                             | Spec. Para.        | Req'd                           | Description of Observation<br>Procedure or Test Required                                                                                                 | Freq.                            | Remarks                   |
| Concrete -<br>Placement<br>Preparations | 03301-15.2.7       | QC Report<br>& LMV Form<br>1246 | Visually & Measure as needed, prior<br>to placement, foundations, const.<br>joints, forms, embedded items, etc.,<br>to verify that concrete placement OK | Prior to<br>placement            |                           |
| Concrete -<br>Air Content               | 03301-<br>15.2.6.1 | QC Report                       | Test Concrete for air content                                                                                                                            | Twice per<br>day                 | Use _____<br>Laboratory   |
| Concrete -<br>Slump                     | 03301-<br>15.2.5.2 | QC Report                       | Test Concrete slump                                                                                                                                      | Twice per<br>day                 | Use _____<br>Laboratory   |
| Concrete -<br>Placement                 | 03301-15.2.8       | QC Report                       | Visually inspect placement operations<br>to verify proper equipment, methods,<br>time interval, temp., yardage placed,<br>& placement method             | Each<br>Placement                |                           |
| Concrete -<br>Curing                    | 03301-13.2,4       | QC Report                       | Inspect all surfaces subject to moist<br>curing & impervious sheet curing                                                                                | At least<br>once/day             | Including<br>weekend/hol. |
| Concrete -<br>Curing                    | 03301-13.3         | QC Report                       | Assure that curing compound is mixed<br>properly, & meets minimum pressure<br>and coverage requirements                                                  | After<br>removal<br>of forms     | Measure &<br>visual       |
| Concrete -<br>Vibration                 | 03301-15.2.9       | QC Report                       | Test frequency and amplitude of<br>vibrator                                                                                                              | Prior to<br>1st use &<br>1/month |                           |

## ***9.0 FORMS***

# CONTRACTOR QUALITY CONTROL (CQC) FORM

Contractor's Name

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Daily Report No: \_\_\_\_\_

Date: \_\_\_\_\_

Contract No: W912P8-\_\_-\_\_-\_\_

Project Title and Location: \_\_\_\_\_

Weather: \_\_\_\_\_ Rain: \_\_\_\_in. Temp: \_\_\_\_Min. \_\_\_\_ Max.

## 1. Contractor/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION |
|--------|-------|-------|----------|----------------------|
|        |       |       |          |                      |
|        |       |       |          |                      |
|        |       |       |          |                      |
|        |       |       |          |                      |
|        |       |       |          |                      |
|        |       |       |          |                      |
|        |       |       |          |                      |

## 2. Operating Plant of Equipment. (Not hand tools)

| PLANT/<br>EQUIPMENT | DATE OF<br>ARRIVAL/<br>DEPARTURE | LEASED/<br>OWNED<br>L OR O | DATE OF<br>SAFETY<br>CHECK | HOURS<br>USED | HOURS<br>IDLE | HOURS<br>REPAIR |
|---------------------|----------------------------------|----------------------------|----------------------------|---------------|---------------|-----------------|
|                     |                                  |                            |                            |               |               |                 |
|                     |                                  |                            |                            |               |               |                 |
|                     |                                  |                            |                            |               |               |                 |
|                     |                                  |                            |                            |               |               |                 |
|                     |                                  |                            |                            |               |               |                 |
|                     |                                  |                            |                            |               |               |                 |

### ***CQC Report Form (Cont'd)***

3. Work performed today: (Indicate location and description of work performed by prime and/or subcontractor by letter in table above.)

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4. Results of control activities: (Indicate whether P - preparatory, I - Initial, or F - Follow-up Phase. When a P or I meeting is conducted, complete appropriate forms, attached.)

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5. Test performed as required by plans and/or specifications:

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6. Materials received:

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## **CQC REPORT FORM (CONT'D)**

### 7. Submittals Reviewed:

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|-------------------|-------------------------|-------------|------------|
|                   |                         |             |            |
|                   |                         |             |            |
|                   |                         |             |            |
|                   |                         |             |            |

### 8. Off-site surveillance activities, including action taken:

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### 9. Job Safety: (Report violations; Corrective instructions given, taken.)

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### 10. Environmental Protection: (Report violations; Corrective instructions given, taken.)

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### 11. Remarks: (Instructions received or given. Conflicts in Plans and/or Specifications.)

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Contractor's Verification: On behalf of the contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the plans and specifications, to the best of my knowledge, except as noted above.

\_\_\_\_\_  
Authorized CQC System Manager

\_\_\_\_\_  
Date

## ***PREPARATORY PHASE CHECKLIST FORM***

Contract No.: W912P8-\_\_ - \_\_

Date: \_\_\_\_\_

Definable Feature:

\_\_\_\_\_

Government Representative Notified 48 Hours in Advance

Yes\_\_\_\_ No \_\_\_\_

### **I. Personnel Present:**

| Name | Position | Company/Government |
|------|----------|--------------------|
|      |          |                    |
|      |          |                    |
|      |          |                    |
|      |          |                    |
|      |          |                    |

(List Additional Personnel on reverse side)

### **II. Submittals**

1. Review Submittals and/or submittal log 4288. Have all submittals been approved? Yes\_\_\_\_ No\_\_\_\_

If No, what items have not been submitted?

a.

\_\_\_\_\_

b.

\_\_\_\_\_

c.

\_\_\_\_\_

2. Are all materials on hand? Yes\_\_\_\_ No\_\_\_\_

If No, what items are missing?

a.

\_\_\_\_\_

b.

\_\_\_\_\_

c.

\_\_\_\_\_

## ***PREPARATORY PHASE CHECKLIST FORM (CONT'D)***

3. Check approved submittals against delivered material. (This should be done as material arrives.) Comments:

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### **III. Material storage**

Are materials stored properly? Yes\_\_\_ No\_\_\_

If No, what action will be taken?

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### **IV. Specifications:**

1. Review each paragraph of specifications.

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2. Discuss procedure for accomplishing the work. (Include labor and equipment to be used)

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3. Clarify any differences from specifications.

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### **V. Preliminary Work - Ensure preliminary work is correct.**

If not, what action will be taken?

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## ***PREPARATORY PHASE CHECKLIST FORM (CONT'D)***

### **VI. Testing**

1. Identify test to be performed, frequency and by whom.

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2. When required?

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3. Where required?

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4. Review Testing Plan.

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### **VII. Safety**

1. Review applicable portion of COE EM 385-1-1.

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2. Activity Hazard Analysis Approved? Yes\_\_\_ No\_\_\_

3. All equipment checked and checklists recorded? Yes\_\_\_ No\_\_\_  
If not, what action will be taken?

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### **VIII. Corps of Engineers comments during meeting.**

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CQC Representative

**INITIAL PHASE CHECKLIST FORM**

Contract No.: W912P8-\_\_-\_\_-\_\_

Date: \_\_\_\_\_

Definable Feature:  
\_\_\_\_\_

Government Representative Notified 48 Hours in advance Yes\_\_\_ No\_\_\_

**I. Personnel Present:**

| Name | Position | Company/Government |
|------|----------|--------------------|
|      |          |                    |
|      |          |                    |
|      |          |                    |
|      |          |                    |
|      |          |                    |

(List Additional Personnel on Reverse Side)

**II. Is work in full compliance with plans, specifications and submittals. Are procedures and quality control measures being used acceptable.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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## **INITIAL PHASE CHECKLIST FORM (CONT'D)**

III. Preliminary work. Ensure preliminary work is complete and correct. If not, what action will be taken?

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IV. Establish Level of Workmanship.

1. Where is work located?

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2. Quantity of work performed?

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3. Is a sample panel required? Yes\_\_\_ No\_\_\_

4. Will the initial work be considered as a sample? Yes\_\_\_ No\_\_\_

V. Are standards of acceptance mutually agreed upon? Resolve any differences.

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VI. Check Safety.

Review job condition using COE EM 385-1-1 and job hazard analysis. Comments:

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CQC Representative

## **DEFICIENCY REPORT**

Contract No.: W912P8-\_\_-\_\_-\_\_

DCR NO.: \_\_\_\_\_

Project  
Name: \_\_\_\_\_

Contractor:  
\_\_\_\_\_

Description of Deficiency:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Sketch Attached: Yes\_\_\_ No\_\_\_

Issued By: \_\_\_\_\_ Date: \_\_\_\_\_

Approved and Logged By: \_\_\_\_\_ Date: \_\_\_\_\_  
CQCM

~~~~~  
Planned Corrective Action:

CO or Representative: _____ Date: _____

CQCM: _____ Date: _____

Corrective Action Implemented: _____ Date: _____
Project Super.

Corrective Action Inspected: _____ Date: _____
CQCM

DEFICIENCY REPORT TRACKING LOG

Contract No. W912P8-__-__-____

DR NUMBER	DATE ISSUED	ISSUED BY (Initial)	WORK FEATURE (See DR Report for details)	DATE CORRECTED	DATE INSPECTED	INSPECTOR (INITIAL)

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SECTION 01 55 26.00 12

TRAFFIC CONTROL AND COORDINATION

PART 1 GENERAL

1.1 SCOPE

The work provided for in this section consists of providing and maintaining traffic control, coordination, and maintenance. It includes barricades, danger signs, warning signs, detour signs, and the preparation of a traffic control device plan.

1.2 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. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD (2009; Rev 2012) Manual of Uniform Traffic Control Devices

LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016 Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LADOTD)

LSSRB 713 Temporary Traffic Control

1.3 MEASUREMENT AND PAYMENT

No measurement will be made for the preparation of a Traffic Control Device Plan, nor the maintenance, control and coordination of traffic routing including barricades, danger signs, warning signs, and detour signs.

Payment will be made at the contract job price for "Traffic Control and Coordination". Price and payment shall constitute full compensation for providing all plant, labor, materials and equipment to complete the work as specified herein and as shown on the drawings.

1.4 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. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Traffic Control Device Plan; G

Prior to the commencement of construction operations the Contractor shall submit for the acceptance of the Contracting Officer, the original and ten (10) copies of the Traffic Control Device Plan as specified herein.

PART 2 PRODUCTS

2.1 SIGNS AND BARRICADES

In accordance with LSSRB 713, the Contractor shall provide all necessary signs, barricades, temporary pavement markings, in accordance with the Louisiana Manual on Uniform Traffic Control Devices, Construction Section as well as all signs, barricades, blinking lights or other necessary traffic control devices required by the Parish of Ascension or other governing specifications.

PART 3 EXECUTION

3.1 GENERAL

No signs or signals shall be removed without the Contracting Officer's approval except as detailed in the approved plan. The Contractor shall accept all responsibilities during the time of removal.

3.2 TRAFFIC CONTROL DEVICE PLAN

The Contractor shall develop and implement a traffic control device plan (TCDP) which shall provide for the safe and expeditious movement of traffic through construction zones. A construction zone is defined as the immediate area of actual construction which interferes with the driving or walking public. The TCDP shall comply with the requirements set forth in the MUTCD, as revised, and with the general requirements stipulated below.

(1) The TCDP for the site shall address the conditions for providing traffic flow within the zone during the influence of construction. The TCDP shall be schematically drawn on sheet(s) large enough to show adequate details and be easily readable and reproducible. If larger than eleven inches by seventeen inches (11" x 17"), the sheet(s) shall be submitted with a reproducible transparency so that the Contracting Officer and the Ascension Parish Traffic Department can produce additional copies as needed.

(2) It is anticipated that the traffic control devices will be relocated daily as construction shifts throughout the project area. The TCDP shall address how this daily movement will take place.

(3) The TCDP shall be designed and stamped by a Professional Engineer registered in the State of Louisiana. The qualifications of the Engineer shall be submitted for review and approval of the Contracting Officer, Ascension Parish Department of Engineering, Traffic Engineering Division, and where applicable Louisiana Department of Transportation and Development, Traffic Operations. Engineers for this project will be qualified by education and experience in Categories 1 and 2 as noted below. All categories require a minimum of four (4) years experience and education.

a. Category 1 - Traffic Control through Construction Zones. Urban experience in MUTCD applications, plan preparations, studies in volume, speed, and pedestrians, and tort liability.

b. Category 2 - Permanent Sign / Marking. Urban experience in MUTCD applications, studies in volume, speed, pedestrians, and accident analysis.

The Contractor shall submit an original and ten (10) copies of the TCDP to the Contracting Officer prior to any anticipated traffic control work for review and approval. Adequate time (a minimum of 45 calendar days exclusive of mailing time) shall be allowed for review and approval. Such approval is required prior to start of any work which might affect the traffic pattern in the area.

3.3 TRAFFIC CONTROL

The Contractor shall be responsible for the installation and maintenance of all devices and requirements for the duration of the construction period. The necessary precautions shall include, but not be limited to, such items as proper construction warning signs, signals, lighting devices, battery operated flashers, markings, barricades, channelization, and hand signaling devices (flagging operations). The Contractor shall monitor traffic control devices on a daily basis and shall make appropriate changes to correspond to conditions. All work shall be performed in accordance with the LSSRB 713, except as noted. Traffic control devices shall be in accordance with the MUTCD.

3.3.1 Coordination

The Contractor shall consult with the Contracting Officer immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project. Traffic control devices shall be in place each day before work begins.

3.3.2 Traffic Engineer

A qualified Traffic Engineer shall be provided by the Contractor to inspect the job site at the beginning of the project, after significant changes, and at 30 day intervals. If warranted, the Contractor's Traffic Engineer shall make adjustments to the TCDP and the Contractor shall immediately implement the revised TCDP. A written report submitted to the Contractor, Contracting Officer, verifying compliance with the plan and adequacy of traffic control devices and operating conditions will be required for each inspection. All deficiencies noted by the report shall be immediately corrected by the Contractor.

3.4 PUBLIC CONVENIENCE AND SAFETY

3.4.1 Road Closure

No road shall be closed by the Contractor to the public except by written permission of the Contracting Officer. While closed, the Contractor shall maintain traffic over, through, or around the work included in his Contract, with the maximum practical convenience, for the full twenty-four hours of each day of the Contract, whether or not work has ceased temporarily. The Contractor shall notify the Contracting Officer at the earliest possible date after the Contract has been executed, and in any case before the starting of any construction that might in any way inconvenience or endanger traffic, so that the necessary arrangements may be determined.

3.4.2 Fire Protection

Fire hydrants shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to a fire hydrant

than permitted by ordinances, rules, or regulations or within fifteen (15) feet of a fire hydrant, in the absence of such ordinances, rules, or regulations.

3.5 BARRICADES, DANGER, WARNING, AND DETOUR SIGNS

3.5.1 General

The Contractor shall, at his own expense, provide, erect, paint, and maintain all construction barricades. The Contractor shall provide suitable and sufficient lights, torches, reflectors, or other danger signals and signs, provide a sufficient number of watchmen and flagmen, and take all necessary precautions for the protection of the work and safety of the public. The Contractor shall replace any permanent street signs or markers which have to be moved to facilitate his construction with temporary signs as necessary.

3.5.2 Warning Signs, Painting, Illumination

The Contractor shall erect warning signs beyond the limits of the project, sufficiently in advance of any place on the project where operations interfere with the use of the road by traffic, including all intermediate points where the new work crosses or coincides with the existing road. Barricades shall be kept well painted and suitable warning signs shall be placed thereon. All barricades and obstructions shall be illuminated at night and all lights or devices for this purpose shall be kept burning from sunset to sunrise.

3.6 EMERGENCY CONTRACTOR DESIGNATION

The Contractor shall designate a person(s) who can be contacted and shall be available on a seven day week, 24 hour basis through the entire period that the contract is in force. Name(s) and telephone number(s) of the individual(s) designated shall be furnished to the Contracting Officer's Representative prior to starting work. The person contacted shall be able to respond to emergencies occurring along the length of the project during normal after work and holiday hours.

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ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials and equipment, and performing all work required for the prevention of environmental pollution and the handling, removal, transportation and disposal of any hazardous and/or regulated solid waste generated during and as the result of construction operations under this contract except for those measures set forth in other provisions of these specifications. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to man; or degrade the utility of the environment for esthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, and land, and involves noise, solid waste-management, management of radiant energy and radioactive materials, as well as other pollutants including hazardous wastes, materials, substances and chemicals.

1.2 APPLICABLE REGULATIONS

In order to prevent, and to provide for abatement and control of any environmental pollution arising from construction activities in the performance of this contract, the Contractor and his subcontractors shall comply with the all applicable Federal, State, and Local laws, and regulations as well as USACE regulations concerning environmental pollution control and abatement and any regulations referred to in the following paragraphs. For hazardous wastes, materials, substances and chemicals applicable regulations shall include, but are not limited to, 29 CFR 1910.106, 29 CFR 1910.120, 40 CFR 260, 40 CFR 279, 40 CFR 355, 40 CFR 372-SUBPART D, 49 CFR 171 - 178, EM 385-1-1, LAC 33:V, and LAC 33:VII.

1.3 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.

LOUISIANA ADMINISTRATIVE CODE (LAC)

LAC 33:V	Environmental Quality: Hazardous Waste and Hazardous Materials
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LAC 33:VII	Environmental Quality: Solid Waste
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U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.106	Flammable and Combustible Liquids
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29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
33 CFR 153.203	Procedure for the Notice of Discharge
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 268	Land Disposal Restrictions
40 CFR 279	Standards for the Management of Used Oil
40 CFR 355	Emergency Planning and Notification
40 CFR 372-SUBPART D	Specific Toxic Chemical Listings
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 171 - 178	Hazardous Materials Regulations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual
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1.4 MEASUREMENT AND PAYMENT

1.4.1 Environment Protection

No separate measurement or payment will be made for environment protection, including protection of fish and wildlife. Payment for the work covered under this section shall be distributed throughout the existing bid items.

1.4.2 Non-Regulated Waste

No separate measurement or payment will be made for the work associated with and the disposal of non-regulated debris not specifically covered elsewhere. Payment for the work associated with the disposal of non-regulated debris not specifically covered elsewhere shall be distributed throughout the existing bid items.

1.4.3 Hazardous/Regulated Waste

(a) If the Contractor generates hazardous and/or regulated solid wastes through his/her actions, no separate measurement or payment will be made for handling, removal, transportation and disposal of hazardous and/or regulated solid wastes. Payment for the work associated with and the disposal of hazardous/regulated solid waste generated by the Contractor shall be distributed throughout the existing bid items.

(b) If the Contractor uncovers an existing hazardous/regulated waste

not Contractor generated, not shown on the drawings, and not specified herein, the Contractor shall notify the Contracting Officer's Representative immediately. Payment for handling, removal, transportation and disposal of hazardous and/or regulated solid wastes not Contractor generated, not shown on the drawings, and not specified herein will be made as an equitable adjustment in contract price under the Contract Clause in FAR 52.243-4.

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for environment protection to assure compliance with contract specifications and maintain records of his/her quality control for all construction operations including but not limited to the following:

(1) Submit plan of Environmental Pollution Control Plan/Environmental Protection Plan. For Contractor work activities (such as painting, metal finishing, etc.) that will involve bringing hazardous chemicals, hazardous substances or hazardous materials onto the project site, include in the plan a Hazard Communication Program and Safe Storage Plan. For Contractor activities that anticipate generation of hazardous wastes at the project site, include in the plan a waste identification / determination and waste disposal plan. For Contractor on-site activities that pose a risk of an oil or hazardous substance spill, include in the plan a Spill Reporting and Response Plan.

(2) Procure applicable Federal, State, and Local regulations on pollution control.

(3) Air Pollution - Checks made on dust, smoke, and noise.

(4) Water Pollution - Checks made on disposal of water, oil, etc.

(5) Land Pollution - Checks made on disposal of debris, restoration of temporary construction sites, etc.

(6) Training Course for Employees.

1.5.2 Reporting

The original and two copies of these records, as well as the records of corrective action taken, shall be furnished the Government daily. Format of report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.6 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall make no part of the time lost due to any such stop orders

the subject of a claim for extension of time or for excess cost of damages.

1.7 SUBCONTRACTORS

Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

1.8 IMPLEMENTATION

Within 10 days after receipt of Notice of Award, or otherwise directed below, the Contractor shall:

- (1) Submit in writing his/her proposals for implementing environmental pollution control at the project site, disposal of debris, non-hazardous wastes and hazardous wastes generated at the project site as well as storage and management of regulated materials, substances and chemicals brought onto and used at the project site.
- (2) Meet with representatives of the Contracting Officer to develop mutual understanding relative to compliance with this provision and administration of the environmental pollution control program.
- (3) If applicable, submit a plan for the identification, handling, removal, transportation and disposal of hazardous and/or regulated solid wastes generated because of the Contractor's operation.

1.8.1 Environmental Assessment of Contract Deviations

If the Contractor proposes a deviation from the drawings or specifications (e.g., proposed borrow, disposal areas, staging areas, alternate access routes etc) for his convenience, the Contractor shall notify the Contracting Officer or its representative in writing. The Contractor is cautioned that any deviation from the drawings or specifications is subject to all applicable Federal and state environmental laws and regulations. Compliance with these environmental laws and regulations may require additional National Environmental Policy Act (NEPA) documents, cultural resources surveys, coordination with the Louisiana State Historical Preservation Officer, water quality certification, modification of the Federal Consistency determination, etc. The Government is ultimately responsible for environmental compliance; therefore, the Government will determine the additional environmental coordination and documentation necessary for proposed deviation to the Government furnished disposal areas. For any environmental investigations the Government is to perform on area outside of Government furnished rights-of-way, the Contractor shall provide sufficient rights of entry. The Contracting Officer will advise the Contractor of the additional environmental coordination and documentation that must be completed prior to the use of the contractor furnished right-of-way. The Government shall be responsible for any additional environmental compliance; however, the Contractor may conduct specific tasks identified by the Government. The Government will offer advice and assistance to the Contractor in conducting these tasks. Depending on the environmental impact of the proposed deviation, obtaining the coordination and documentation, may not be approved or could take as much as 180 days for approval by the Government. The Government must review, approve, and ensure distribution of all environmental compliance documentation and ensure all comments on the same have been resolved before any utilization of any areas outside of the Government furnished right-of-way. The Contractor shall reimburse the Government for actual expenses incurred for assistance in completing or

attempting to complete additional environmental coordination and documentation which expenses will not exceed one hundred thousand (\$100,000) dollars. There is no guarantee that environmental compliance will be obtained; therefore, the Contractor shall assume all risks and liabilities associated with pursuing a deviation. Any delays resulting from the deviation and/or the environmental coordination and documentation shall not be made the basis of any Contractor claim for increase in the contract cost and/or increase in contract time. Deviations will be at the Contractor's sole risk and liability, including, but not limited to, such liabilities associated with items such as hazardous substances regulated under the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C 9601 et. Seq.), and at no cost to the Government. Government assistance in obtaining additional environmental clearances does not relieve the Contractor of responsibility for complying with other Federal, state, or local licenses and permits.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PROTECTION OF LAND RESOURCES

3.1.1 General

The land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. The Contractor shall confine his/her construction activities to areas defined by the plans or specifications, including borrow areas to be cleared. The following additional requirements are intended to supplement and clarify the requirements of Section 00700 CONTRACT CLAUSES, entitled "CLEANING UP (FAR 52.236-12)"; "PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (FAR 52.236-9)"; and "OPERATIONS AND STORAGE AREAS (FAR 52.236-10)".

3.1.2 Prevention of Landscape Defacement

Except in areas to be cleared and as provided in paragraph "Temporary Excavation and Embankments", the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without the approval of the Contracting Officer. Felling of trees shall be performed in such a manner as to avoid damage to trees to be left standing. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's operations or equipment; adequate protection measures shall be implemented. A tree protection zone shall be constructed around all trees that may be affected by construction activities. The tree protection zone shall be established by placing metal posts and temporary construction safety fencing around trees below the trees' canopy drip edge. The Contractor shall not store any material, equipment, backfill, drive any machinery, or cause any changes to the existing grade around trees and their respective canopy drip edges. All monuments and markers shall be protected before beginning operations near them, or properly removed and stored by the Contractor during construction, and repositioned after construction. Landscape features damaged by the Contractor's equipment or operations shall be replaced or restored to their original condition; the Contractor shall coordinate with the New Orleans' District Landscape Architect and secure the services of a licensed arborist to

assess any damage to trees that occur as a result of construction activities. The Contractor shall submit to the Contracting Officer, for review and approval, a written report from the licensed arborist on the inflicted damage, as well as a proposed remediation plan of action, or if required the replacement of affected trees. The plan of action shall identify measures such as proper pruning and bark tracing to restore the damaged trees, or tree replacement options. No separate measurement and payment will be made for any work required implementing tree protection zone measures around trees within the construction limits that are to remain. The Contractor shall include any and all costs for tree protection zone measures in the contract prices for items to which the work is incidental thereto. Should the services of a licensed arborist be required as a result of damages due to the actions of the Contractor, all services, material, labor and equipment to implement the remediation plan and restore and or replace the affected trees shall be accomplished by the Contractor at no additional cost to the Government.

3.1.3 Temporary Excavation and Embankments

If the Contractor proposes to construct temporary roads or embankments and excavation for plant and/or work areas, he shall obtain approval of the Contracting Officer prior to start of such temporary work.

3.1.4 Post-Construction Cleanup or Obliteration

The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, and stockpiles of excess or waste materials upon completion of construction. The Contractor will be required to restore the construction area to near natural conditions that will permit the growth of vegetation.

3.1.5 Recording and Preserving Historical and Archeological Finds

When any item having apparent historical or archeological interest is discovered in the course of any construction activities, then no work will proceed in the area containing these cultural resources until a USACE archaeologist has been notified and final coordination with the State Historic Preservation Officer has been completed. The Contractor will leave the archeological find undisturbed and shall immediately report the find to the Contracting Officer so that the proper authorities may be notified.

3.2 PROTECTION OF WATER RESOURCES

3.2.1 Contamination of Water

The Contractor shall not pollute lakes, ditches, rivers, bayous, canals, groundwater, waterways, or reservoirs with fuels, oils, bitumens, calcium chloride, insecticides, herbicides, or other similar materials harmful to fish, shellfish, or wildlife, or materials which may be a detriment to outdoor recreation.

3.2.2 Disposal of Materials

The methods and locations of disposal of materials, wastes, effluents, trash, garbage, oil, grease, chemicals, etc., within the right-of-way limits shall be such that harmful debris will not enter lakes, ditches, rivers, bayous, canals, groundwater, waterways, or reservoirs by erosion,

and thus prevent the use of the area for recreation or present a hazard to wildlife.

3.2.3 Erosion Control

Surface drainage from cuts and fills within the construction limits, whether or not completed, and from borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation ponds or shall be graded to control erosion within acceptable limits. The area of bare soil exposed at any one time by construction operations shall not exceed that necessary to perform the work. Stream crossings by fording with equipment shall be limited to control turbidity and in areas of frequent crossings temporary culverts or bridges shall be installed. Any temporary culverts or bridges shall be removed upon completion of the project. Fills and waste area shall be constructed by selective placement to eliminate silts or clays on the surface that will erode and contaminate adjacent streams.

3.3 PROTECTION OF FISH AND WILDLIFE

The Contractor shall at all times perform all work and take such steps required to prevent any interference or disturbance to fish and wildlife. The Contractor will not be permitted to alter water flows or otherwise disturb native habitat adjacent to the project area that are critical to fish or wildlife.

3.4 JANITOR SERVICES

The Contractor shall furnish daily janitorial services for all the offices, shops, laboratories, or other buildings being used by the Contractor or Government employees, whether existing or Contractor furnished, and perform any required maintenance of the facilities and grounds during the life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations but will be accomplished only when the buildings are in daily use. Services shall be accomplished to the satisfaction of the Contracting Officer. The Contractor shall also provide daily trash collection and cleanup of the buildings and adjacent outside areas, snow removal as required, and shall dispose of all discarded debris, aggregate samples and concrete test samples in a manner approved by the Contracting Officer.

3.5 DISPOSAL OF NON-REGULATED DEBRIS

All debris resulting from construction operations on this contract shall be disposed of by removal from the site of work in accordance with all applicable Federal, State, and Local laws.

3.6 DISPOSAL OF HAZARDOUS AND/OR REGULATED SOLID WASTES

If any hazardous or regulated solid wastes will be generated as a result of the Contractor's operations, the Contractor shall submit a plan that details the proper handling, removal, transportation and disposal of such wastes. The plan shall identify what types of hazardous and/or regulated solid wastes will be generated and shall list the hazards involved with each waste. All waste generated on-site by the Contractor must be properly identified within 30 days of generation. No regulated wastes shall be allowed to accumulate on-site for more than 90 days. Regulated solid wastes are those listed in the LAC 33:VII. The plan shall include

Safety Data Sheets (SDS), if applicable, for all wastes expected to be generated. The plan shall include, but not be limited to the following:

- (a) Hazardous waste shall be placed in closed containers and shall be shielded adequately to prevent dispersion of the waste by wind or water. Any evidence of improper storage shall be cause for immediate shutdown of the project until corrective action is taken.
- (b) Nonhazardous waste shall be stored in containers separate from hazardous waste storage areas.
- (c) All hazardous waste shall be transported by a licensed transporter in accordance with LAC 33:V and 49 CFR 171, Subchapter C.
- (d) All nonhazardous waste shall be transported in accordance with local regulations regarding waste transportation.
- (e) In addition to the number of manifest copies required by LAC 33:V, one copy of each manifest will be supplied to the Contracting Officer prior to transportation.
- (f) The plan shall identify what types of hazardous and/or regulated solid wastes will be generated and shall list the hazards involved with each waste.

3.6.1 Hazardous Wastes

For the handling, removal, transportation and disposal of any generated hazardous wastes, the plan shall conform to the requirements of 40 CFR 260, 49 CFR 171 - 178 as well as other applicable Federal, State, and Local regulations. All employees of the Contractor of his/her Subcontractors that will be directly involved in the handling and/or removal of hazardous wastes shall be trained in accordance with 29 CFR 1910.120. In addition, the employees shall have undergone a medical evaluation in accordance with 29 CFR 1910.120. The Contractor shall include copies of employees' certifications and medical examinations as part of the plan specified herein. The plan shall also address the proper Personnel Protective Equipment (PPE) that the employees will be required to wear during the handling and removal of hazardous wastes. The Contractor shall obtain an EPA ID# and Hazardous Waste Disposal Manifests and shall sign the manifests as the generator. Wastes shall be transported via state and Federal approved hazardous waste transporter and disposed of at a state and Federal approved temporary, storage, and disposal (TSD) facility. Copies of licenses and certifications of the transporter and TSD shall be included in the plan. The plan shall list the name and address of each transporter and TSD to be utilized. The Contractor shall be responsible for any sampling and analysis required by the TSD for characterization purposes. The Contractor shall submit to the Contracting Officer completed copies of all Hazardous Waste Disposal Manifests within five (5) days after ultimate disposal at the TSD. Other regulations applicable to the handling, removal, transportation and disposal of hazardous wastes are: 40 CFR 261; 40 CFR 262; 40 CFR 268; and LAC 33:V.

3.6.2 Regulated Solid Wastes

For the handling, removal, transportation and disposal of any generated regulated solid wastes, the plan shall conform to the requirements of LAC 33:VII. Solid wastes shall be transported to a Federal and state approved TSD, oil recycling program or Industrial Type I Landfill. The

Contractor shall identify in the plan how he/she intends to dispose of each solid waste. The plan shall include the name, address, licenses and certifications of each disposal facility that will be used. If disposal manifests are required, the Contractor shall sign them as the generator. The Contractor shall be responsible for any sampling and analyses that may be required by the disposal facility(ies) for characterization purposes. Licenses and certifications of the transporter and disposal facilities shall be included in the plan. The Contractor shall submit to the Contracting Officer a completed copy of any waste disposal manifests within five (5) days after ultimate disposal.

3.6.3 Laboratory Accreditation

All laboratory testing for waste determinations shall be performed by a laboratory which has received accreditation from the Louisiana Department of Environmental Quality (LDEQ) laboratory certification program. The name and address of the laboratory shall be included in the "Waste Classification, Handling, and Disposal Plan."

3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

During the life of this contract the Contractor shall maintain all facilities constructed for pollution control under this contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. Early in the construction period the Contractor shall conduct a training course that will emphasize all phases of environmental protection.

3.8 REPORTING OF POLLUTION SPILLS

In the event that an oil spill or chemical release occurs during the performance of this contract, the Contractor is required to contact the National Response Center, telephone number 1-800-424-8802 as soon as possible, or if telephone communication is not possible, the nearest U.S. Coast Guard office may be contacted by radio to report the spill, 33 CFR 153.203. The Contractor shall comply with any instructions from the responding agency concerning containment and/or cleanup of the spill.

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CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for providing Closeout Submittals, including "As-Built" drawings required under this section. All costs associated therewith shall be included in the applicable contract unit or job prices contained in the Bidding Schedule.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

"As-Built" Drawings; G, DO

The Contractor shall submit drawings showing final "As-Built" conditions of the project. The final (red-lined) "As-Built" drawings shall consist of 3 sets (an original and two color copies) and 3 electronic (.PDF) copies on CD-R of the approved working as-builts.

1.3 PROJECT RECORD DOCUMENTS

1.3.1 "As-Built" Drawings

This paragraph covers "As-Built" drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working "As-Built" drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final "As-Built" drawings.

1.3.1.1 Working "As-Built" and Final "As-Built" Drawings

The Contractor shall revise 4 full size 22"x34" sets of paper drawings by red-line process to show the "As-Built" conditions during the prosecution of the project. These working "As-Built" marked drawings shall be kept current on a weekly basis and at least one set shall be available on the jobsite at all times. 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 they occur by means of details and notes. The working "As-Built" marked prints and final "As-Built" drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working and final "As-Built" drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the "As-Built"

drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. The working and final "As-Built" drawings shall show, but shall not be limited to, the following information:

a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the "As-Built" drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded.

b. The location and dimensions of any changes within the building structure.

c. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

d. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

f. Changes or modifications which result from the final inspection.

g. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final "As-Built" prints.

h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.

i. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.

j. Modifications will be shown in accordance with the following procedures.

(1) Directions in the modification for posting descriptive changes shall be followed.

(2) A Modification Triangle shall be placed at the location of each deletion.

(3) For new details or sections which are added to a drawing, a Modification Triangle shall be placed by the detail or section title.

(4) For minor changes, a Modification Triangle shall be placed by the area changed on the drawing (each location).

(5) For major changes to a drawing, a Modification Triangle shall be placed by the title of the affected plan, section, or detail at each location.

(6) For changes to schedules or drawings, a Modification Triangle shall be placed either by the schedule heading or by the change in the schedule.

(7) The Modification Triangle size shall be 1/2 inch on a side unless the area where the circle is to be placed is crowded. Smaller size circle shall be used for crowded areas.

1.3.1.2 Drawing Preparation

The "As-Built" drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the contract set into agreement with approved working "As-Built" prints, and adding such additional drawings as may be necessary. These working "As-Built" marked prints shall be neat, legible, and accurate. These drawings are part of the permanent records of this project and shall be returned to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

1.3.1.3 Final "As-Built" Drawings

When final revisions have been completed, the cover sheet drawing shall show the wording in red print "RECORD DRAWING AS-BUILT" followed by the name of the Contractor and the contract number in letters at least 1/2 inch high. All other contract drawings shall be marked in red print either "AS-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in the revision block. Within 20 days after Government approval of all of the working as-built drawings, the Contractor shall prepare the final "As-Built" drawings for that phase of work and submit to the Government for review and approval. The Government will promptly return one set of prints annotated with any necessary corrections. Within 10 days the Contractor shall revise the "As-Built" drawings accordingly at no additional cost and submit one set of final "As-Built" prints, two color copies, and three PDF files on CD-R for the completed phase of work to the Government. Within 10 day of substantial completion of all phases of work, the Contractor shall submit the final "As-Built" drawing package for the entire project. The submittal shall consist of three sets of the approved working "As-Built" drawings (one original and two color copies) and three electronic (.PDF) copies on CD-R. Paper prints and storage media submitted will become the property of the Government upon final approval. Failure to submit final "As-Built" drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final "As-Built" drawings shall be accomplished before final payment is made to the Contractor.

1.3.2 Meter Data

Provide data deliverables for each meter installed as described in the water meter specifications.

1.4 MECHANICAL TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

Prior to final inspection and transfer of the completed facility; all reports, statements, certificates, and completed checklists for testing, adjusting, balancing, and commissioning of mechanical systems shall be submitted to and approved by the Contracting Officer as specified in applicable technical specification sections.

1.5 OPERATION AND MAINTENANCE MANUALS

Operation manuals and maintenance manuals shall be submitted as specified. Operation manuals and maintenance manuals provided in a common volume shall be clearly differentiated and shall be separately indexed.

1.6 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed.

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-- End of Section Table of Contents --

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, materials, and equipment required to perform all operations necessary for demolition, as specified herein or shown on the drawings.

1.2 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for demolition associated work required by this section except as described below. All costs for the work described in this section shall be included in applicable contract unit or job prices to which the work is incidental.

1.2.1 Sawcut Asphalt and Concrete

Sawcut of asphalt and concrete paving will be measured by the linear foot of paving cut where required. Measurement will be made to the nearest 1/10 foot. Payment for sawcut will be made at the contract unit price per linear foot for "Full-Depth Sawcut Asphalt and Concrete Surfaces". Price and payment shall constitute full compensation for sawcut of the existing asphalt and concrete paving; and other work incidental thereto, including labor and materials used in the sawcut.

1.2.2 Removal of Concrete Paving

Removal of concrete paving will be measured by the cubic yard of paving removed where required. Measurement will be made to the nearest 1/10 foot and units computed to the nearest cubic yard. Payment for removal of concrete paving will be made at the applicable contract unit price per cubic yard for "Removal of Concrete Drives" or "Removal of Concrete Sidewalks". Price and payment shall constitute full compensation for removal and disposal of the existing concrete; and other work incidental thereto, including labor and materials used in the removal of the concrete paving. Payment for removal of concrete paving will be made only for completed removal.

1.2.3 Removal of Asphalt Paving

Removal of asphalt paving will be measured by the cubic yard of paving removed where required. Measurement will be made to the nearest 1/10 foot and units computed to the nearest cubic yard. Payment for removal of asphalt paving will be made at the contract unit price per cubic yard for "Removal of Asphalt Drives". Price and payment shall constitute full compensation for removal and disposal of the existing asphalt; and other work incidental thereto, including labor and materials used in the removal of the asphalt paving. Payment for removal of asphalt paving will be made only for completed removal.

1.2.4 Removal of Water Meters

Measurement for removal of water meters will be by each water meter and meter box removed. Payment will be made at the applicable contract unit price per each for "Removal of 5/8-inch x 3/4-inch Water Meters", "Removal of 1-inch Water Meters", "Removal of 2-inch Water Meters", "Removal of 3-inch Water Meters", or "Removal of 4-inch Water Meters". Price and payment shall constitute full compensation for furnishing all plant, labor, materials, and equipment required to remove the water meters and meter boxes. Removal shall include all digging; backfilling; and disposal of the meter boxes; delivery of salvaged meters to a location in the Donaldsonville area designated by the Contracting Officer's Representative (COR); and all other work incidental thereto, all as specified herein and shown on the drawings.

1.2.5 Disposal of Non-Salvageable Water Meters

Measurement for disposal of non-salvageable water meters will be by each water meter disposed of. Payment will be made at the contract unit price per each for "Disposal of Non-Salvageable Water Meters". Price and payment shall constitute full compensation for furnishing all plant, labor, materials, and equipment required to dispose of any water meters not determined to be salvageable by the Contracting Officer's Representative.

1.2.6 Disposal of Excavated Material

Disposal of excavated material will be measured by the cubic yard of excavated soil material that cannot be re-used and requires disposal off site by the Contractor. Measurement will be made to the nearest cubic yard prior to disposal. Payment for disposal of excavated soil material will be made at the contract unit price per cubic yard for "Disposal of Excavated Material". Price and payment shall constitute full compensation for hauling excavated soil material from each project site when required; temporarily storing the material; hauling to a landfill for disposal; and other work incidental thereto, including labor, equipment and materials used in the disposal of excavated material.

1.3 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 ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)

AASHTO M 145 (1991; R 2012) Standard Specification for
Classification of Soils and Soil-Aggregate
Mixtures for Highway Construction Purposes

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements
Manual

1.4 PROJECT DESCRIPTION

1.4.1 Definitions

1.4.1.1 Demolition

Demolition is the process of wrecking or taking out any load-supporting structural member of a facility together with any related handling and disposal operations.

1.4.1.2 Demolition Plan

Demolition Plan is the planned steps and processes for managing demolition activities and identifying the required sequencing activities and disposal mechanisms.

1.4.2 Demolition Plan

Prepare a Demolition Plan and submit proposed demolition, and removal procedures for approval before work is started. Include in the plan procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress a detailed description of methods and equipment to be used for each operation and of the sequence of operations. The Demolition Plan will assume that all meters, unsuitable soil, concrete, and asphalt will be properly disposed of by the Contractor at his expense except for COR identified components and materials to be salvaged and transported to Parish Utilities of Ascension (or the City of Donaldsonville) for reuse or recycling with reference to paragraph "Existing Facilities to be Removed". Append tracking forms for all removed materials indicating type, quantities, condition, destination, and end use.

1.4.3 General Requirements

Do not begin demolition until authorization is received from the Contracting Officer. The work of this section is to be performed in a manner that maximizes the value derived from the salvage and recycling of materials. Remove rubbish and debris from the project site; The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from project site property daily, unless otherwise directed. Store materials that cannot be removed daily in areas specified by the Contracting Officer. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

1.5 ITEMS TO REMAIN IN PLACE

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government. Repair or replace damaged items as approved by the Contracting Officer. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Do not overload pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement require approval by the Contracting Officer prior to performing such work.

1.5.1 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

1.5.2 Trees

Protect trees within the project site which might be damaged during demolition. Replace any tree designated to remain that is damaged during the work under this contract with like-kind or as approved by the Contracting Officer.

1.5.3 Utility Service

Maintain existing utilities indicated to stay in service and protect against damage during demolition operations.

1.5.4 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.6 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.7 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Demolition Plan; G
Existing Conditions

1.8 PROTECTION

1.8.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Anchor barricades in a manner to prevent displacement by wind. Notify the Contracting Officer prior to beginning such work.

1.9 EXISTING CONDITIONS

Before beginning any demolition work, survey the site and examine the

drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the Contracting Officer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 4 inch will be acceptable as a record of existing conditions. Include in the record, possible conflicting electrical conduits, plumbing lines, the location and extent of existing cracks and other damage and description of surface conditions that exist prior to before starting work. It is the Contractor's responsibility to verify and document all required outages which will be required during the course of work, and to note these outages on the record document. Submit survey results.

PART 2 PRODUCTS

2.1 FILL MATERIAL

- a. Comply with excavating, backfilling, and compacting procedures for soils used as backfill material to fill voids, depressions or excavations resulting from demolition of structures. Fill material shall be waste products from demolition until all waste appropriate for this purpose (meeting paragraph b below) is consumed.
- b. Fill material shall conform to the definition of satisfactory soil material as defined in AASHTO M 145, Soil Classification Groups A-1, A-2-4, A-2-5 and A-3. In addition, fill material shall be free from roots and other organic matter, trash, debris, and stones larger than 2 inches in any dimension.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

Removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for reuse, recycling, or other disposal, as specified. Materials shall be designated for reuse onsite whenever possible.

3.1.1 Utilities and Related Equipment

3.1.1.1 General Requirements

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by the Contracting Officer. Do not begin demolition work until disconnection of water service by the Contractor and until all other utilities impacted by the water meter replacement have been disconnected by the appropriate utility company.

3.1.1.2 Disconnecting Existing Utilities

When utility lines are encountered but are not indicated on the drawings, notify the Contracting Officer prior to further work in that area. Remove salvaged water meters and related equipment/materials and deliver to a Contracting Officer designated location either the Parish Utilities of Ascension (or the City of Donaldsonville) and dispose at Contractor expense of any unsalvageable meters and related equipment/material waste.

3.1.2 Paving and Slabs

Remove sawcut concrete and asphaltic concrete paving and slabs including

aggregate base as indicated or to a depth of 18 inches below existing adjacent grade. Provide neat sawcuts at limits of pavement removal as needed. Sawcut shall be required whenever existing meters to be replaced are located within concrete or asphalt surfaces. Pavement and slabs not part of this project shall not be disturbed.

3.1.3 Items With Unique/Regulated Disposal Requirements

Remove and dispose of items with unique or regulated disposal requirements in the manner dictated by law or in the most environmentally responsible manner.

3.2 CONCURRENT EARTH-MOVING OPERATIONS

Do not begin excavation, filling, and other earth-moving operations that are sequential to demolition work in areas occupied by structures to be demolished until all demolition in the area has been completed and debris removed. Fill holes and other hazardous openings.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

Except for salvaged items specified in related Sections or specified in the field by the COR, all materials and equipment removed and not reused or salvaged, shall become the property of the Contractor, shall be removed from the project site, and shall be disposed of at Contractor expense meeting federal, state, parish, and city regulations. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition, and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited.

3.3.2 Reuse of Materials and Equipment

Remove and store materials and equipment listed in the Demolition Plan to be reused or relocated to prevent damage, and reinstall as the work progresses.

3.4 CLEANUP

Remove debris and rubbish from project site. Remove and transport the debris in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.5 DISPOSAL OF REMOVED MATERIALS

3.5.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other nonsalvageable materials resulting from removal operations with all applicable federal, state and local regulations. Storage of removed materials on the project site is prohibited.

3.5.2 Removal from Project Site

Transport waste materials removed from demolished structures, from project site for legal disposal.

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CONCRETE FOR MINOR STRUCTURES

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, materials, equipment, and performing all operations necessary for batching, transporting, placing and finishing incidental concrete specified herein and as shown on the drawings.

1.2 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 CONCRETE INSTITUTE (ACI)

ACI 308R	(2016) Guide to Curing Concrete
ACI 318/318R	(2011) Building Code Requirements for Structural Concrete and Commentary
ACI 347	(2014) Guide to Formwork for Concrete

ASTM INTERNATIONAL (ASTM)

ASTM A 615/A 615M	(2018e1) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A 1064/A 1064M	(2018a) Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C 31/C 31M	(2006) Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C 33	(2021) Standard Specification for Concrete Aggregates
ASTM C 39/C 39M	(2021) Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C 94/C 94M	(2020) Standard Specification for Ready-Mixed Concrete
ASTM C 143/C 143M	(2020) Standard Test Method for Slump of Hydraulic-Cement Concrete

ASTM C 150	(2020) Standard Specification for Portland Cement
ASTM C 171	(2020) Standard Specification for Sheet Materials for Curing Concrete
ASTM C 172	(2017) Standard Practice for Sampling Freshly Mixed Concrete
ASTM C 231	(2017a) Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 260	(2010; R2016) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C 309	(2019) Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494/C 494M	(2019) Standard Specification for Chemical Admixtures for Concrete
ASTM C 595	(2020) Standard Specification for Blended Hydraulic Cements
ASTM C 618	(2019) Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C 685/C 685M	(2017) Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C 989	(2018a) Standard Specification for Cement for Use in Concrete and Mortars
ASTM C 1059	(2013) Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete
ASTM C 1107/C 1107M	(2020) Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
ASTM C 1567	(2013) Standard Test Method for Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)
ASTM D 75	(2019) Standard Practice for Sampling Aggregates

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CRD-C 400	(1963) Requirements for Water for Use in Mixing or Curing Concrete
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LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016 Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LADOTD)

LSSRB 1003.08

Aggregates for Portland Cement Concrete and Mortar

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS CCC-C-467

(Rev C) Cloth, Burlap, Jute (or Kenaf)

1.3 MEASUREMENT AND PAYMENT

Concrete paving will be measured by the cubic yard of paving placed in accordance with the details shown on the drawings. Measurement will be made to the nearest 1/10 foot and units computed to the nearest cubic yard. Payment for concrete paving will be made at the applicable contract unit price per cubic yard for "Replacement of Concrete Drives" or "Replacement of Concrete Sidewalks". Price and payment shall constitute full compensation for preparation, maintenance and restoration of the subgrade; installation of reinforcing and concrete; and other work incidental thereto, including labor and materials used in the construction of the new concrete paving. Payment for concrete paving will be made only for completed paving. Completed paving is defined as concrete that has been placed, finished cured and sealed in accordance with the specifications.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Air-Entraining Admixture
Water-Reducing or Retarding Admixture
Curing Materials
Reinforcing Steel
Nonshrink Grout

Manufacturer's literature which demonstrates compliance with these specifications shall be submitted for the above materials.

Batching and Mixing Equipment

Batching and mixing equipment will be accepted on the basis of manufacturer's data, which demonstrates compliance with the applicable specifications. The name and location of the batch plant shall be furnished.

Conveying and Placing Concrete

The methods and equipment for transporting, handling, depositing, and consolidating the concrete shall be submitted to the Contracting Officer prior to the first concrete placement.

Formwork

Formwork design shall be submitted to the Contracting Officer prior to the first concrete placement.

SD-06 Test Reports

Aggregates

Aggregates will be accepted on the basis of certificates of compliance and test reports that show the material(s) meets the quality and grading requirements of the specifications under which it is furnished.

Concrete Mixture Proportions; G

At least 30 days prior to placement of concrete, the Contractor shall submit to the Contracting Officer the mixture proportions that will produce concrete of the quality required. Mixture proportions shall include the dry weights of each cementitious material; the nominal maximum size of the coarse aggregate; the specific gravities, absorptions, and saturated surface-dry weights of fine and coarse aggregates; the quantities, types, and names of admixtures; and quantity of water per cubic yard of concrete. All materials included in the mixture proportions shall be of the same type and from the same source as will be used on the project. Documentation complying with paragraph 5.3.3 of ACI 318/318R shall be submitted to verify that the concrete mixture proportions selected will produce concrete of the quality specified.

SD-07 Certificates

Cementitious Materials

Certificates of compliance attesting that the concrete materials meet the requirements of the specifications shall be submitted in accordance with Section 01100 GENERAL PROVISIONS, paragraph "CERTIFICATES OF COMPLIANCE." Cementitious material will be accepted on the basis of a manufacturer's certificate of compliance, accompanied by current mill test reports stating that the material meets the requirements of the specification under which it is furnished. If a blended product meeting ASTM C 595 is to be used, the manufacturer shall also certify in writing that the amount of pozzolan in the finished cement will not vary more than plus or minus 5.0 mass percent of the finished cement from lot to lot or within a lot.

Aggregates

Aggregates will be accepted on the basis of certificates of compliance and tests reports that show the material(s) meet the quality and grading requirements of the specifications under which it is furnished. The gradation test for the fine aggregate shall include the No. 8 and No. 30 sieve sizes. The name and location of the pit shall also be furnished.

1.5 QUALITY CONTROL

1.5.1 Plant Certification

The precast concrete producer must be certified by the National Precast

Concrete Association's Plant Certification Program (or the PCI Plant Certification Program for Category C1 work) prior to production of the products for this project.

1.5.2 Reporting

The original and two copies of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.6 DESIGN AND PERFORMANCE REQUIREMENTS

The Government will maintain the option to sample and test aggregates and concrete to determine compliance with the specifications. The Contractor shall provide facilities and labor as may be necessary to assist the Government in procurement of representative test samples. Samples of aggregates shall be obtained at the point of batching in accordance with ASTM D 75. Concrete will be sampled in accordance with ASTM C 172. Slump and air content will be determined in accordance with ASTM C 143/C 143M and ASTM C 231, respectively, when cylinders are molded. Compression test specimens shall be made, cured, and transported in accordance with ASTM C 31/C 31M. Compression test specimens will be tested in accordance with ASTM C 39/C 39M. Samples for strength tests shall be taken not less than once each shift in which concrete is produced from each class of concrete required. A minimum of three specimens will be made from each sample; two will be tested at 28 days (90 days if pozzolan is used) for acceptance, and one will be tested at 7 days for information.

1.6.1 Strength

Acceptance test results will be the average strengths of two specimens tested at the specified design age. The strength of the concrete will be considered satisfactory so long as the average of three consecutive acceptance test results equal or exceed the specified compressive strength, f'_c , and no individual acceptance test result falls below f'_c by more than 500 psi.

1.6.2 Construction Tolerances

A Class "A" finish shall apply to all surfaces except those specified to receive a Class "D" finish. A Class "D" finish shall apply to all surfaces which will be permanently concealed after construction. The requirements for the classes of finish shall be as specified in ACI 347.

1.6.3 Concrete Mixture Proportions

Concrete mixture proportions shall be the responsibility of the Contractor. Specified compressive strength shall be 4,000 psi at 28 days (90 days if pozzolan is used). The nominal maximum size coarse aggregate shall be 3/4-inch. The air content shall range from 4.5 to 7.5 percent. The slump shall range from 2 to 5 inches. The maximum water to cementitious materials ratio shall be 0.50. If pozzolan is used, it shall range from 15 to 35 percent by weight of the total cementitious materials.

PART 2 PRODUCTS

2.1 CEMENTITIOUS MATERIALS

Cementitious materials shall be portland cement, portland cement in combination with pozzolan or blended hydraulic cement and shall conform to appropriate specifications listed:

2.1.1 Portland Cement

ASTM C 150, low alkali, Type I, II, or III.

2.1.2 Blended Hydraulic Cement

ASTM C 595, Type IS or IP (20 to 40). Blended hydraulic cement shall meet the mortar expansion limits found in Table 2 of ASTM C 595. Admixture additions shall not be included in the blended cement.

2.1.3 Pozzolan, other than Silica Fume

Pozzolan shall conform to ASTM C 618, Class C or F, with the Multiple Factor and the Effectiveness in Controlling Alkali-Silica Reaction requirements of Table 3. Test results showing that the proposed combination of cementitious materials and aggregates will expand less than 0.10% in 16 days when tested in accordance with ASTM C 1567 may be substituted for the Effectiveness in Controlling Alkali-Silica Reaction test

2.1.4 Ground Granulated Blast-Furnace Slag

Ground Granulated Blast-Furnace (GGBF) Slag shall conform to ASTM C 989, Grade 100 or 120.

2.2 AGGREGATES

Aggregates shall conform to ASTM C 33, except as specified otherwise herein. Coarse aggregate shall meet the additional requirements for Class 4M or better or LSSRB 1003.08. Aggregates shall conform to the grading requirements of either ASTM C 33 or, LSSRB 1003.08. Recycled portland cement concrete and lightweight coarse aggregate shall not be used.

2.3 ADMIXTURES

Admixtures to be used, when required or approved, shall comply with the appropriate specification listed. Chemical admixtures that have been in storage at the project site for longer than 6 months or that have been subjected to freezing shall be retested at the expense of the Contractor at the request of the Contracting Officer and shall be rejected if test results are not satisfactory.

2.3.1 Air-Entraining Admixture

Air-entraining admixture shall meet the requirements of ASTM C 260.

2.3.2 Water-Reducing or Retarding Admixtures

Water-reducing or retarding admixture shall meet the requirements of ASTM C 494/C 494M, Type A, B, or D.

2.4 WATER

Water for mixing and curing shall be fresh, clean, drinkable, and free from injurious amounts of oil, acid, salt, sugar or alkali, except that undrinkable water may be used if it meets the requirements of COE CRD-C 400.

2.5 REINFORCING STEEL

Reinforcing steel bar shall conform to the requirements of ASTM A 615/A 615M, Grade 60. Welded steel wire fabric shall conform to the requirements of ASTM A 1064/A 1064M. Details of reinforcement not shown on drawings shall be in accordance with ACI 318/318R, Chapters 7 and 12.

2.6 FORMWORK

The design of the formwork as well as its construction shall be the responsibility of the Contractor.

2.7 FORM COATINGS

Forms for exposed surfaces shall be coated with nonstaining form oil, which shall be applied shortly before concrete is placed.

2.8 CURING MATERIALS

Curing materials shall conform to the following requirements.

2.8.1 Impervious Sheet Materials

Impervious sheet materials, ASTM C 171, type optional, except polyethylene film, if used, shall be white opaque.

2.8.2 Membrane-Forming Curing Compound

ASTM C 309, Type 1-D or 2.

2.8.3 Burlap

Burlap used for curing shall conform to FS CCC-C-467.

2.9 LATEX BONDING COMPOUND

Latex bonding agent for bonding fresh to hardened concrete shall conform to ASTM C 1059.

2.10 NONSHRINK GROUT

Nonshrink grout shall conform to ASTM C 1107/C 1107M and shall be a commercial formulation suitable for the application proposed.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 General

Earth foundations shall be satisfactorily compacted. All equipment needed to place, consolidate, protect, and cure the concrete shall be at the

placement site and in good operating condition. Spare vibrators shall be available. The entire preparation shall be accepted by the Government prior to placing.

3.1.1.2 Embedded Items

Reinforcement shall be secured in place; joints, anchors, and other embedded items shall have been positioned. Internal ties shall be arranged so that when the forms are removed all metal will be not less than 2 inches from concrete surfaces permanently exposed to view or exposed to water on the finished structures. Embedded items shall be free of oil and other foreign matter such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed.

3.1.1.3 Formwork Installation

Forms shall be properly aligned, adequately supported, and mortar-tight. The form surfaces shall be smooth and free from irregularities, dents, sags, or holes when used for permanently exposed faces. All exposed joints and edges shall be chamfered, unless otherwise indicated.

3.1.1.4 Production of Concrete

3.1.1.4.1 Ready-Mixed Concrete

Ready-mixed concrete shall conform to ASTM C 94/C 94M, except as otherwise specified.

3.1.1.4.2 Concrete Made by Volumetric Batching and Continuous Mixing

Concrete made by volumetric batching and continuous mixing shall conform to ASTM C 685/C 685M.

3.1.1.4.3 Batching and Mixing Equipment

The Contractor shall have the option of using an on-site batching and mixing facility. The facility shall provide sufficient batching and mixing equipment capacity to prevent cold joints.

3.2 CONVEYING AND PLACING CONCRETE

3.2.1 General

Concrete placement shall not be permitted when, in the opinion of the Contracting Officer, weather conditions prevent proper placement, consolidation, and curing. When concrete is mixed and/or transported by a truck mixer, the concrete shall be delivered to the site of the work and discharge shall be completed within 1-1/2 hours or 45 minutes when the placing temperature is 85 degrees F or greater unless a retarding admixture is used. Concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods, which prevent segregation or loss of ingredients. Concrete shall be in place and consolidated within 15 minutes after discharge from agitating equipment. Concrete shall be deposited as close as possible to its final position in the forms and be so regulated that it may be effectively consolidated in horizontal layers 18 inches or less in thickness with a minimum of lateral movement. The placement shall be carried on at such a rate that the formation of cold joints will be prevented.

3.2.2 Cold-Weather Requirements

No concrete placement shall be made when the ambient temperature is below 35 degrees F or if the ambient temperature is below 40 degrees F and falling. Suitable covering and other means, as approved by the Contracting Officer, shall be provided for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing and at a temperature above freezing for the remainder of the curing period. Salt, chemicals, or other foreign materials shall not be mixed with the concrete to prevent freezing. Any concrete damaged by freezing shall be removed and replaced at the expense of the Contractor.

3.2.3 Hot-Weather Requirements

When the rate of evaporation of surface moisture, as determined by use of Figure 4.1 of ACI 308R, is expected to exceed 0.2 pounds per square foot per hour, provisions for windbreaks, shading, fog spraying, or covering with a light-colored material shall be made in advance of placement, and such protective measures shall be taken as quickly as finishing operations will allow.

3.3 FORM REMOVAL

Forms shall not be removed before the expiration of 24 hours after concrete placement except where otherwise specifically authorized. Supporting forms and shoring shall not be removed until the concrete has cured for at least 5 days. When conditions on the work are such as to justify the requirement, forms will be required to remain in place for longer periods.

3.4 FINISHING

3.4.1 General

No finishing or repair shall be done when either the concrete or the ambient temperature is below 50 degrees F.

3.4.2 Finishing Formed Surfaces

All fins and loose materials shall be removed, and surface defects including tie holes shall be filled. All honeycomb areas and other defects shall be repaired. All unsound concrete shall be removed from areas to be repaired. Surface defects greater than 1/2 inch in diameter and holes left by removal of tie rods in all surfaces not to receive additional concrete shall be reamed or chipped and filled with dry-pack mortar. The prepared area shall be brush-coated with an approved latex bonding compound or with a neat cement grout after dampening and filled with mortar or concrete. The cement used in mortar or concrete for repairs to all surfaces permanently exposed to view shall be a blend of portland cement and white cement so that the final color when cured will be the same as adjacent concrete.

3.4.3 Finishing Unformed Surfaces

All unformed surfaces that are not to be covered by additional concrete or backfill shall be float finished to elevations shown on the drawings, unless otherwise specified. Surfaces to receive additional concrete or backfill shall be brought to the elevations shown on the drawings and left

as a true and regular surface. Exterior surfaces shall be sloped for drainage unless otherwise shown on the drawings. Joints shall be carefully made with a jointing tool. Unformed surfaces shall be finished to a tolerance of 3/8 inch for a float finish as determined by a 10 foot straightedge placed on surfaces shown on the plans to be level or having a constant slope. Finishing shall not be performed while there is excess moisture or bleeding water on the surface. No water or cement shall be added to the surface during finishing.

3.4.3.1 Float Finish

Surfaces to be float finished shall be screeded and darbied or bullfloated to eliminate the ridges and to fill in the voids left by the screed. In addition, the darbying or bullfloating shall fill all surface voids and only slightly embed the coarse aggregate below the surface of the fresh concrete. When the water sheen disappears and the concrete will support a person's weight without more than about 1/4-inch indentation, floating should be completed. Floating should embed large aggregates just beneath the surface, remove slight imperfections, humps, and voids to produce a plane surface, compact the concrete, and consolidate mortar at the surface.

3.4.3.2 Broom Finish

A broom finish shall be applied to the concrete slabs. The concrete shall be screeded and floated to required finish plane with no coarse aggregate visible. After surface moisture disappears, the surface shall be broomed or brushed with a broom or fiber bristle brush in a direction transverse to that of the main traffic or as directed by the Contracting Officer.

3.5 CURING AND PROTECTION

Beginning immediately after placement and continuing for at least 7 days, except for concrete made with Type III cement, at least 3 days, all concrete shall be cured and protected from premature drying, extremes in temperature, rapid temperature change, freezing, mechanical damage, and exposure to rain or flowing water. All materials and equipment needed for adequate curing and protection shall be available and at the site of the placement prior to the start of concrete placement. Preservation of moisture for concrete surfaces not in contact with forms shall be accomplished by any of the following methods:

- (1) Continuous sprinkling or ponding.
- (2) Application of absorptive mats or fabrics kept continuously wet (horizontal surfaces only).
- (3) Application of sand kept continuously wet.
- (4) Application of impervious sheet material.
- (5) Application of membrane-forming curing compound in accordance with the manufacturer's written instructions.

The preservation of moisture for concrete surfaces placed against wooden forms shall be accomplished by keeping the forms continuously wet for the required curing period. If forms are removed prior to end of the required curing period, other curing methods shall be used for the balance of the curing period. During the period of protection removal, the temperature of the air in contact with the concrete shall not be allowed to drop more

than 25 degrees F within a 24-hour period.

3.6 GROUTING

3.6.1 General

After being plumbed and properly positioned, the pump base and manhole penetrations shall be grouted. Concrete surfaces shall be rough, clean, and free of oil, grease, and laitance, and they shall be damp. Curing compound shall have been mechanically removed from the concrete where grout is to be applied.

3.6.2 Nonshrink Grout

Unless recommended otherwise by the grout manufacturer, the mixture shall include by weight 1-1/2 parts of sound, clean, uncrushed gravel conforming to the size no. 8, Table 2, ASTM C 33 in combination with fine aggregate conforming to ASTM C 33, to 1 part portland cement. Water content shall be the minimum that will provide a flowable mixture and completely fill the space to be grouted without segregation, bleeding, or reduction of strength.

3.6.2.1 Mixing and Placing

Mixing and Placing shall be in conformance with the material manufacturer's instructions and as specified therein. Ingredients shall be thoroughly dry mixed before adding water. After adding water, the batch shall be mixed for at least 3 minutes. Batches shall be of a size to allow continuous placement of freshly mixed grout. Grout not used within 30 minutes after mixing shall be discarded. The space between the pipe and retaining wall shall be filled solid with the grout. Forms shall be of wood or other equally suitable material for retaining the grout and shall be removed after the grout has set. The placed grout shall be worked to eliminate voids; however, overworking and breakdown of the initial set shall be avoided. Grout shall not be retempered or subjected to vibration from any source. Temperature of the grout, and of surfaces receiving the grout, shall be maintained at 65 to 85 degrees F until after setting.

3.6.2.2 Treatment of Exposed Surfaces

Those types containing metallic aggregate shall have, after the grout has set, the exposed surfaces cut back 1 inch and immediately covered with a parge coat of mortar proportioned by weight of one part portland cement, two parts sand, and sufficient water to make the mixture placeable. The parge coat shall have a smooth, dense finish. The exposed surface of other types of nonshrink grout shall have a smooth, dense finish.

3.6.2.3 Curing

Grout and parge coats shall be cured in conformance with paragraph CURING AND PROTECTION.

3.7 CONTRACTOR'S TESTS AND INSPECTIONS

3.7.1 General

The individuals who sample and test concrete as required in this specification shall have demonstrated a knowledge and ability to perform

the necessary test procedures equivalent to the ACI minimum guidelines for certification as a Concrete Field Testing Technician, Grade I.

3.7.2 Inspection Details and Frequency of Testing

3.7.2.1 Preparations for Placing

Foundation or construction joints, forms, and embedded items shall be inspected in sufficient time prior to each concrete placement by the Contractor to certify to the Contracting Officer that it is ready to receive concrete.

3.7.2.2 Air Content

Air content shall be checked at least once during each shift that concrete is placed. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 231.

3.7.2.3 Slump

Slump shall be checked at least once during each shift that concrete is produced. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 143/C 143M.

3.7.2.4 Consolidation and Protection

The Contractor shall ensure that the concrete is properly consolidated, finished, protected, and cured.

3.7.3 Action Required

3.7.3.1 Placing

The placing foreman shall not permit placing to begin until he/she has verified that an adequate number of acceptable vibrators, which are in working order and have competent operators, are available. Placing shall not be continued if any pile of concrete is inadequately consolidated.

3.7.3.2 Air Content

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment shall be made to the dosage of the air entrainment admixture.

3.7.3.3 Slump

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment should be made in the batch weights of water and fine aggregate. The adjustments are to be made so that the water-cementitious materials ratio does not exceed that contained in the approved concrete mixture proportions.

3.7.4 Reports

The results of all tests and inspections conducted at the project site shall be reported informally at the end of each shift and in writing weekly and shall be delivered to the Contracting Officer within 3 days after the end of each weekly reporting period. See Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL. The Government has the right to examine all

Contractor quality control records.

-- End of Section --

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SECTION 03 42 13.00 10

PLANT-PRECAST CONCRETE PRODUCTS FOR BELOW GRADE CONSTRUCTION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, materials, equipment, and performing all operations necessary for the design, fabrication, and installation of the precast concrete meter vaults as specified herein, and as shown on the drawings.

1.2 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 CONCRETE INSTITUTE (ACI)

ACI 211.1	(1991; R 2009) Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete
ACI 211.2	(1998; R 2004) Standard Practice for Selecting Proportions for Structural Lightweight Concrete
ACI 305R	(2010) Guide to Hot Weather Concreting
ACI 306.1	(1990; R 2002) Standard Specification for Cold Weather Concreting
ACI 318	(2014; Errata 1-2 2014; Errata 3-5 2015; Errata 6 2016; Errata 7-9 2017) Building Code Requirements for Structural Concrete (ACI 318-14) and Commentary (ACI 318R-14)

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2020) Structural Welding Code - Steel
AWS D1.4/D1.4M	(2011) Structural Welding Code - Reinforcing Steel

ASTM INTERNATIONAL (ASTM)

ASTM A36/A36M	(2019) Standard Specification for Carbon Structural Steel
ASTM A153/A153M	(2016a) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A615/A615M	(2020) Standard Specification for Deformed

	and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A706/A706M	(2016) Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A767/A767M	(2016) Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement
ASTM A775/A775M	(2017) Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884/A884M	(2019) Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A1064/A1064M	(2017) Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31/C31M	(2019a) Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39/C39M	(2020) Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C138/C138M	(2017a) Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143/C143M	(2020) Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C171	(2020) Standard Specification for Sheet Materials for Curing Concrete
ASTM C173/C173M	(2016) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C192/C192M	(2019) Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM C231/C231M	(2017a) Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C309	(2011) Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C857	(2016) Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures

ASTM C858	(2010; E 2012) Standard Specification for Underground Precast Concrete Utility Structures
ASTM C891	(2020) Standard Practice for Installation of Underground Precast Concrete Utility Structures
ASTM C1064/C1064M	(2017) Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1107/C1107M	(2020) Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
ASTM C1116/C1116M	(2010a; R 2015) Standard Specification for Fiber-Reinforced Concrete
ASTM C1244	(2011; R 2017) Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill

CSA GROUP (CSA)

CSA A23.4	(2016; Errata 2016) Precast Concrete - Materials and Construction
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NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA)

NPCA QC Manual	(2017) Quality Control Manual for Precast and Prestressed Concrete Plants
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1.3 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for Precast Concrete products as specified herein and as shown on the drawings. Payment shall be included in the applicable contract job or unit prices to which the work is incidental.

1.4 SUBMITTALS

All submittals are the responsibility of the precast concrete producer. Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Quality Control Procedures

SD-02 Shop Drawings

Standard Precast Concrete Units; G
Custom-Made Precast Units; G

SD-03 Product Data

Standard Precast Concrete Units
Accessories

SD-05 Design Data

Design Calculations
Concrete Mix Proportions

SD-06 Test Reports

Test Reports

SD-07 Certificates

Quality Control Procedures

1.5 QUALITY ASSURANCE

Demonstrate adherence to the standards set forth in NPCA QC Manual. Meet requirements written in the subparagraphs below.

1.5.1 NPCA Plant Certification

The precast concrete producer must be certified by the National Precast Concrete Association's Plant Certification Program prior to and during production of the products for this project.

1.5.2 Qualifications, Quality Control and Inspection

1.5.2.1 Qualifications

Select a precast concrete producer that has been in the business of producing precast concrete units similar to those specified for a minimum of 3 years. The precast concrete producer must maintain a permanent quality control department or retain an independent testing agency on a continuing basis.

1.5.2.2 Quality Control Procedures

Submit quality control procedures established by the precast manufacturer in accordance with NPCA QC Manual. Show that the following QC tests are performed as required and in accordance with the ASTM standards indicated.

1.5.2.2.1 Slump

Perform a slump test for each 150 cu yd of concrete produced, or once a day, whichever comes first. Perform slump tests in accordance with ASTM C143/C143M.

1.5.2.2.2 Temperature

Measure the temperature of fresh concrete when slump or air content tests are made and when compressive test specimens are made in accordance with ASTM C1064/C1064M.

1.5.2.2.3 Compressive Strength

Make at least four compressive strength specimens for each 150 cubic yards

of concrete of each mix in accordance with the following Standards:
ASTM C31/C31M, ASTM C192/C192M, ASTM C39/C39M.

1.5.2.2.4 Air Content

Perform tests for air content on air-entrained, wet-cast concrete for each 150 cu yd of concrete, but not less often than once each day when air-entrained concrete is used. Determine the air content in accordance with either ASTM C231/C231M or ASTM C173/C173M for normal weight aggregates and ASTM C173/C173M for lightweight aggregates.

1.5.2.2.5 Unit Weight

Perform tests for unit weight a minimum of once per week to verify the yield of batch mixes. Perform unit weight tests for each 100 cu yd of lightweight concrete in accordance with ASTM C138/C138M.

1.5.2.3 Inspection

The Contracting Officer may place an inspector in the plant when the units covered by this specification are being manufactured. The burden of payment for plant inspection will be clearly detailed in the specification. The precast concrete producer must give notice 14 days prior to the time the units will be available for plant inspection. Neither the exercise nor waiver of inspection at the plant will affect the Government's right to enforce contractual provisions after units are transported or erected.

1.5.2.4 Test Reports

Submit the following:

1.5.2.4.1 Material Certifications or Laboratory Test Reports

Include mill tests and all other test data, for portland cement, blended cement, pozzolans, ground granulated blast furnace slag, silica fume, aggregate, admixtures, and curing compound proposed for use on this project.

1.5.2.4.2 Mix Test

Submit reports showing that the mix has been successfully tested to produce concrete with the properties specified and will be suitable for the job conditions. Such tests may include compressive strength, flexural strength, plastic or hardened air content, freeze thaw durability, abrasion and absorption. Clearly detail in the specifications special tests for precast concrete or cast-in items.

1.5.2.4.3 Self-Consolidating Concrete

Submit sufficient documentation, when the use of self-consolidating concrete (SCC) is proposed, showing a minimum of 30-days production track records demonstrating that SCC is appropriate for casting of the product.

1.5.2.4.4 In-Plant QA/QC Inspection Reports

Submit inspection reports upon the request of the Contracting Officer.

1.6 DELIVERY, STORAGE, AND HANDLING

1.6.1 Delivery

Deliver precast units to the site in accordance with the delivery schedule to avoid excessive build-up of units in storage at the site. Upon delivery to the jobsite, all precast concrete units will be inspected by the Contracting Officer for quality and final acceptance.

1.6.2 Storage

Store units off the ground or in a manner that minimizes potential damage.

1.6.3 Handling

Handle, transport, and store products in a manner to minimize damage. Lifting devices or holes must be consistent with industry standards. Perform lifting with methods or devices intended for this purpose as indicated on shop drawings.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Furnish precast concrete units designed and fabricated by an experienced and acceptable precast concrete manufacturer who has been, for at least three years, regularly and continuously engaged in the manufacture of precast concrete work similar to that indicated on the drawings. Coordinate precast work with the work of other trades. Below grade structures must comply with ASTM C858.

2.1.1 Standard Precast Concrete Units

Design standard precast concrete units to withstand indicated design load conditions in accordance with applicable industry design standards ASTM C857. Design must also consider stresses induced during handling, shipping and installation as to avoid product cracking or other handling damage. Indicate design loads for precast concrete units on the shop drawings. Submit drawings for standard precast concrete units furnished by the precast concrete producer for approval by the Contracting Officer. These drawings must demonstrate that the applicable industry design standards have been met. Include installation and construction information on shop drawings. Include details of steel reinforcement size and placement as well as supporting design calculations, if appropriate. Produce precast concrete units in accordance with the approved drawings. Submit cut sheets, for standard precast concrete units, showing conformance to project drawings and requirements, and to applicable industry design standards listed in this specification.

2.1.2 Custom-Made Precast Units

Submit design calculations for custom-made precast units, prepared and sealed by a registered professional engineer, for approval prior to fabrication. Include in the calculations the analysis of units for lifting stresses and the sizing of lifting devices. Submit Engineer-of-record stamped drawings furnished by the precast concrete producer for approval by the Contracting Officer. Show on these drawings complete design, installation, and construction information in such detail as to enable the Contracting Officer to determine the adequacy of the

proposed units for the intended purpose. Include details of steel reinforcement size and placement as well as supporting design calculations, if appropriate. Produce precast concrete units in accordance with the approved drawings.

2.1.1.3 Concrete Mix Design

2.1.1.3.1 Concrete Mix Proportions

Base selection of proportions for concrete on the methodology presented in ACI 211.1 for normal weight concrete and ACI 211.2 for lightweight concrete. Develop the concrete proportions using the same type and brand of cement, the same type and brand of pozzolan, the same type and gradation of aggregates, and the same type and brand of admixture that will be used in the manufacture of precast concrete units for the project. Do not use calcium chloride in precast concrete containing reinforcing steel or other embedded metal items. At a minimum of thirty days prior to precast concrete unit manufacturing, the precast concrete producer will submit a mix design and proportions for each strength and type of concrete that will be used. Furnish a complete list of materials, including quantity, type, brand and applicable data sheets for all mix design constituents as well as applicable reference specifications. The use of self-consolidating concrete is permitted, provided that mix design proportions and constituents meet the requirements of this specification.

2.1.1.3.2 Concrete Strength

Provide precast concrete units with a 28-day compressive strength (f'_c) of 5,000 psi.

2.1.1.3.3 Water-to-Cement Ratio

Furnish concrete which will not be exposed to freezing, a water-cementitious ratio of 0.45 or less.

2.1.1.3.4 Air Content

The air content of concrete that will be exposed to freezing conditions must be within the limits given below.

NOMINAL MAXIMUM AGGREGATE SIZE	AIR CONTENT PERCENT	
	EXPOSURE CLASS F1	EXPOSURE CLASSES F2 and F3
3/8 inch	6.0	7.5
1/2 inch	5.5	7.0
3/4 inch	5.0	6.0
1.0 inch	4.5	6.0
1.5 inch	4.5	5.5

NOMINAL MAXIMUM AGGREGATE SIZE	AIR CONTENT PERCENT	
	EXPOSURE CLASS F1	EXPOSURE CLASSES F2 and F3
Note: For specified compressive strengths greater than 5000 psi, air content may be reduced 1 percent		

2.2 MATERIALS

Except as otherwise specified in the following paragraphs, conform material to Section 03 30 04.00 12 CONCRETE FOR MINOR STRUCTURES.

2.2.1 Reinforcement

2.2.1.1 Reinforcing Bars

- a. Deformed Billet-steel: ASTM A615/A615M
- b. Deformed Low-alloy steel: ASTM A706/A706M

2.2.1.2 Reinforcing Wire

- a. Plain Wire: ASTM A1064/A1064M
- b. Deformed Wire: ASTM A1064/A1064M

2.2.1.3 Welded Wire Reinforcement

- a. Plain Wire: ASTM A1064/A1064M
- b. Deformed Wire: ASTM A1064/A1064M

2.2.1.4 Epoxy Coated Reinforcement

- a. Reinforcing Bars: ASTM A775/A775M
- b. Wires and Welded Wire: ASTM A884/A884M

2.2.1.5 Galvanized Reinforcement

Provide galvanized reinforcement conforming to ASTM A767/A767M.

2.2.2 Synthetic Fiber Reinforcement

Synthetic fiber shall be polypropylene with a denier less than 100 and a nominal fiber length of 2 inch.

2.2.3 Inserts and Embedded Metal

All items embedded in concrete must be of the type required for the intended task, and meet the following standards.

- a. Structural Steel Plates, Angles, etc.: ASTM A36/A36M
- b. Hot-dipped Galvanized: ASTM A153/A153M
- c. Proprietary Items: In accordance with manufacturers published

literature

2.2.4 Accessories

Submit proper installation instructions and relevant product data for items including, but not limited to, sealants, gaskets, connectors, steps, cable racks and other items installed before or after delivery.

2.2.5 Grout

Nonshrink Grout must conform to ASTM C1107/C1107M. Cementitious grout must be a mixture of portland cement, sand, and water. Proportion one part cement to approximately 2.5 parts sand, with the amount of water based on placement method. Provide air entrainment for grout exposed to the weather.

PART 3 EXECUTION

3.1 FABRICATION AND PLACEMENT

Perform fabrication in accordance with NPCA QC Manual unless specified otherwise.

3.1.1 Forms

Use forms, for manufacturing precast concrete products, of the type and design consistent with industry standards and practices. They should be capable of consistently providing uniform products and dimensions. Construct forms so that the forces and vibrations to which the forms will be subjected can cause no product damage. Clean forms of concrete build-up after each use. Apply form release agents according to the manufacturers recommendations and do not allow to build up on the form casting surfaces.

3.1.2 Reinforcement

Follow applicable ASTM Standard or ACI 318 for placement and splicing. Fabricate cages of reinforcement either by tying the bars, wires or welded wire reinforcement into rigid assemblies or by welding, where permissible, in accordance with AWS D1.4/D1.4M. Position reinforcing as specified by the design and so that the concrete cover conforms to requirements. The tolerance on concrete cover must be one-third of that specified but not more than 1/2 inch. Provide concrete cover not less than 1/2 inch. Take positive means to assure that the reinforcement does not move significantly during the casting operations.

3.1.3 Embedded Items

Position embedded items at locations specified in the design documents. Perform welding in accordance with AWS D1.1/D1.1M when necessary. Hold rigidly in place inserts, plates, weldments, lifting devices and other items to be imbedded in precast concrete products so that they do not move significantly during casting operations. Submit product data sheets and proper installation instruction for anchors, lifting inserts and other devices. Clearly indicate the products dimensions and safe working load.

3.1.4 Synthetic Fiber Reinforced Concrete

Add fiber reinforcement to the concrete mix at the batch plant in

accordance with the applicable sections of ASTM C1116/C1116M and the recommendations of the manufacturer. Use a minimum of 1.5 pounds of fibers per cubic yard of concrete.

3.2 CONCRETE

3.2.1 Concrete Mixing

Mixing operations must produce batch-to-batch uniformity of strength, consistency, and appearance.

3.2.2 Concrete Placing

Deposit concrete into forms as near to its final location as practical. Keep the free fall of the concrete to a minimum. Consolidate concrete in such a manner that segregation of the concrete is minimized and honeycombed areas are kept to a minimum. Use vibrators to consolidate concrete with frequencies and amplitudes sufficient to produce well consolidated concrete.

3.2.2.1 Cold Weather Concreting

Perform cold weather concreting in accordance with ACI 306.1.

- a. Provide adequate equipment for heating concrete materials and protecting concrete during freezing or near-freezing weather.
- b. All concrete materials, reinforcement, forms, fillers, and ground with which concrete is to come in contact must be free from frost.
- c. Do not use frozen materials or materials containing ice.
- d. In cold weather the temperature of concrete at the time of placing must not be below 45 degrees F. Discard concrete that freezes before its compressive strength reaches 500 psi.

3.2.2.2 Hot Weather Concreting

Follow recommendations for hot weather concreting in ACI 305R. During hot weather, give proper attention to constituents, production methods, handling, placing, protection, and curing to prevent excessive concrete temperatures or water evaporation that could impair required strength or serviceability of the member or structure. The temperature of concrete at the time of placing must not exceed 90 degrees F.

3.2.3 Concrete Curing

Commence curing immediately following the initial set and completion of surface finishing.

3.2.3.1 Curing by Moisture Retention

Prevent moisture evaporation from exposed surfaces until adequate strength for stripping is reached by one of the following methods:

- a. Cover with polyethylene sheets a minimum of 6 mils thick in accordance with ASTM C171.
- b. Cover with burlap or other absorptive material and keep continually

moist.

- c. Use a membrane-curing compound, conforming to ASTM C309 and applied at a rate not less than 200 square ft/gallon, or in accordance with manufacturers' recommendations.

3.2.3.2 Curing with Heat and Moisture

Do not subject concrete to steam or hot air until after the concrete has attained its initial set. Apply steam, if used, within a suitable enclosure, which permits free circulation of the steam in accordance with CSA A23.4. If hot air is used for curing, take precautions to prevent moisture loss from the concrete. The temperature of the concrete must not be permitted to exceed 150 degrees F. These requirements do not apply to products cured with steam under pressure in an autoclave.

3.2.4 Surface Finish

Finish unformed surfaces of wet-cast precast concrete products as specified. If no finishing procedure is specified, finish such surfaces using a strike-off to level the concrete with the top of the form.

3.2.4.1 Formed Non-Architectural Surfaces

Cast surfaces against approved forms following industry practices in cleaning forms, designing concrete mixes, placing and curing concrete. Normal color variations, form joint marks, small surface holes caused by air bubbles, and minor chips and spalls will be accepted but no major imperfections, honeycombs or other major defects will be permitted.

3.2.4.2 Unformed Surfaces

Finish unformed surfaces with a vibrating screed, or by hand with a float. Normal color variations, minor indentations, minor chips and spalls will be accepted. Major imperfections, honeycombs, or other major defects are not permitted.

3.2.4.3 Special Finishes

Troweled, broom or other finishes must be according to the requirements of project documents and performed in accordance with industry standards or supplier specifications. Submit finishes for approval when required by the project documents. The sample finishes must be approved prior to the start of production.

3.2.5 Stripping Products from Forms

Do not remove products from the forms until the concrete reaches the compressive strength for stripping required by the design. If no such requirement exists, products may be removed from the forms after the final set of concrete provided that stripping damage is minimal.

3.2.6 Patching and Repair

No repair is required to formed surfaces that are relatively free of air voids and honeycombed areas, unless the surfaces are required by the design to be finished.

3.2.6.1 Repairing Minor Defects

Defects that will not impair the functional use or expected life of a precast concrete product may be repaired by any method that does not impair the product.

3.2.6.2 Repairing Honeycombed Areas

When honeycombed areas are to be repaired, remove all loose material and cut back the areas into essentially horizontal or vertical planes to a depth at which coarse aggregate particles break under chipping rather than being dislodged. Use proprietary repair materials in accordance with the manufacturer's instructions. If a proprietary repair material is not used, saturate the area with water. Immediately prior to repair, the area should be damp, but free of excess water. Apply a cement-sand grout or an approved bonding agent to the chipped surfaces, followed immediately by consolidating an appropriate repair material into the cavity.

3.2.6.3 Repairing Major Defects

Evaluate, by qualified personnel, defects in precast concrete products which impair the functional use or the expected life of products to determine if repairs are feasible and, if so, to establish the repair procedure.

3.2.7 Shipping Products

Do not ship products until they are at least five days old, unless it can be shown that the concrete strength has reached at least 75 percent of the specified 28-day strength, or that damage will not result, impairing the performance of the product.

3.3 INSTALLATION

3.3.1 Site Access

It is the Contractor's responsibility to provide adequate access to the site to facilitate hauling, storage and proper handling of the precast concrete products.

3.3.2 General Requirements

- a. Install precast concrete products to the lines and grades shown in the contract documents or otherwise specified.
- b. Lift products by suitable lifting devices at points provided by the precast concrete producer.
- c. Install products in accordance with the precast concrete producer's instructions. In the absence of such instructions, install underground utility structures in accordance with ASTM C891. Install pipe and manhole sections in accordance with the procedures outlined by the American Concrete Pipe Association.
- d. Field modifications to the product will relieve the precast producer of liability even if such modifications result in the failure of the product.

3.3.3 Water Tightness

Where water tightness is a necessary performance characteristic of the precast concrete product's end use, watertight joints, connectors and inserts should be used to ensure the integrity of the entire system.

3.4 FIELD QUALITY CONTROL

3.4.1 Site Tests

When water tightness testing is required for an underground product, use one of the following methods:

3.4.2 Vacuum Testing

Prior to backfill vacuum test system according to ASTM C1244.

3.4.3 Water Testing

Perform water testing according to the contract documents and precast concrete producer's recommendations.

-- End of Section --

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DIVISION 31 - EARTHWORK

SECTION 31 00 00

EARTHWORK

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SECTION 31 00 00

EARTHWORK

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for earthwork, including excavation, trenching, sheeting, bracing, etc. All costs in connection therewith shall be included in the applicable contract unit or job price for the item to which the work is incidental.

1.2 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 ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)

AASHTO T 180 (2017) Standard Method of Test for
Moisture-Density Relations of Soils Using
a 4.54-kg (10-lb) Rammer and a 457-mm
(18-in.) Drop

ASTM INTERNATIONAL (ASTM)

ASTM C136/C136M (2019) Standard Test Method for Sieve
Analysis of Fine and Coarse Aggregates

ASTM D698 (2012; E 2014; E 2015) Laboratory
Compaction Characteristics of Soil Using
Standard Effort (12,400 ft-lbf/cu. ft.
(600 kN-m/cu. m.))

ASTM D1140 (2017) Standard Test Methods for
Determining the Amount of Material Finer
than 75- μ m (No. 200) Sieve in Soils by
Washing

ASTM D1557 (2012; E 2015) Standard Test Methods for
Laboratory Compaction Characteristics of
Soil Using Modified Effort (56,000
ft-lbf/ft³) (2700 kN-m/m³)

ASTM D2487 (2017; E 2020) Standard Practice for
Classification of Soils for Engineering
Purposes (Unified Soil Classification
System)

ASTM D4318 (2017; E 2018) Standard Test Methods for
Liquid Limit, Plastic Limit, and
Plasticity Index of Soils

ASTM D4718/D4718M

(2015) Standard Practice for Correction of
Unit Weight and Water Content for Soils
Containing Oversize Particles

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 600/4-79/020

(1983) Methods for Chemical Analysis of
Water and Wastes

EPA SW-846.3-3

(1999, Third Edition, Update III-A) Test
Methods for Evaluating Solid Waste:
Physical/Chemical Methods

1.3 DEFINITIONS

1.3.1 Select Fill

Select fill shall consist of mineral soil substantially free from organic materials, loam, wood, trash and other objectionable materials which may be compressible or which cannot be properly compacted. Select fill material shall not have a heave or swell potential. The material shall not contain stones larger than 2 inches in largest dimension.

1.3.2 Bedding Material

Bedding material shall be crushed stone. The stone source shall be from the Section 01100 GENERAL PROVISIONS, paragraph entitled "STONE SOURCES," and shall conform to the following gradation:

	#610	#57
U.S. Sieve Size	Percent Passing	Percent Passing
1.5 inches	100	100
1 inch	90-100	90-100
3/4 inch	70-100	
1/2 inch		25-60
No. 4	35-65	0-10
No. 8		0-5
No. 40	12-32	
No. 200	0 - 8	0-3

1.3.3 Unsatisfactory Materials

Unsatisfactory materials include man-made fills; trash; refuse; backfills from previous construction; and material which contains root and other organic matter or frozen material. Notify the Contracting Officer when encountering any contaminated materials.

1.3.4 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic. Perform testing, required for classifying materials, in accordance with ASTM D4318, ASTM C136/C136M and ASTM D1140.

1.3.5 Degree of Compaction

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D1557 and ASTM D698 abbreviated as a percent of laboratory maximum density. Since ASTM D1557 applies only to soils that have 30 percent or less by weight of their particles retained on the 3/4 inch sieve, express the degree of compaction for material having more than 30 percent by weight of their particles retained on the 3/4 inch sieve as a percentage of the maximum density in accordance with AASHTO T 180 and corrected with ASTM D4718/D4718M. To maintain the same percentage of coarse material, use the "remove and replace" procedure as described in NOTE 8 of Paragraph 7.2 in AASHTO T 180.

1.3.6 Topsoil

Material suitable for topsoils obtained from offsite areas or excavations is defined as: Natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than one inch diameter, brush, weeds, toxic substances, and other material detrimental to plant growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.

1.3.7 Rock

Solid homogeneous interlocking crystalline material with firmly cemented, laminated, or foliated masses or conglomerate deposits, neither of which can be removed without systematic drilling and blasting, drilling and the use of expansion jacks or feather wedges, or the use of backhoe-mounted pneumatic hole punchers or rock breakers; also large boulders, buried masonry, or concrete other than pavement exceeding 1/2 cubic yard in volume. Removal of hard material will not be considered rock excavation because of intermittent drilling and blasting that is performed merely to increase production.

1.3.8 Unstable Material

Unstable materials are too wet to properly support the utility pipe, conduit, or appurtenant structure.

1.3.9 Initial Backfill Material

Initial backfill consists of satisfactory materials free from rocks 2 inches or larger in any dimension.

1.3.10 Expansive Soils

Expansive soils are defined as soils that have a plasticity index equal to or greater than 35 when tested in accordance with ASTM D4318.

1.4 SYSTEM DESCRIPTION

No subsurface investigation is available for this project.

1.4.1 Dewatering Work Plan

Submit procedures for accomplishing dewatering work.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Dewatering Work Plan; G

SD-03 Product Data

Utilization of Excavated Materials; G

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR OFFSITE SOILS

Test offsite soils brought in for use as backfill for Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) and full Toxicity Characteristic Leaching Procedure (TCLP) including ignitability, corrosivity and reactivity. Backfill shall contain a maximum of 100 parts per million (ppm) of total petroleum hydrocarbons (TPH) and a maximum of 10 ppm of the sum of Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) and shall pass the TCPL test. Determine TPH concentrations by using EPA 600/4-79/020 Method 418.1. Determine BTEX concentrations by using EPA SW-846.3-3 Method 5030/8020. Perform TCLP in accordance with EPA SW-846.3-3 Method 1311. Provide Borrow Site Testing for TPH, BTEX and TCLP from a composite sample of material from the borrow site, with at least one test from each borrow site. Do not bring material onsite until tests have been approved by the Contracting Officer.

PART 3 EXECUTION

3.1 STRIPPING OF TOPSOIL

Where indicated or directed, strip topsoil to a depth of 4 inches. Spread topsoil on areas already graded and prepared for topsoil, or transported and deposited in stockpiles convenient to areas that are to receive application of the topsoil later, or at locations indicated or specified. Keep topsoil separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than 2 inches in diameter, and other materials that would interfere with planting and maintenance operations. Remove from the site any surplus of topsoil from excavations and gradings.

3.2 GENERAL EXCAVATION

Perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as

specified. Perform the grading in accordance with the typical sections shown and the tolerances specified in paragraph FINISHING. Transport satisfactory excavated materials and place in fill or embankment within the limits of the work. Excavate unsatisfactory materials encountered within the limits of the work below grade and replace with satisfactory materials as directed. Include such excavated material and the satisfactory material ordered as replacement in excavation. Dispose surplus satisfactory excavated material not required for fill and unsatisfactory excavated material as specified in paragraph DISPOSITION OF SURPLUS MATERIAL. During construction, perform excavation and fill in a manner and sequence that will provide proper drainage at all times. Excavate material required for fill or embankment in excess of that produced by excavation within the grading limits from the borrow areas indicated or from other approved areas selected by the Contractor as specified.

3.2.1 Dewatering

Control groundwater flowing toward or into excavations to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction.

3.2.2 Trench Excavation Requirements

3.2.2.1 Bottom Preparation

Grade the bottoms of excavations accurately to provide uniform bearing and support for the meter boxes.

3.3 SELECTION OF BORROW MATERIAL

Select borrow material to meet the requirements and conditions of the particular fill or embankment for which it is to be used. Obtain borrow material from approved private sources. Unless otherwise provided in the contract, the Contractor is responsible for obtaining the right to procure material, pay royalties and other charges involved, and bear the expense of developing the sources, including rights-of-way for hauling from the owners. Borrow material from approved sources on Government-controlled land may be obtained without payment of royalties. Unless specifically provided, do not obtain borrow within the limits of the project site without prior written approval. Consider necessary clearing, grubbing, and satisfactory drainage of borrow pits and the disposal of debris thereon related operations to the borrow excavation.

3.4 GROUND SURFACE PREPARATION

3.4.1 General Requirements

Remove and replace unsatisfactory material with satisfactory materials, as directed by the Contracting Officer, in surfaces to receive fill or in excavated areas. Scarify the surface to a depth of 6 inches before the fill is started. Plow, step, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that the fill material will bond with the existing material. When subgrades are less than the specified density, break up the ground surface to a minimum depth of 6 inches, pulverizing, and compacting to the specified density. When the subgrade is part fill and part excavation or natural ground, scarify the excavated or natural ground portion to a depth of 12 inches and compact it as

specified for the adjacent fill.

3.5 UTILIZATION OF EXCAVATED MATERIALS

Use satisfactory material removed from excavations, insofar as practicable, in the construction of fills, embankments, subgrades, bedding (as backfill), and for similar purposes. Submit procedure and location for disposal of unused satisfactory material. Dispose surplus satisfactory excavated material not required for fill and unsatisfactory excavated material as specified in paragraph DISPOSITION OF SURPLUS MATERIAL.

3.6 FILLING, BACKFILLING AND COMPACTION

Place fill and backfill beneath and adjacent to any and all type of structures, in successive horizontal layers of loose material not more than 8 inches in depth, or in loose layers not more than 5 inches in depth when using hand-operated compaction equipment. Compact to at least 90 percent of laboratory maximum density for cohesive materials or 95 percent of laboratory maximum density for cohesionless materials, except as otherwise specified. Perform compaction in such a manner as to prevent wedging action or eccentric loading upon or against the structure. Moisture condition fill and backfill material to a moisture content that will readily facilitate obtaining the specified compaction.

Prepare ground surface on which backfill is to be placed and provide compaction requirements for backfill materials in conformance with the applicable portions of paragraphs GROUND SURFACE PREPARATION. Finish compaction by using approved equipment that will not damage the meter box.

3.6.1 Backfill for Appurtenances

After the meter boxes have been constructed, place backfill in such a manner that the structure is not be damaged by the shock of falling earth. Deposit the backfill material, compact it as specified for final backfill, and bring up the backfill evenly on all sides of the structure to prevent eccentric loading and excessive stress.

3.7 SUBGRADE PREPARATION

3.7.1 Construction

Shape subgrade to line, grade, and cross section, and compact as specified. Include plowing, disking, and any moistening or aerating required to obtain specified compaction for this operation. Remove soft or otherwise unsatisfactory material and replace with satisfactory excavated material or other approved material as directed. Excavate rock encountered in the cut section to a depth of 6 inches below finished grade for the subgrade. Bring up low areas resulting from removal of unsatisfactory material or excavation of rock to required grade with satisfactory materials, and shape the entire subgrade to line, grade, and cross section and compact as specified.

3.7.2 Compaction

Finish compaction by approved equipment that will not damage meter boxes.

3.8 FINISHING

Finish the surface of excavations, and subgrades to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown. Provide the degree of finish for graded areas within 0.1 foot of the grades and elevations indicated except that the degree of finish for subgrades specified in paragraph SUBGRADE PREPARATION. Finish the surface of areas to be turfed from settlement or washing to a smoothness suitable for the application of turving materials. Repair graded, topsoiled, or backfilled areas prior to acceptance of the work, and re-established grades to the required elevations and slopes.

3.9 PLACING TOPSOIL

On areas to receive topsoil, prepare the compacted subgrade soil to a 2 inch depth for bonding of topsoil with subsoil. Spread topsoil evenly to a thickness of 6 inches and grade to the elevations and slopes shown. Do not spread topsoil when excessively wet or dry. Obtain material required for topsoil in excess of that produced by excavation within the grading limits from offsite areas.

3.10 DISPOSITION OF SURPLUS MATERIAL

Surplus material and excavated unsatisfactory material not required or suitable for filling or backfilling, and brush, refuse, stumps, roots, and timber shall be removed by the Contractor from the project site and properly disposed of in accordance with all applicable laws and regulations.

-- End of Section --

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SECTION 32 12 16

HOT-MIX ASPHALT (HMA) FOR ROADS

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

Hot-mix asphalt will be measured in place to the nearest cubic yard, measured after placement. Measurement will be made to the nearest 1/10 foot, and units computed to the nearest cubic yard. Payment for the hot-mix asphalt will be made at the contract unit price per cubic yard for "Replacement of Asphalt Drives". Price and payment shall constitute full compensation for furnishing all plant, labor, materials, tools, incidentals, and equipment required to complete the work as specified herein and as shown on the drawings. No payment shall be made for hot-mix asphalt that is rejected or damaged due to Contractor fault, negligence, or failure to meet the project specifications.

1.2 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 ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)

AASHTO M 156 (2013; R 2017) Standard Specification for
Requirements for Mixing Plants for
Hot-Mixed, Hot-Laid Bituminous Paving
Mixtures

ASPHALT INSTITUTE (AI)

AI MS-2 (2015) Asphalt Mix Design Methods

ASTM INTERNATIONAL (ASTM)

ASTM D140/D140M (2016) Standard Practice for Sampling
Asphalt Materials

ASTM D3666 (2016) Standard Specification for Minimum
Requirements for Agencies Testing and
Inspecting Road and Paving Materials

LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016
Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
(LADOTD)

LSSRB 502.02 Materials

LSSRB 502.02.1 Asphalt Cement

LSSRB 502.03 Design of Asphalt Mixtures and Job Mix
Formula (JMF) Approval

LSSRB 502.05

Quality Control and Plant Acceptance

LSSRB 502.08

Hauling, Paving and Finishing

1.3 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-03 Product Data

Mix Design; G

Quality Control Plan; G

Material Acceptance; G

SD-04 Samples

Asphalt Cement Binder

Aggregates

SD-06 Test Reports

Aggregates; G

SD-07 Certificates

Asphalt Cement Binder; G

Testing Laboratory

1.4 ENVIRONMENTAL REQUIREMENTS

Do not place the hot-mix asphalt upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 3. The temperature requirements may be waived by the Contracting Officer, if requested; however, meet all other requirements, including compaction.

Table 3. Surface Temperature Limitations of Underlying Course	
Mat Thickness, inches	Degrees F
3 or greater	40
Less than 3	45

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Perform the work consisting of pavement courses composed of mineral aggregate and asphalt material heated and mixed in a central mixing plant

and placed on a prepared course. HMA designed and constructed in accordance with this section shall conform to the lines, grades, thicknesses, and typical cross sections indicated. Construct each course to the depth, section, or elevation required by the drawings and roll, finish, and approve it before the placement of the next course.

2.1.1.1 Asphalt Mixing Plant

Plants used for the preparation of hot-mix asphalt shall conform to the requirements of AASHTO M 156 with the following changes:

2.1.1.1.1 Truck Scales

Weigh the asphalt mixture on approved, certified scales at the Contractor's expense. Inspect and seal scales at least annually by an approved calibration laboratory.

2.1.1.1.2 Testing Facilities

Provide laboratory facilities at the plant for the use of the Government's acceptance testing and the Contractor's quality control testing.

2.1.1.1.3 Inspection of Plant

Provide the Contracting Officer with access at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant; verifying weights, proportions, and material properties; checking the temperatures maintained in the preparation of the mixtures and for taking samples. Provide assistance as requested, for the Government to procure any desired samples.

2.1.1.1.4 Storage bins

Use of storage bins for temporary storage of hot-mix asphalt will be permitted as follows:

- a. The asphalt mixture may be stored in non-insulated storage bins for a period of time not exceeding 3 hours.
- b. The asphalt mixture may be stored in insulated storage bins for a period of time not exceeding 8 hours. The mix drawn from bins shall meet the same requirements as mix loaded directly into trucks.

2.1.1.2 Hauling Equipment

Provide trucks for hauling hot-mix asphalt having tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other approved material. Petroleum based products shall not be used as a release agent. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers (tarps) shall be securely fastened.

2.1.1.3 Asphalt Pavers

Provide asphalt pavers which are self-propelled, with an activated screed, heated as necessary, and capable of spreading and finishing courses of

hot-mix asphalt which will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.

2.1.3.1 Receiving Hopper

Provide paver with a receiving hopper of sufficient capacity to permit a uniform spreading operation and equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

2.1.3.2 Automatic Grade Controls

Equip the paver with a control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor-directed mechanisms or devices which will maintain the paver screed at a predetermined transverse slope and at the proper elevation to obtain the required surface. The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent. A transverse slope controller shall not be used to control grade. Provide controls capable of working in conjunction with any of the following attachments:

- a. Ski-type device of not less than 30 feet in length.
- b. Taut stringline set to grade.
- c. Short ski or shoe for joint matching.
- d. Laser control.

2.1.4 Rollers

Rollers shall be in good condition and shall be operated at slow speeds to avoid displacement of the asphalt mixture. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition. Do not use equipment which causes excessive crushing of the aggregate.

2.2 AGGREGATES

Provide aggregates in accordance with LSSRB 502.02. Submit all aggregate test results and samples to the Contracting Officer at least 14 days prior to start of construction.

2.3 ASPHALT CEMENT BINDER

Submit a 5 gallon sample for mix design verification. Asphalt cement binder shall conform to LSSRB 502.02.1. Test data indicating grade certification shall be provided by the supplier at the time of delivery of each load to the mix plant. Submit copies of these certifications to the Contracting Officer. The supplier is defined as the last source of any modification to the binder. The Contracting Officer may sample and test the binder at the mix plant at any time before or during mix production. Obtain samples for this verification testing in accordance with ASTM D140/D140M and in the presence of the Contracting Officer. Furnish these samples to the Contracting Officer for the verification testing,

which shall be at no cost to the Contractor. Submit samples of the asphalt cement specified for approval not less than 14 days before start of the test section. Submit copies of certified test data, amount, type and description of any modifiers blended into the asphalt cement binder.

2.4 MIX DESIGN

Develop the mix design in accordance with LSSRB 502.03. The asphalt mix shall be composed of a mixture of well-graded aggregate, mineral filler if required, and asphalt material. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF). Submit proposed JMF; do not produce hot-mix asphalt for payment until a JMF has been approved.

2.4.1 JMF Requirements

Submit in writing the job mix formula for approval at least 14 days prior to the start of the test section including as a minimum:

- a. Percent passing each sieve size.
- b. Percent of asphalt cement.
- c. Percent of each aggregate and mineral filler to be used.
- d. Asphalt viscosity grade, penetration grade, or performance grade.
- e. Number of blows of hand-held hammer per side of molded specimen. (NA for Superpave)
- f. Number of gyrations of Superpave gyratory compactor, (NA for Marshall mix design)
- g. Laboratory mixing temperature.
- h. Lab compaction temperature.
- i. Temperature-viscosity relationship of the asphalt cement.
- j. Plot of the combined gradation on the 0.45 power gradation chart, stating the nominal maximum size.
- k. Graphical plots of stability (NA for Superpave), flow (NA for Superpave), air voids, voids in the mineral aggregate, and unit weight versus asphalt content as shown in AI MS-2.
- l. Specific gravity and absorption of each aggregate.
- m. Percent natural sand.
- n. Percent particles with 2 or more fractured faces (in coarse aggregate).
- o. Fine aggregate angularity.
- p. Percent flat or elongated particles (in coarse aggregate).
- q. Tensile Strength Ratio(TSR).

- r. Anti-strip agent (if required) and amount.
- s. List of all modifiers and amount.
- t. Correlation of hand-held hammer with mechanical hammer (NA for Superpave).
- u. Percentage and properties (asphalt content, binder properties, and aggregate properties) of reclaimed asphalt pavement (RAP), if RAP is used.

PART 3 EXECUTION

3.1 PREPARATION, TESTING, TRANSPORTING, PLACING

Preparation, Testing, Transporting, and Placing shall be in accordance with LSSRB 502.08.

3.2 QUALITY CONTROL

3.2.1 General Quality Control Requirements

Develop and submit an approved Quality Control Plan. Submit aggregate and QC test results. Do not produce hot-mix asphalt for payment until the quality control plan has been approved addressing all elements which affect the quality of the pavement including, but not limited to:

- a. Mix Design
- b. Aggregate Grading
- c. Quality of Materials
- d. Stockpile Management
- e. Proportioning
- f. Mixing and Transportation
- g. Mixture Volumetrics
- h. Moisture Content of Mixtures
- i. Placing and Finishing
- j. Joints
- k. Compaction
- l. Surface Smoothness

3.2.2 Testing Laboratory

Provide a fully equipped asphalt laboratory located at the plant or job site and meeting the pertinent requirements in ASTM D3666. Laboratory facilities shall be kept clean and all equipment maintained in proper working condition. The Contracting Officer shall be permitted unrestricted access to inspect the Contractor's laboratory facility, to witness quality control activities, and to perform any check testing

desired. The Contracting Officer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to adversely affect test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are corrected.

3.2.3 Quality Control Testing

Perform all quality control tests applicable to LSSRB 502.05 and as set forth in the Quality Control Program. The testing program shall include, but shall not be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, moisture in the asphalt mixture, laboratory air voids, stability (NA for Superpave), flow (NA for Superpave), in-place density, grade and smoothness. Develop a Quality Control Testing Plan as part of the Quality Control Program.

3.2.4 Sampling

When directed by the Contracting Officer, sample and test any material which appears inconsistent with similar material being produced, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

3.2.5 Control Charts

For process control, establish and maintain linear control charts on both individual samples and the running average of last four samples for the parameters listed in Table 8, as a minimum. These control charts shall be posted as directed by the Contracting Officer and kept current at all times. The control charts shall identify the project number, the test parameter being plotted, the individual sample numbers, the Action and Suspension Limits listed in Table 8 applicable to the test parameter being plotted, and the Contractor's test results. Target values from the JMF shall also be shown on the control charts as indicators of central tendency for the cumulative percent passing, asphalt content, and laboratory air voids parameters. When the test results exceed either applicable Action Limit, take immediate steps to bring the process back in control. When the test results exceed either applicable Suspension Limit, halt production until the problem is solved. Use the control charts as part of the process control system for identifying trends so that potential problems can be corrected before they occur. Make decisions concerning mix modifications based on analysis of the results provided in the control charts. The Quality Control Plan shall indicate the appropriate action to be taken to bring the process into control when certain parameters exceed their Action Limits.

Table 8. Action and Suspension Limits for the Parameters to be Plotted on Individual and Running Average Control Charts				
	Individual Samples		Running Average of Last Four Samples	
Parameter to be Plotted	Action Limit	Suspension Limit	Action Limit	Suspension Limit
No. 4 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	6	8	4	5
No. 30 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	4	6	3	4
No. 200 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	1.4	2.0	1.1	1.5
Stability, pounds (minimum) (NA for Superpave)				
75 Blow JMF	1800	1700	1900	1800
50 Blow JMF	1000	900	1100	1000
Flow, 0.01 inch (NA for Superpave)				
75 Blow JMF	8 min.	7 min.	9 min.	8 min.
	16 max.	17 max.	15 max.	16 max.
50 Blow JMF	8 min.	7 min.	9 min.	8 min.
	18 max.	19 max.	17 max.	18 max.
Asphalt content, percent deviation from JMF target; plus or minus value	0.4	0.5	0.2	0.3
Laboratory Air Voids, percent deviation from JMF target value	No specific action and suspension limits set since this parameter is used to determine percent payment			
In-place Mat Density, percent of TMD	No specific action and suspension limits set since this parameter is used to determine percent payment			
In-place Joint Density, percent of TMD	No specific action and suspension limits set since this parameter is used to determine percent payment			

3.3 MATERIAL ACCEPTANCE

Testing for acceptability of work will be performed by an independent laboratory hired by the Contractor. Forward test results and payment calculations daily to the Contracting Officer. Acceptance of the plant produced mix and in-place requirements will be after installation of the work.

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CRUSHED STONE

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, and materials; and performing all work necessary to provide crushed stone as indicated on the drawings.

1.2 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 C88	(2018) Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	(2017) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131/C131M	(2020) Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136/C136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D4318	(2017; E 2018) Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D75/D75M	(2019) Standard Practice for Sampling Aggregates

1.3 MEASUREMENT AND PAYMENT

Crushed stone will be measured by the cubic yard of stone placed in accordance with the details shown on the drawings. Measurement will be made to the nearest 1/10 foot and units computed to the nearest cubic yard. Payment for crushed stone will be made at the contract unit price per cubic yard for "Crushed Stone". Price and payment shall constitute full compensation for delivery, handling, placement, compaction, and other work incidental thereto, including labor and materials used in the installation of the crushed stone.

1.4 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. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-06 Test Reports

Sampling and Testing; G

Certified LA abrasion, Atterberg limits, soundness and gradation test results of surfacing material shall be submitted to the Contracting Officer's Representative (COR) for approval prior to shipment.

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for the crushed stone operations to assure compliance with contract specifications and maintain records of his quality control for all construction operations including but not limited to compliance with standards, quality and gradation of stone, thickness of stone prior to compaction, in accordance with the drawings.

1.5.2 Sampling and Testing

All laboratory facilities, personnel, and equipment used to test stone shall be part of a validated laboratory that has been inspection or audited by the USACE Materials Testing Center, Vicksburg, MS.

1.5.2.1 Sampling

Sampling of material shall be performed in conformance with ASTM D75/D75M. Sampling will be observed by the Contracting Officer's Representative.

1.5.2.2 Testing

Testing of surfacing materials shall be performed at a minimum frequency of one set of tests per 2500 cubic yards or fraction thereof of stone material placed. Testing of stone materials shall include gradation and Atterberg limit testing as indicated in paragraph "Crushed Stone". Test performance shall be pursued in such a manner that the results are obtained in the minimum time frame. All test results shall be furnished to the Contracting Officer's Representative to confirm materials' compliance with the specifications. Stone materials not meeting the specifications shall be removed from the site and replaced with stone materials meeting the specifications.

1.5.3 Reporting

The original and two copies of these records, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS

2.1 STONE

Stone material shall be one of the following:

2.1.1 Crushed Stone

Crushed stone from the sources listed in Section 01100 GENERAL PROVISIONS, paragraph entitled "STONE SOURCES" shall consist of 100 percent stone and shall meet the following requirements when tested in accordance with ASTM C136/C136M and ASTM C117, Procedure B:

<u>U.S. Sieve</u>	<u>Percent Passing</u>
1-1/2-inch	100
3/4-inch	50 - 100
No. 4	35 - 65
No. 40	10 - 32
No. 200	3 - 15

The fraction of material passing the No. 40 sieve shall conform to the following requirements when tested in accordance with ASTM D4318:

Liquid Limit (Max.)	25
Plasticity Index (Max.)	4

Crushed stone shall show an abrasion loss of not more than 40 percent when tested in accordance with ASTM C131/C131M and a soundness loss of not more than 15 percent when subjected to 5 cycles of the magnesium sulfate soundness test in accordance with ASTM C88.

PART 3 EXECUTION

3.1 BASE PREPARATION

Prior to placement of the crushed stone as indicated on the drawings, all debris shall be removed from the area to receive the stone material. Base preparation shall be completed in advance of placing crushed stone.

3.2 PLACEMENT AND COMPACTION

No crushed stone shall be placed or compacted on a muddy or rutted subgrade. The crushed stone material shall be compacted to provide a smooth, uniform, closely-knit riding surface free from ridges and depressions.

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FLOW MEASURING EQUIPMENT POTABLE WATER

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

1.1.1 Water Meters Mach 10 R900i RF MIU with Pit Antenna

Measurement for water meters Mach 10 R900i RF MIU with Pit Antenna will be by each purchased for the project. Payment will be made at the applicable contract unit price per each for "5/8-inch x 3/4-inch Water Meter Mach 10 R900i RF MIU with Pit Antenna", "1-inch Water Meter Mach 10 R900i RF MIU with Pit Antenna", "2-inch Water Meter Mach 10 R900i RF MIU with Pit Antenna", "3-inch Water Meter Mach 10 R900i RF MIU with Pit Antenna", or "4-inch Water Meter Mach 10 R900i RF MIU with Pit Antenna". Price and payment shall constitute full compensation for furnishing all plant, labor, and materials required to procure and deliver to each project site the Water Meters Mach 10 R900i MIU with Pit Antenna as specified herein and shown on the drawings.

1.1.2 Replacement of Water Meters

Measurement for replacement of water meters will be made by each water meter replaced. Payment will be made at the applicable contract unit price per each for "Replacement of 5/8-inch x 3/4-inch Water Meter", "Replacement of 1-inch Water Meter", "Replacement of 2-inch Water Meter", "Replacement of 3-inch Water Meter", or "Replacement of 4-inch Water Meter". Price and payment shall constitute full compensation for furnishing all plant, labor, materials, and equipment required to install the Water Meters Mach 10 R900i RF MIU with Pit Antenna paid for under a separate item. Installation shall include all pipes, fittings, meter boxes, connections, chlorination, backfilling, collection of attribute data, and all other work thereto, all as specified herein and shown on the drawings.

1.1.3 Install R900 Pit Antennas on Existing Water Meters

Measurement for installing R900 Pit Antennas on existing water meters will be made by each pit antenna that is provided and installed on an existing meter that currently has an ecoder/register. Payment will be made at the contract unit price per each for "Install R900 Pit Antenna on Existing Water Meter". Price and payment shall constitute full compensation for furnishing all plant, labor, materials, and equipment required to install the pit antenna and provide proof of proper operation by receipt of a signal from the meter to either the existing drive-by remote reading equipment or the new R900 Gateway V4 Collector. Installation shall include collection of attribute data and all other work incidental to the proper installation and operation of the R900 pit antennas.

1.1.4 R900 Gateway V4 Collector

Measurement for installing R900 Gateway V4 Collectors will be made by each collector that is installed as described in these specifications. Payment will be made at the contract unit price per each for "R900 Gateway V4 Collector". Price and payment shall constitute full compensation for

furnishing all plant, labor, materials, and equipment required to install the R900 Gateway V4 Collector and provide proof of proper operation by receipt of signals from the installed water meters. Installation shall include all other work incidental to the proper operation of the R900 Gateway V4 Collector.

1.2 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 NATIONAL STANDARDS INSTITUTE (ANSI)

NSF/ANSI 61	(2020) Drinking Water System Components - Health Effects
NSF/ANSI 372	(2020) Drinking Water System Components - Lead Content

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C715	(2018) Standard For Cold Water Meters—electromagnetic And Ultrasonic Type For Revenue Applications
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1.3 SYSTEM REQUIREMENTS

The flow measuring equipment type shall be solid state metrology for enhanced low-flow accuracy performance and extended accuracy over meter life, and the measurement type shall be based on ultrasonic sensing featuring no moving parts all as described in these specifications. The design shall permit ease of installation and shall not have any features hazardous to personnel or detrimental to the equipment.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Utility Disruption Plan

SD-03 Product Data

Flow measuring equipment components

Encoder Register

Read-out device

SD-06 Test Reports

Flow measuring equipment calibration

SD-08 Manufacturer's Instructions

Flow measuring equipment components

Submit manufacturer's written recommendation for installation and handling.

Training Plan; G

SD-11 Closeout Submittals

Warranty; G

Meter Location And Attribute Data; G

1.5 QUALITY ASSURANCE

A. The Owner currently has a mobile data collector system manufactured by Neptune Technologies; therefore, these specifications have generally been developed from data obtained from Neptune Technology Group's web site. Any proposed alternate manufacturer shall show that their system can integrate and function within the existing Neptune Technology system. Manufacturer must have the ability to incorporate current Neptune R900 system into a single source management software platform without retrofitting or changing out existing meters and also utilize the existing mobile meter reading equipment.

B. Water meters, data collectors and software shall be developed and supplied by the same manufacturer. Approved manufacturers are Neptune or other approved equal. The Suppliers proposal should also include information on compatibility with other Manufacturers' registers.

C. The equipment furnished hereunder shall be the product of a company experienced in the design and manufacture of ultrasonic water meters as specified herein. Manufacturers shall be a member of AWWA with a minimum of twenty-five (25) years of field and production experience in water measurement technologies and serving water utilities in the United States. All Suppliers must show a minimum of 20 years experience in remote meter reading technology and a minimum of 5 years experience with the specific data collection system that is being proposed to the Buyer. All Suppliers proposing equipment for this project must also have not less than 50 successful installations in the United States of the specific water meters and remote data collection systems as specified herein. The selected Supplier shall be thoroughly versed in encoder meter technology and be a major supplier in the marketplace. The proposed system shall be manufactured and maintained by the selected Supplier or an equity partner. All Suppliers shall document which water meter manufacturers and models they are capable of interrogating with the proposed meter reading equipment.

D. In lieu of the above experience clause, the Supplier shall be required to submit a ten year performance bond for one-hundred percent of the stipulated cost for the equipment as bid. This performance bond will be used to guarantee the replacement of the equipment in the event that it fails within the bond period.

1.6 WARRANTY

1.6.1 Meters Residential

All Residential sized meters (i.e. 5/8" x 3/4") shall be guaranteed to be free from defects in workmanship for a period of 10 years. Any residential sized meter that fails during this period shall be repaired or replaced at manufacturer's sole cost and expense. Residential sized meters which are repaired or replaced shall be guaranteed against failure for an additional 10 years such that a failed component will be replaced on a pro-rated cost basis. The Manufacturer shall provide a schedule of the pro-rata cost in its submittal data.

1.6.2 Meters Commercial

All meters sized larger than 5/8" x 3/4" shall have a 10-year accuracy and electronics warranty. Coverage for the electronics shall include the battery (five years full and five years prorated) and replacement cost. The maincase shall be covered for the life of the meter. The Manufacturer shall provide a schedule of the pro-rata cost in its submittal data.

1.6.3 Meters (General)

The warranty on Water Meters will begin, at the later of the date of original purchase or the date of original shipment from authorized distributor of Water Meters (that later date is referred to as "the Date of Shipment") and will remain for a period of eighteen (18) months from the Date of Shipment, or twelve (12) months from the date of installation, whichever comes first, free from manufacturing defects in workmanship and material. The Manufacturer shall include warranty information for all meter sizes and types incorporated in its submittal data.

1.6.4 MIUs/Endpoints

All MIUs supplied in connection with this proposal shall be guaranteed to be free from defects in workmanship for a period of 10 years. Any MIU that fails during this period shall be repaired or replaced at manufacturer's sole cost and expense. MIUs shall be guaranteed against failure for an additional 10 years such that failed component will be replaced on a prorated cost basis. The Manufacturer shall provide a schedule of a pro-rata costs in its submittal data.

1.6.5 Data Collection Units

Data collection units shall be guaranteed to be free from defects in workmanship for a minimum of twelve (12) months from date of installation acceptance.

1.7 UTILITY DISRUPTION PLAN

The Contractor shall submit a Utility Disruption Plan to address the procedures for disruptions to any utility service to be performed under this contract. The Plan at a minimum shall address the following requirements:

- a) All businesses and residences affected by the disruption of the utility must be given written notice a minimum of seventy-two (72) hours in advance but in no case more than seven (7) calendar days. The notice of disruption shall include the planned date, and the

approximate time and length of service disconnection.

b) The Contractor shall not disconnect the utility until after 8:00 a.m. on the morning that the work is to be performed.

c) In addition to written notification, the Contractor shall contact each business in person to determine if special arrangements (such as temporary water supply, port-o-lets, etc.) are necessary during the period of the utility disruption. The Contractor shall not disrupt business utility services until all special arrangements are in place or the Contractor has received approval by the Contracting Officer to proceed.

d) All service must be restored at the end of each day. Disruptions to public utility services will not be allowed over a weekend or any holiday.

e) A template of the notification form and how it shall be delivered (i.e., door knocker handout).

f) Procedure for following up with utility customers should the date of disruption change.

PART 2 PRODUCTS

2.1 GENERAL

This specification includes requirements for furnishing water meters that are to be installed as part of this Contract at each inhabited residential or business structure as indicated on the drawings. The following specifications includes providing water meters with register assemblies having remote reading capabilities, fittings as required for connecting the meters to the existing water service pipes, water meter boxes with lids, and cast iron reader doors, incorporate existing water meter system manufactured by Neptune to include PUA to enable them to be remotely read, remote data collector units and supporting software capable of downloading data from the data collector to the Owner's billing software.

2.2 WATER METER

2.2.1 Water Meters - 5/8" to 2"

A. General - All cold-water meters furnished shall be produced from an ISO 9001 manufacturing facility and conform to the "Standard Specifications for Cold Water Meters" AWWA C715 latest revision issued by AWWA or as otherwise stated.

B. Lead Free Legislation - Meters shall meet the Safe Drinking Water Act (SDWA) per NSF 372 that became effective in January 2014 and that all water meters submitted in this proposal be compliant with NSF/ANSI 61, Annex G and Annex F. Specifically:

1. Meters shall be made of "lead free" alloy as defined by NSF/ANSI 61, Annex G and Annex F.

2. Manufacturer shall provide a copy of a letter from the NSF on NSF letterhead documenting compliance with NSF/ANSI 61, Annex G which allows a maximum weighted average lead content level of 0.25% of the wetted surface area.

3. Manufacturer shall provide a copy of a letter from the NSF on NSF letterhead documenting compliance with NSF/ANSI 61, Annex F which requires leaching of less than 5 g/L in tests performed per the NSF/ANSI 61 test methodology for water with pH of 5 and pH of 10.

4. Manufacturer will provide documentation that its US-based foundry uses only lead-free materials in the manufacture of its water meters. This documentation shall be signed by an authorized officer of the company.

C. Type - Only meters featuring solid state metrology will be accepted because of enhanced low-flow accuracy performance and extended accuracy over meter life. The measurement technology shall be based on ultrasonic sensing featuring no moving parts.

D. Size, Capacity, and Length - The size, capacity, and meter lengths shall be as specified in AWWA C715 (latest revision).

E. The meter maincase shall be made cast from NSF/ANSI 61 certified lead free alloy containing a minimum of 85% copper. Plastic maincases or flow tubes are not acceptable as the spuds are susceptible to cross-threading or breaking during installation, or from pipe stress over time. The serial number should be displayed in a permanent location on the register.

F. Meter markings shall indicate size, model, direction of flow, and NSF 61 certification.

G. All lead free maincases shall be guaranteed free from manufacturing defects in workmanship and material for the life of the meter.

H. Bolts - All maincase bolts shall be of 300 series non-magnetic stainless steel to prevent corrosion.

I. Mechanical Construction - The pit set enclosure shall be a roll-sealed glass and copper can design to protect the internal components against moisture intrusion.

J. Electronic Register - The solid state meter electronic enclosure shall be constructed of a durable engineered composite designed to last the life of the meter. The meter shall provide a fully potted wire connection for use with AMR/AMI devices.

K. Environmental - The solid state meter must feature fully potted electronics and battery for submersion in flooded meter pits.

L. Strainers - Solid state meters shall not require a strainer for accurate operation.

M. Performance - Meter manufacturer's solid state meters shall exceed AWWA C715 accuracy standards and warrant their published accuracy levels for the life of their meters. Each meter shipment must be accompanied by factory test data showing the accuracy of the meter as tested at their factory.

N. Systems Guarantee - All solid state meters shall be guaranteed

compatible to the following Neptune AMR/AMI systems - R900®, R450™, and cellular endpoints - without special programming of the meter.

O. Technology - Meters shall use ultrasonic-based technology featuring continuous measurements greater or equal to 4 times per second) to ensure desired accuracy at low-end flows and during typical start/stop conditions.

P. Registration - The register shall provide at least a 9-digit visual registration at the meter. The register shall provide an 8-digit meter reading for transmission through the RF AMR/AMI endpoint. The register shall employ a visual LCD leak detection indicator as well as provide remote leak detection through an ASCII format to the RF AMR/AMI endpoint. The register shall provide reverse flow detection, communicated as ASCII format data to the RF AMR/AMI endpoint. The register shall provide an indication of days of zero consumption, communicated as ASCII format data to the RF AMR/AMI endpoint. The register should accumulate and register consumption without connecting to a receptacle or RF AMR/AMI endpoint. The register shall display flow rate information (interleaved with the current meter reading). The register shall subtract reverse flow from the total registration.

Q. Manufacturer - Meters and meter parts shall be manufactured, assembled, and tested within the United States. Manufacturers may be required to provide proof of where and of what percentage of the meter register, chamber, and maincase is manufactured in the United States. Manufacturers shall provide only one model of meter which complies with these specifications. Acceptable meters shall be Neptune MACH 10 or approved equal.

2.2.2 Water Meters - 3" - 10"

A. General - All meters furnished shall be manufactured by a registered ISO 9001 quality standard facility. All specifications meet or exceed the latest revision of AWWA C715.

B. Lead Free Legislation - The utility requires that all water meters submitted in this proposal be compliant with NSF/ANSI 61, which exceeds the requirements of NSF/ANSI 372 that became effective January 2014 as it wishes to ensure the safety of its drinking water and safeguard its investment in metering infrastructure. Meters shall be made of "lead free" high-copper alloy as defined by NSF/ANSI 61.

C. Type - Only meters featuring ultrasonic solid state metrology will be accepted because of enhanced low flow accuracy performance and extended accuracy over meter life. The measurement technology shall be based on ultrasonic sensing featuring no moving parts. Acceptable meters shall be Neptune MACH 10 or approved equal.

D. Size - Size and Length - The size and meter lengths shall be as specified in standard AWWA C715 (latest revision).

E. Capacity - The capacity of the meters in terms of normal operating range, maximum continuous flow, maximum loss of head, and maximum intermittent flow shall be as shown below:

Size	Normal Operating Range at 100% accuracy(gpm)
3"	-0.75 to 500
4"	-1.5 to 1,250
6"	-2.0 to 2,000
8"	6.0 to 4,000
10"	-10.0 to 6,500

F. Case and Cover - The meter maincase shall be cast from NSF/ANSI 61 certified lead free bronze alloy containing a minimum of 85% copper. Maincases such as coated steel that are susceptible to corrosion over time are not acceptable. Maincases that do not accommodate inline piping stresses, such as stainless steel or coated steel are not acceptable. Meter markings shall indicate size, model, direction of flow, and NSF/ANSI 61 certification. The serial number should be displayed in a permanent location on the meter maincase and register.

G. External Bolts - Casing bolts shall be made of AISI Type 316 stainless steel.

H. Connections - Maincases shall be flanged. 3" through 10" sizes shall be round flanged per, AWWA C715.

I. Registers - The register shall provide at least a 9-digit visual registration at the meter to facilitate testing. The register shall provide an 8-digit meter reading for transmission through the RF AMR/AMI endpoint. The register shall employ a visual LCD leak detection indicator as well as provide remote leak detection through an ASCII format to the RF AMR/AMI endpoint. Reverse flow detection shall be calculated based on 15-minute interval consumption. The register shall provide an indication of days of zero consumption, communicated as ASCII format data to the RF AMR/AMI endpoint. The register should accumulate and register consumption whether or not it is connected to a receptacle or RF AMR/AMI endpoint. The register shall provide empty pipe detection that is visibly displayed on the meter's LCD register. The register shall subtract reverse flow from the total registration. The register shall provide and display low battery detection on the LCD and communicated as ASCII format data to the RF AMR/AMI endpoint. The meter endpoint shall provide a minimum of 96 days of downloadable consumption data.

J. Enclosure - The solid state meter electronic enclosure shall be constructed of a durable engineered composite designed to last the life of the meter. The meter register shall provide a fully potted wire connection for use with AMR/AMI devices.

K. Environmental - The solid state meter must feature fully potted electronics and battery, meet IP-68 standard, and be suitable for submersion in flooded pits. The meter shall support replacing the electronic measurement assembly without having to recalibrate the

meter or remove the meter from service. Solid state meters shall not require a strainer for accurate operation.

L. Performance - Meter manufacturers' solid state meters shall exceed standard AWWA C715 accuracy and warrant their published accuracy levels for the life of their meters. Each meter shipment must be accompanied by factory test data showing the accuracy of the meter as tested at their facility. The meter(s) shall have an Extended Low Flow measured at 100% +/- 3% which exceeds standard AWWA C715 extended low flow accuracy requirements.

M. Systems Guarantee - All solid state meters shall be guaranteed compatible with Neptune R900® systems without special programming of the meter.

N. Technology - The solid state meter technology provided must be ultrasonic-based technology featuring continuous measurement (greater or equal to 4 times per second) to ensure desired accuracy at low-end flow and during typical variable flow conditions.

2.2.3 Meter Boxes

Meter boxes for residential size meters shall be standard commercial grade automatic meter reader (AMR) designed boxes with covers. They shall be injection molded of structural foam recycled polyolefin material with a melt index between 10 - 12. Coloring and UV stabilizers shall be added to prevent discoloration and cracking. Meter boxes shall be designed to allow for superior signal transmission (concrete or cast iron shall not be allowed). Meter boxes shall be compatible with required meter sizes and approved by the meter manufacturer for use with their equipment. Approximate dimensions shall be 15-3/4" W x 21-5/8" L x 12-1/4" H.

Meter boxes for larger 1" and 2" commercial meters for business use shall be made of structural foam high-density polyethylene with UV inhibitors. Boxes shall have ribbed construction and support a 20,000 lb vertical loading. Covers shall be designed for use with for use with automatic meter reader (AMR) equipment and shall be rebar reinforced. Meter boxes shall be compatible with required meter sizes and approved by the meter manufacturer for use with their equipment. Approximate dimensions shall be 20-1/2" x 33-1/2". Depth shall be as required based on existing meter depth.

Meter boxes for 3" and 4" commercial meters shall be precast concrete with aluminum hatches as shown on the plans.

2.2.4 Encoder Register And Meter Interface Unit (MIU) Specifications:

A. The register shall provide at least an 9-digit visual registration at the meter. The unit shall provide an 8-digit meter reading for transmission through the radio MIU. The register shall provide remote leak detection through an ASCII format to the RF AMR/AMI MIU and shall provide reverse flow detection, communicated as ASCII format data to the RF AMR/AMI MIU. Reverse flow detection shall be calculated based on 15-minute interval consumption. The register shall provide an indication of days of zero consumption, communicated as ASCII format data to the RF AMR/AMI MIU.

B. Integrated Encoder and Meter Interface Unit (MIU) - These specifications cover a fully integrated self-contained solid state

absolute encoder register and a radio frequency meter interface unit metering system designed to obtain simultaneous water meter registration that is guaranteed to exactly match the registration on the register odometer. The metering information shall be obtained through a fully integrated radio frequency device using a compatible data capture system. The above system shall be configured as follows:

1. Encoder shall provide value-added leak, tamper, reverse flow detection, and 96 days of hourly usage profiling (data logging).
2. The encoder register shall be a fully integrated radio frequency meter interface unit providing a communication link for the transmission of information from the register.

C. Data acquisition equipment with which the above components can be interrogated. Such equipment shall be configured in two types:

1. A device that captures information and displays it visually to confirm correct system installation.
2. A device that is pre-programmed with route information and is capable of storing collected data in solid-state memory. This device shall also electronically transfer the data for use by the utility billing computer.
3. Encoder meter register - Direct-mounting, encoded odometer wheels, digital data stream. Batteries or pulses are not allowed.
4. Remotely mounted receptacle providing a communication link for the transmission of information from the register.
5. Data acquisition equipment with which the above components can be interrogated. Such equipment shall be configured in two types:
 - a. A device that captures information and displays it visually to confirm correct system installation and wiring.
 - b. A device that is pre-programmed with route information and is capable of storing collected data in solid state memory.
 - c. This device shall also electronically transfer the data for use by the utility billing computer.

D. The register/encoder shall be Neptune Mach 10 R900i or approved equal. Cellular based systems shall not be considered equal to the RF based system and will not be approved.

2.2.5 Pit Antenna

All meter installations, whether existing meters with encoder/registers or new meters, shall include a Neptune R900 Pit Antenna or approved equal. The pit antenna shall meet the following requirements:

- A. The device shall be a remote antenna capable of being installed through the industry standard 1¼" hole in the meter box lid for maximum transmission range.
- B. The through-the-lid antenna shall be capable of mounting to

various thicknesses of meter box lids from ½" to 2½" and various distances from meters.

C. The connection between the antenna and the encoder/register shall be via a coaxial cable.

D. The through-the-pit-lid antenna shall be made of a metallic and polymer material design to withstand traffic and shall have a dual-seal connection to the encoder/register housing.

2.2.6 Data Collection System - R900 Gateway V4 Collector

Scope of Work - The Owner currently has Neptune Technology (AMR) mobile meter reading capable of meeting the current meter reading needs within its service area. The Owner desires to supplement the mobile data collection with fixed data collectors. It should be noted that there will not be complete coverage of the system by the fixed data collectors and the mobile collector will still have to be used for outlying areas. The fixed data collectors shall meet the following:

1. Fixed Data Collection System - Fixed Data Collectors shall be compatible with the Owner's existing AMR mobile collector device so that the majority of the meter data can be collected by the fixed data collectors and the meter data beyond the range of the fixed data collectors can be obtained by the AMR. The fixed data collection devices must be installed on elevated positions to provide the greatest area of data collection coverage. The meter supplier shall be responsible for undertaking a propagation study to determine the optimal location for the four data collection devices. The four water towers in the combined PUA system shall be used for two of the installation points. The other two locations shall be on standalone utility poles provide by the device installer and located as determined by the propagation study. The data collection system shall communicate via an RF wave band. Cellular based systems shall not be acceptable.

2. Hardware Specifications

- a. The key components of each of the collection devices consist of an antenna, a fixed R900® Gateway Fixed Network Data Collector, coaxial cable to connect the R900 fixed data collector to the antenna and a 120 volt power source from the existing power distribution panel at each location, which will be connected to the R900 fixed data collector.

- i. The data collector shall have an 8-hour battery backup to provide power to the fixed data collector during power outages.

- ii. The memory storage for the data collector shall be via a SD card with a minimum capacity of 8GB.

- iii. The data collector shall have a USB port for connecting a USB flash drive for data retrieval in the event of a prolonged power outage.

- iv. Environmental Conditions - The fixed data collection device must work in the following environmental conditions:

- i) Operating Temperatures: -22°F to +140°F (-30°C to +60°C)

ii) Storage Temperature: -40°F to +158°F (-40°C to +85°C)

iii) Operating Humidity: 0 to 95% non-condensing relative humidity

b. The antenna shall be as manufactured by PCTEL, Model No. MFB9155NF.

c. The data collectors shall be mounted at the base and the antennas shall be mounted on the highest available point of each of the four locations. The available towers are at the following locations:

Tower ID	Address	Latitude	Longitude
McCall	3651 McCall Rd	30 06'59.96"N	91 02'29.85"W
LA 70	1572 Hwy 70	30 04 54.81"N	90 57' 06.92"W
Donaldsonville	1116 Mill St	30 05' 44.93"N	90 59' 41.98"W
Palo Alto	34082 Hwy 944 S	30 05' 31.70"N	91 02' 17.24"W

d. Coaxial cable connecting the antenna shall be appropriately sized in accordance with the distance between the antenna and the fixed data collector. It is anticipated that the cable will be 7/8" diameter.

PART 3 EXECUTION

3.1 SPECIAL SERVICES

3.1.1 Training and Support

A. A proven, detailed training plan must be developed by the Manufacturer with approval by the Owner based on results of pre-implementation meetings.

B. The following are items to be determined during these meetings:

1. Identify the training personnel and the employees to be trained.
2. Identify training schedules for hardware, software and total system products.
3. Define acceptance criteria for system deployment.
4. The Manufacturer shall be responsible for fully training Owner's personnel in the system mapping, deployment planning and installation of all endpoint hardware and reading systems.

C. In addition to the specified warranty periods, the Manufacturer is required to supply information on required or optional maintenance programs beyond the warranty period for both hardware and software.

D. The location of and procedures for obtaining such support shall be

stated. A toll-free Help Desk number must be provided for system support.

3.1.2 Support Services

The Manufacturer shall have a Customer Support Department. The Customer Support Department is required to maintain a telephone Help Desk and must have the capability of continuing the support through the use of a service agreement. A list of required services to be provided by the Help Desk includes but is not limited to the following:

1. Answer and resolve hardware/operation/maintenance questions and problems.
2. Answer and resolve software operation questions and problems.
3. Evaluation of information for updates or revisions.
4. Evaluation of personnel for training needs.
5. Additional on-site training or evaluation as needed.
6. The Help Desk must be available weekdays between 8:00 a.m. and 7:00 p.m. EST with after-hours numbers available as needed.
7. Installation and Training

3.1.3 Installation

Complete installation and operating instructions shall be included for all of the supplied hardware and software equipment. The training must be supplied by the system manufacturer. The bid must include any additional costs for training and assistance to install and begin operation of the system. The Manufacturer shall also inform the customer of what pre-installation activities are to be completed and what support material will be needed for the initial installation. The R900 Data Collectors, antennas and coaxial cable shall be installed by personnel approved by the manufacturer. The cost of installation shall be included in the bid price for the data collectors.

3.1.4 Meter Location and Attribute Data

The Contractor will be required to collect meter location and attribute data of each meter utilizing field equipment with a horizontal accuracy of within a minimum of 3 feet and no minimum required vertical elevation data. All data deliverables shall be in an ESRI compatible format and created in the Projected State Plane NAD 1983 State Plane Louisiana South FIPS 1702 Feet coordinate system. The provided data (geodatabase), shall have all post processing, relationships, and libraries necessary for the seamlessly importing into the Parish GIS system. Prior to field work, the data structure shall be created and submitted to the Ascension Parish GIS system administrator by way of the Contracting Officer for review and approval of compatibility and sufficient data as necessary to capture everything in the scope of services as well as bring into GIS system for functional use of the data.

The following attributes shall be collected:

1. Meter Number

2. Manufacturer of Meter
3. Type of Meter
4. Date of Install
5. Location (Front Yard, Side Yard, Back Yard)
6. Diameter (in inches)
7. InActive (yes or no)
8. Ownership (Parish Utilities of Ascension)
9. Maintained by (Parish Utility Dept)
10. Location Description
11. Address (address number being served)
12. Street (street and street suffix being served)
13. City (Donaldsonville)
14. Full Address
15. X coordinate
16. Y coordinate
17. Service line pipe material (customer side)
18. Service line pipe material (utility side)

3.1.5 Field Testing

After installation of each meter and returning to service, Contractor shall visibly observe to assure there are no leaks and that the meter register is recording, and that a mobile or fixed meter reading device is receiving a signal from the meter.

-- End of Section --