

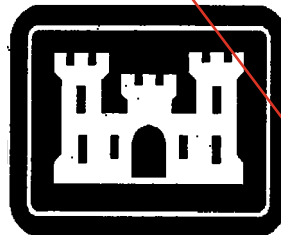
FMM SOUTHERN EMBANKMENT REACH SE-3
RED RIVER OF THE NORTH RIVER BASIN
FARGO-MOORHEAD FLOOD RISK MANAGMENT
FARGO, ND



CONSTRUCTION DOCUMENTS FOR

FMM SOUTHERN EMBANKMENT REACH SE-3

OCTOBER 2024



**US Army Corps
of Engineers**
St. Paul District

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>		1. SOLICITATION NO. W912ES23B0016	2. TYPE OF SOLICITATION <input checked="" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 16-OCT-2024	PAGE OF PAGES 1 OF 202
IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.					
4. CONTRACT NO.		5. REQUISITION/PURCHASE REQUEST NO.		6. PROJECT NO.	
7. ISSUED BY CONTRACTING DIVISION USACE, ST PAUL 332 MINNESOTA STREET SUITE E1500 ST PAUL MN 55101-1323 TEL:651-290-5414		CODE W912ES FAX:	8. ADDRESS OFFER TO (If Other Than Item 7) CODE See Item 7 TEL: FAX:		
9. FOR INFORMATION CALL:		A. NAME SCOTT E HENDRIX		B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) 651-290-5406	
SOLICITATION					
NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".					
10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS(Title, identifying no., date): Fargo-Moorhead Metropolitan (FMM) Area Flood Risk Management Project - Southern Embankment SE-3. This solicitation is issued as an Invitation for Bid (IFB) and is 100% Set-Aside for Small Business Concerns. The anticipated magnitude of this project is between \$25,000,000 and \$100,000,000. The NAICS code for this procurement is 237990 Other Heavy and Civil Engineering Construction with a size standard of \$45,000,000. Payment and Performance protection is required in accordance with FAR Part 28.					
11. The Contractor shall begin performance within 10 calendar days and complete it within _____ 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 52.211-10 Alt1 _____.)					
12 A. 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				12B. CALENDAR DAYS 10	
13. ADDITIONAL SOLICITATION REQUIREMENTS: A. Sealed offers in original and 1 copies to perform the work required are due at the place specified in Item 8 by 02:00 PM (hour) local time 19 NOV 2024 (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due. B. An offer guarantee <input checked="" type="checkbox"/> is, <input type="checkbox"/> 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.					

SOLICITATION, OFFER, AND AWARD (Continued) <i>(Construction, Alteration, or Repair)</i>										
OFFER (Must be fully completed by offeror)										
14. NAME AND ADDRESS OF OFFEROR <i>(Include ZIP Code)</i>					15. TELEPHONE NO. <i>(Include area code)</i>					
CODE FACILITY CODE					16. REMITTANCE ADDRESS <i>(Include only if different than Item 14)</i> See Item 14					
					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. <i>(Insert any number equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)</i>					
AMOUNTS		SEE SCHEDULE OF PRICES								
18. The offeror agrees to furnish any required performance and payment bonds.										
19. ACKNOWLEDGMENT OF AMENDMENTS <i>(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)</i>										
AMENDMENT NO.										
DATE										
20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER <i>(Type or print)</i>					20B. SIGNATURE				20C. OFFER DATE	
AWARD (To be completed by Government)										
21. ITEMS ACCEPTED:										
22. AMOUNT		23. ACCOUNTING AND APPROPRIATION DATA								
24. SUBMIT INVOICES TO ADDRESS SHOWN IN <i>(4 copies unless otherwise specified)</i>				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. 253(c)					
26. ADMINISTERED BY			CODE		27. PAYMENT WILL BE MADE BY: CODE					
CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE										
<input type="checkbox"/> 28. NEGOTIATED AGREEMENT <i>(Contractor is required to sign this document and return _____ copies to issuing office.)</i> Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications or incorporated by reference in or attached to this contract.					<input type="checkbox"/> 29. AWARD <i>(Contractor is not required to sign this document.)</i> Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.					
30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN <i>(Type or print)</i>					31A. NAME OF CONTRACTING OFFICER <i>(Type or print)</i>					
30B. SIGNATURE			30C. DATE		TEL: EMAIL:			31B. UNITED STATES OF AMERICA BY		
								31C. AWARD DATE		

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BID SCHEDULE

CLIN	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
0001	PERFORMANCE AND PAYMENT BONDS	1	JOB		
0002	DEMOLITION	1	JOB		
0003	TEMPORARY TRAFFIC CONTROL	1	JOB		
0004	TEMPORARY EROSION CONTROL	1	JOB		
0005	WATER AND SEWER	1	JOB		
0006	COMUNICATION AND ELECTRICAL	1	JOB		
0007	TOPSOIL STRIPPING	1	JOB		
0008	PAVEMENT MARKING	1	JOB		
0009	PERMANENT HIGHWAY SIGNS	1	JOB		
0010	TEMPORARY IRRIGATION SYSTEM	1	JOB		
0011	WATERING	1	JOB		
0012	INSPECTION TRENCH	8,600	LF		
0013	EXCAVATION				
0013AA	FIRST 104,030 CY - EXCAVATION	104,030	CY		
0013AB	OVER 104,030 CY - EXCAVATION	15,605	CY		
0014	EMBANKMENT				
0014AA	FIRST 771,331 CY - EMBANKMENT	771,331	CY		
0014AB	OVER 771,331 CY - EMBANKMENT	115,700	CY		
0015	TURF REINFORCEMENT MAT (TRM)	879,968	SF		
0016	AGGREGATE SURFACE	18,719	TON		
0017	SALVAGED BASE COURSE				
0017AA	FIRST 7,990 - SALVAGED BASE COURSE	7,990	CY		
0017AB	OVER 7,990 - SALVAGED BASE COURSE	1,199	CY		
0018	PERMANENT CR81 ASPHALT PAVEMENT	16,499	SY		
0019	PIPE CORRUGATED STEEL; .064IN 24IN	90	LF		
0020	PIPE CORRUGATED STEEL; .064IN 30IN	92	LF		
0021	PIPE CORRUGATED STEEL; .064IN 36IN	52	LF		
0022	END SECTION CORRUGATED STEEL; .064IN 24IN	4	EA		
0023	END SECTION CORRUGATED STEEL; .064IN 30IN	4	EA		
0024	END SECTION CORRUGATED STEEL; .064IN 36IN	2	EA		
0025	PRECAST REINFORCED CONCRETE BOX (RCB) CULVERT; 10 X 5	92	LF		
0026	PRECAST REINFORCED CONCRETE BOX (RCB) CULVERT; 10 X 7	45	LF		
0027	PRECAST REINFORCED CONCRETE BOX (RCB) CULVERT; 10 X 10	364	LF		
0028	PRECAST CONCRETE END SECTION; 10 X 5	2	EA		

0029	PRECAST CONCRETE END SECTION; 10 X 7	2	EA		
0030	PRECAST CONCRETE END SECTION; 10 X 10	4	EA		
0031	TOPSOIL RESPREAD				
0031AA	FIRST 273,787 - TOPSOIL RESPREAD	273,787	CY		
0031AB	OVER 273,787 - TOPSOIL RESPREAD	41,069	CY		
0032	SEEDING	140.11	AC		
0033	RIPRAP; R20	634	TON		
0034	RIPRAP; R30	442	TON		
0035	RIPRAP; R80	384	TON		
0036	RIPRAP; R140	897	TON		
0037	ACCESS GATE	2	EA		
TOTAL OF AMOUNTS (ITEM NOS. 0001 THROUGH 0037 INCL.)					
OPTION 1					
1001	PERFORMANCE AND PAYMENT BONDS	1	JOB		
1002	DEMOLITION	1	JOB		
1003	TEMPORARY TRAFFIC CONTROL	1	JOB		
1004	TEMPORARY EROSION CONTROL	1	JOB		
1005	TOPSOIL STRIPPING	1	JOB		
1006	PERMANENT HIGHWAY SIGNS	1	JOB		
1007	TEMPORARY IRRIGATION SYSTEM	1	JOB		
1008	WATERING	1	JOB		
1009	INSPECTION TRENCH	2,176	LF		
1010	EXCAVATION				
1010AA	FIRST 12,257 - EXCAVATION	12,257	CY		
1010AB	OVER 12,257 - EXCAVATION	1,839	CY		
1011	MUCK EXCAVATION				
1011AA	FIRST 17,778 - MUCK EXCAVATION	17,778	CY		
1011AB	OVER 17,778 - MUCK EXCAVATION	2,667	CY		
1012	EMBANKMENT				
1012AA	FIRST 183,873 - EMBANKMENT	183,873	CY		
1012AB	OVER 183,873 - EMBANKMENT	27,581	CY		
1013	TURF REINFORCEMENT MAT (TRM)	198,281	SF		
1014	AGGREGATE SURFACE	578	TON		
1015	TOPSOIL RESPREAD				
1015AA	FIRST 70,573 - TOPSOIL RESPREAD	70,573	CY		
1015AB	OVER 70,573 - TOPSOIL RESPREAD	10,586	CY		
1016	ARTICULATED CONCRETE BLOCK	27,326	SF		
1017	SEEDING	38.73	AC		
1018	RIPRAP; R30	85	TON		
TOTAL PRICE OF OPTION 1 (ITEMS 1001 THROUGH 1018 INCL.)					
TOTAL PRICE BASE AND OPTION 1					

BID SUBMISSION INSTRUCTIONS

1. **SAM REGISTRATION.** All bidders must register and complete online representations and certifications in the System for Award Management (SAM) at <https://sam.gov/content/entity-landing> prior to the bid opening. Bidders that have not registered or completed their online representations and certifications may be rejected. Bidders are advised that the initial registration in SAM may take several weeks. The Government will review completed representations and certifications in SAM following the bid opening. Submission of paper copies of completed Representations and Certifications is NOT required with bid submissions.

2. **RESPONSIBILITY DETERMINATION.** In accordance with Federal Acquisition Regulation (FAR) Subpart 9.1, the apparent low bidder will be requested to provide the following information:

A detailed description of the work to be self-performed and resources available to demonstrate the firm is capable of complying with 52.219-14, Limitations on Subcontracting.

Financial Statements, including balance sheets that identify major categories of assets, liabilities, and owner's equity; and profit and loss statements for the past three (3) years.

A Bank Certification of Financial Capability (line of credit).

Bidder qualification information, as referenced in Section 00 73 00 – Supplementary Conditions, must be received by the Contracting Officer **within two (2) business days** after the bid opening. This information will be treated as confidential commercial or financial information to the extent permitted by law under exemption 4 to the Freedom of Information Act, 5 U.S.C. § 552(b)(4). The financial statements should be not over 60 days old. If over 60 days old, a certification should be attached stating that the financial condition of the firm is substantially the same or, if not the same, the changes that have taken place.

3. **BIDDER INQUIRIES.** Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must submit their questions using the ProjNet system at <https://www.projnet.org>.

Provision 52.214-6 requires that all inquiries be submitted in writing. To submit a new inquiry or to view inquiries submitted by other prospective bidders, users must be registered and signed into the ProjNet system. Bidders may register online at <https://www.projnet.org> (click on "Register").

The following information will be needed to submit or view bidder inquiries:

Managing Agency: **USACE**

Solicitation Number: **W912ES23B0016**

Bidder Inquiry Key: **3TBGJ4-MSGCF6**

Bidders shall submit inquiries not later than 10 days prior to bid opening in order to ensure adequate time is allotted to form an appropriate response and amend the solicitation if necessary. Those who submit an inquiry will receive a system-generated email acknowledgement. All answers to inquiries will be posted in ProjNet after they have been reviewed by the USACE technical team. Bidders are advised to review the solicitation in its entirety and to review all previously submitted questions and responses prior to submitting a new inquiry.

4. **IFB EXPENSES AND PRE-CONTRACT COSTS.** This IFB does not commit the Government to pay any costs incurred in the preparation and submission of materials or for any other costs incurred by any firm submitting materials in response to this solicitation. Finally, the Government will not pay for or subsidize any costs incurred for attendance at the site visit.

5. Any forthcoming amendments will be available on this website: <https://sam.gov/content/opportunities>. It is recommended that each registered firm check this website periodically for updates.
6. All Quantities are estimated except where unit is given as “EA” (each) or “JOB” (job).
7. FACSIMILE BIDS AND MODIFICATIONS WILL NOT BE ACCEPTED.
8. **Bidders are directed to FAR Clause 52.211-10, COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) - ALTERNATE I (APR 1984) for completion date requirements.**
9. **BID BONDS:** In accordance with FAR 52.228-1, all bidders must provide a properly executed bid bond with their submitted bid. Bid bonds must be executed on the current version of Standard Form (SF) 24, which can be located at <https://www.gsa.gov/reference/forms/bid-bond>. All signatures must be either original “wet”, or a digital signature which allows for authentication. Photocopied signatures will not be accepted.

BID SUBMISSION & BID OPENING

1. BID SUBMISSION (HAND-CARRIED OR MAIL – authorized transmission methods)

The sealed, hand-carried or mailed, bid envelope containing the bid package must be annotated on the outside of the envelope as follows:

Bidders Name

Bidders Address

Solicitation Number: W912ES23B0016, FMM Southern Embankment Reach SE-3

Bid Receipt Date: **November 19, 2024** (or as amended)

Bid Receipt Time: 2:00pm Central

HAND-CARRIED BIDS:

Public access to USACE St. Paul District Headquarters, 332 Minnesota Street, Suite E1500, St. Paul, MN 55101 is through the East tower elevators. Persons delivering hand-carried bids shall go to the Security desk on the 15th floor, between the hours of 8:00am and 3:30pm on the days prior to the bid opening date, and between 8:00am and 2:00pm on the bid opening date. Someone from the Security Desk will contact a member of Contracting, who will meet you there and accept the bid. Bids shall only be accepted by a member of the Contracting office.

MAILED BIDS: Bids may be mailed to ensure receipt by USACE before the sealed bid due date and time at the following mail address:

Contracting Division

Attn: Kevin Henricks (IFB No: W912ES23B0016)

USACE - ST. PAUL

332 Minnesota Street

Suite E1500

Saint Paul, MN 55101-1678

Sealed bids received at the designated location after the required due date and time may be rejected. See Federal Acquisition Regulation Part 14.304.

2. BID OPENING

Bid opening will be conducted both in-person, and by telephone. To attend the bid opening, persons will need to check in at the security desk on the 15th floor. It is requested that you show up no later than 10 minutes before the bid opening in order to be signed in and be at the bid opening when it begins. To participate by telephone, use the call-in information below.

Join by phone

+1-669-234-1177 US Toll

+1-844-800-2712 US Toll Free

Meeting number (access code): 2820 972 2500

Meeting password: AAgwxm4X*73

USACE Contracting will be on the line starting at 1:50pm to take attendance prior to bid opening.

SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

52.204-16 COMMERCIAL AND GOVERNMENT ENTITY CODE REPORTING (AUG 2020)

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

Commercial and Government Entity (CAGE) code means—

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

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

(b) The Offeror shall provide its CAGE code with its offer with its name and location address or otherwise include it prominently in its proposal. The CAGE code must be for that name and location address. Insert the word "CAGE" before the number. The CAGE code is required prior to award.

(c) CAGE codes may be obtained via--

(1) Registration in the System for Award Management (SAM) at www.sam.gov. If the Offeror is located in the United States or its outlying areas and does not already have a CAGE code assigned, the DLA Commercial and Government Entity (CAGE) Branch will assign a CAGE code as a part of the SAM registration process. SAM registrants located outside the United States and its outlying areas shall obtain a NCAGE code prior to registration in SAM (see paragraph (c)(3) of this provision).

(2) The DLA Commercial and Government Entity (CAGE) Branch. If registration in SAM is not required for the subject procurement, and the Offeror does not otherwise register in SAM, an Offeror located in the United States or its outlying areas may request that a CAGE code be assigned by submitting a request at <https://cage.dla.mil>.

(3) The appropriate country codification bureau. Entities located outside the United States and its outlying areas may obtain an NCAGE code by contacting the Codification Bureau in the foreign entity's country if that country is a member of NATO or a sponsored nation. NCAGE codes may be obtained from the NSPA at <https://eportal.nspa.nato.int/AC135Public/scage/CageList.aspx> if the foreign entity's country is not a member of NATO or a sponsored nation. Points of contact for codification bureaus, as well as additional information on obtaining NCAGE codes, are available at <http://www.nato.int/structur/AC/135/main/links/contacts.htm>.

(d) Additional guidance for establishing and maintaining CAGE codes is available at <https://cage.dla.mil>.

(e) When a CAGE code is required for the immediate owner and/or the highest-level owner by Federal Acquisition Regulation (FAR) 52.204-17 or 52.212-3(p), the Offeror shall obtain the respective CAGE code from that entity to supply the CAGE code to the Government.

(f) Do not delay submission of the offer pending receipt of a CAGE code.

(g) If the solicitation includes FAR clause 52.204-2, Security Requirements, a subcontractor requiring access to classified information under a contract shall be identified with a CAGE code on the DD Form 254. The Contractor shall require a subcontractor requiring access to classified information to provide its CAGE code with its name and location address or otherwise include it prominently in the proposal. Each location of subcontractor performance listed on the DD Form 254 is required to reflect a corresponding unique CAGE code for each listed location unless

the work is being performed at a Government facility, in which case the agency location code shall be used. The CAGE code must be for that name and location address. Insert the word "CAGE" before the number. The CAGE code is required prior to award.

(End of Provision)

52.204-22 ALTERNATIVE LINE ITEM PROPOSAL (JAN 2017)

(a) The Government recognizes that the line items established in this solicitation may not conform to the Offeror's practices. Failure to correct these issues can result in difficulties in acceptance of deliverables and processing payments. Therefore, the Offeror is invited to propose alternative line items for which bids, proposals, or quotes are requested in this solicitation to ensure that the resulting contract is economically and administratively advantageous to the Government and the Offeror.

(b) The Offeror may submit one or more additional proposals with alternative line items, provided that alternative line items are consistent with subpart 4.10 of the Federal Acquisition Regulation. However, acceptance of an alternative proposal is a unilateral decision made solely at the discretion of the Government. Offers that do not comply with the line items specified in this solicitation may be determined to be nonresponsive or unacceptable.

(End of provision)

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 FAPIIS 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)

52.214-3 AMENDMENTS TO INVITATIONS FOR BIDS (DEC 2016)

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) (1) Bidders shall acknowledge receipt of any amendment to this solicitation--

(i) By signing and returning the amendment;

(ii) By identifying the amendment number and date in space provided for this purpose on the form for submitting a bid;

(iii) By letter;

(iv) By facsimile, if facsimile bids are authorized in the solicitation; or

(v) By email, if email bids are authorized in the solicitation.

(2) The Government must receive the acknowledgement by the time and at the place specified for receipt of bids.

(End of provision)

52.214-4 FALSE STATEMENTS IN BIDS (APR 1984)

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.

(End of provision)

52.214-5 SUBMISSION OF BIDS (DEC 2016)

(a) Bids and bid modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) (1) addressed to the office specified in the solicitation, and (2) showing the time and date specified for receipt, the solicitation number, and the name and address of the bidder.

(b) Bidders using commercial carrier services shall ensure that the bid is addressed and marked on the outermost envelope or wrapper as prescribed in subparagraphs (a)(1) and (2) of this provision when delivered to the office specified in the solicitation.

(c) Facsimile bids, modifications, or withdrawals, will not be considered unless authorized by the solicitation.

(d) Bids submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

(End of provision)

52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984)

Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(End of provision)

52.214-7 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS (NOV 1999)

(a) Bidders are responsible for submitting bids, and any modifications or withdrawals, so as to reach the Government office designated in the invitation for bids (IFB) by the time specified in the IFB. If no time is specified in the IFB, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that bids are due.

(b)(1) Any bid, modification, or withdrawal received at the Government office designated in the IFB after the exact time specified for receipt of bids is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late bid would not unduly delay the acquisition; and--

(i) If it was transmitted through an electronic commerce method authorized by the IFB, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of bids; or

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of bids and was under the Government's control prior to the time set for receipt of bids.

(2) However, a late modification of an otherwise successful bid that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(c) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the bid wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(d) If an emergency or unanticipated event interrupts normal Government processes so that bids cannot be received at the Government office designated for receipt of bids by the exact time specified in the IFB and urgent Government requirements preclude amendment of the IFB, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(e) Bids may be withdrawn by written notice received at any time before the exact time set for receipt of bids. If the IFB authorizes facsimile bids, bids may be withdrawn via facsimile received at any time before the exact time set for receipt of bids, subject to the conditions specified in the provision at 52.214-31, Facsimile Bids. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

(End of provision)

52.214-18 PREPARATION OF BIDS--CONSTRUCTION (APR 1984)

(a) Bids must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a bid must initial each erasure or change appearing on any bid form.

(b) The bid form may require bidders to submit bid prices for one or more items on various bases, including--

(1) Lump sum bidding;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of subparagraphs (1) through (3) above.

(c) If the solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(d) Alternate bids will not be considered unless this solicitation authorizes their submission.

(End of provision)

52.214-19 CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION (AUG 1996)

(a) The Government will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the Government,

considering only price and the price-related factors specified elsewhere in the solicitation.

(b) The Government may reject any or all bids, and waive informalities or minor irregularities in bids received.

(c) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the bid.

(d) The Government may reject a bid as nonresponsive if the prices bid are materially unbalanced between line items or subline items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Government even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

(End of provision)

52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(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)

52.217-5 EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(End of provision)

52.222-5 CONSTRUCTION WAGE RATE REQUIREMENTS--SECONDARY SITE OF THE WORK (MAY 2014)

(a)(1) The offeror shall notify the Government if the offeror intends to perform work at any secondary site of the work, as defined in paragraph (a)(1)(ii) of the FAR clause at 52.222-6, Construction Wage Rate Requirements, of this solicitation.

(2) If the offeror is unsure if a planned work site satisfies the criteria for a secondary site of the work, the offeror shall request a determination from the Contracting Officer.

(b)(1) If the wage determination provided by the Government for work at the primary site of the work is not applicable to the secondary site of the work, the offeror shall request a wage determination from the Contracting Officer.

(2) The due date for receipt of offers will not be extended as a result of an offeror's request for a wage determination for a secondary site of the work.

(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
0.7%	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 **Cass County, North Dakota**.

(End of provision)

52.225-12 NOTICE OF BUY AMERICAN REQUIREMENT - CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (MAY 2014) ALTERNATE I (MAY 2014)

(a) Definitions. "Commercially available off-the-shelf (COTS) item," "construction material," "designated country construction material," "domestic construction material," and "foreign construction material," as used in this provision, are defined in the clause of this solicitation entitled "Buy American-- Construction Materials Under Trade Agreements" (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American statute or Balance shall submit the request with its offer, including the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American statute, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers. (1) When an offer includes foreign construction material, other than designated country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material, and the offeror shall be required to furnish such domestic or

designated country construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(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 20 percent of the bid price or \$3 Million, 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)

52.228-17 INDIVIDUAL SURETY--PLEDGE OF ASSETS (BID GUARANTEE) (FEB 2021)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee--

(1) A pledge of assets that meets the eligibility, valuation, and security requirements described in the Federal Acquisition Regulation (FAR) 28.203-1; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) The Offeror shall include with its offer the information required at paragraph (a) of this provision within the timeframe specified in the provision at FAR 52.228-1, Bid Guarantee, or as otherwise established by the Contracting Officer.

(c) The Contracting Officer may release the security interest on the individual surety's assets in support of a bid guarantee based upon evidence that the offer supported by the individual surety will not result in contract award.

(End of provision)

52.233-2 SERVICE OF PROTEST (SEP 2006)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

U. S. Army Corps of Engineers – St. Paul District
ATTN: Kevin Henricks, Contracting Officer
332 Minnesota Street; Suite E1500
St. Paul, MN 55101-1323

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

(End of provision)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) – ALTERNATE I (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) An organized site visit has been scheduled for--

TBD

(c) Participants will meet at--

TBD

(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):

FAR: <https://www.acquisition.gov/browse/index/far>

DFARS: <https://www.acquisition.gov/dfars>

(End of provision)

52.236-7008 CONTRACT PRICES - BIDDING SCHEDULES. (DEC 1991)

(a) The Government's payment for the items listed in the Bidding Schedule shall constitute full compensation to the Contractor for --

- (1) Furnishing all plant, labor, equipment, appliances, and materials; and
- (2) Performing all operations required to complete the work in conformity with the drawings and specifications.
- (b) The Contractor shall include in the prices for the items listed in the Bidding Schedule all costs for work in the specifications, whether or not specifically listed in the Bidding Schedule.

5152.211-9000 EVALUATION OF SUBLINE ITEMS (DEC 2019)

Item Nos. 0013, 0014, 0017, 0031, 1010, 1011, 1012, and 1015 are subdivided into two or more estimated quantities and are to be separately priced. The Government will evaluate each of these items on the basis of total price of its subline items.

(End of provision)

SECTION 00 45 00 - REPRESENTATIONS AND CERTIFICATIONS

52.204-7 SYSTEM FOR AWARD MANAGEMENT (OCT 2018)

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

Electronic Funds Transfer (EFT) indicator means a four-character suffix to the unique entity identifier. The suffix is assigned at the discretion of the commercial, nonprofit, or Government entity to establish additional System for Award Management records for identifying alternative EFT accounts (see subpart 32.11) for the same entity.

Registered in the System for Award Management (SAM) means that--

(1) The Offeror has entered all mandatory information, including the unique entity identifier and the EFT indicator, if applicable, the Commercial and Government Entity (CAGE) code, as well as data required by the Federal Funding Accountability and Transparency Act of 2006 (see subpart 4.14) into SAM;

(2) The offeror has completed the Core, Assertions, and Representations and Certifications, and Points of Contact sections of the registration in SAM;

(3) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS). The offeror will be required to provide consent for TIN validation to the Government as a part of the SAM registration process; and

(4) The Government has marked the record ``Active".

Unique entity identifier means a number or other identifier used to identify a specific commercial, nonprofit, or Government entity. See www.sam.gov for the designated entity for establishing unique entity identifiers.

(b)(1) An Offeror is required to be registered in SAM when submitting an offer or quotation, and shall continue to be registered until time of award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The Offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation ``Unique Entity Identifier" followed by the unique entity identifier that identifies the Offeror's name and address exactly as stated in the offer. The Offeror also shall enter its EFT indicator, if applicable. The unique entity identifier will be used by the Contracting Officer to verify that the Offeror is registered in SAM.

(c) If the Offeror does not have a unique entity identifier, it should contact the entity designated at www.sam.gov for establishment of the unique entity identifier directly to obtain one. The Offeror should be prepared to provide the following information:

(1) Company legal business name.

(2) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(3) Company physical street address, city, state, and Zip Code.

(4) Company mailing address, city, state and Zip Code (if separate from physical).

(5) Company telephone number.

(6) Date the company was started.

(7) Number of employees at your location.

(8) Chief executive officer/key manager.

(9) Line of business (industry).

(10) Company headquarters name and address (reporting relationship within your entity).

(d) Processing time should be taken into consideration when registering. Offerors who are not registered in SAM should consider applying for registration immediately upon receipt of this solicitation. See <https://www.sam.gov> for information on registration.

(End of Provision)

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (MAY 2024)

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

(2) The small business size standard is \$45,000,000.

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

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

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

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

(b) (1) If the provision at 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:

(i) ☐ Paragraph (d) applies.

(ii) ☐ 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 biobased products in USDA-designated product categories; or include the clause at 52.223-2, Reporting 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 \$100,000, the provision with its Alternate II applies.

(C) If the acquisition value is \$100,000 or more but is less than \$102,280, 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 Certifications. 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) 52.227-6, Royalty Information.

___ (A) Basic.

___ (B) Alternate I.

___ (vii) 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 website 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)

52.204-24 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)

52.209-13 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)

52.229-11 TAX ON CERTAIN FOREIGN PROCUREMENTS--NOTICE AND REPRESENTATION (JUN 2020)

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

Foreign person means any person other than a United States person.

Specified Federal procurement payment means any payment made pursuant to a contract with a foreign contracting party that is for goods, manufactured or produced, or services provided in a foreign country that is not a party to an international procurement agreement with the United States. For purposes of the prior sentence, a foreign country does not include an outlying area.

United States person as defined in 26 U.S.C. 7701(a)(30) means--

- (1) A citizen or resident of the United States;
- (2) A domestic partnership;
- (3) A domestic corporation;
- (4) Any estate (other than a foreign estate, within the meaning of 26 U.S.C. 701(a)(31)); and
- (5) Any trust if--
 - (i) A court within the United States is able to exercise primary supervision over the administration of the trust; and
 - (ii) One or more United States persons have the authority to control all substantial decisions of the trust.
- (b) Unless exempted, there is a 2 percent tax of the amount of a specified Federal procurement payment on any foreign person receiving such payment. See 26 U.S.C. 5000C and its implementing regulations at 26 CFR 1.5000C-1 through 1.5000C-7.
- (c) Exemptions from withholding under this provision are described at 26 CFR 1.5000C-1(d)(5) through (7). The Offeror would claim an exemption from the withholding by using the Department of the Treasury Internal Revenue Service Form W-14, Certificate of Foreign Contracting Party Receiving Federal Procurement Payments, available

via the internet at www.irs.gov/w14. Any exemption claimed and self-certified on the IRS Form W-14 is subject to audit by the IRS. Any disputes regarding the imposition and collection of the 26 U.S.C. 5000C tax are adjudicated by the IRS as the 26 U.S.C. 5000C tax is a tax matter, not a contract issue. The IRS Form W-14 is provided to the acquiring agency rather than to the IRS.

(d) For purposes of withholding under 26 U.S.C. 5000C, the Offeror represents that--

(1) It ☐ is ☐ is not a foreign person; and

(2) If the Offeror indicates ``is" in paragraph (d)(1) of this provision, then the Offeror represents that--I am claiming on the IRS Form W-14 ☐ a full exemption, or ☐ partial or no exemption [Offeror shall select one] from the excise tax.

(e) If the Offeror represents it is a foreign person in paragraph (d)(1) of this provision, then--

(1) The clause at FAR 52.229-12, Tax on Certain Foreign Procurements, will be included in any resulting contract; and

(2) The Offeror shall submit with its offer the IRS Form W-14. If the IRS Form W-14 is not submitted with the offer, exemptions will not be applied to any resulting contract and the Government will withhold a full 2 percent of each payment.

(f) If the Offeror selects ``is" in paragraph (d)(1) and ``partial or no exemption" in paragraph (d)(2) of this provision, the Offeror will be subject to withholding in accordance with the clause at FAR 52.229-12, Tax on Certain Foreign Procurements, in any resulting contract.

(g) A taxpayer may, for a fee, seek advice from the Internal Revenue Service (IRS) as to the proper tax treatment of a transaction. This is called a private letter ruling. Also, the IRS may publish a revenue ruling, which is an official interpretation by the IRS of the Internal Revenue Code, related statutes, tax treaties, and regulations. A revenue ruling is the conclusion of the IRS on how the law is applied to a specific set of facts. For questions relating to the interpretation of the IRS regulations go to <https://www.irs.gov/help/tax-law-questions>.

(End of provision)

252.203-7005 REPRESENTATION RELATING TO COMPENSATION OF FORMER DOD OFFICIALS (SEP 2022)

(a) Definition. Covered DoD official is defined in the clause at 252.203-7000, Requirements Relating to Compensation of Former DoD Officials.

(b) By submission of this offer, the Offeror represents, to the best of its knowledge and belief, that all covered DoD officials employed by or otherwise receiving compensation from the Offeror, and who are expected to undertake activities on behalf of the Offeror for any resulting contract, are presently in compliance with all applicable post-employment restrictions, including those contained in 18 U.S.C. 207, 41 U.S.C. 2101-2107, 5 CFR part 2641, section 1045 of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91), and Federal Acquisition Regulation 3.104-2.

(End of provision)

252.204-7007 ALTERNATE A, ANNUAL REPRESENTATIONS AND CERTIFICATIONS (NOV 2023)

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.

XX (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.sam.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)

252.204-7017 PROHIBITION ON THE ACQUISITION OF COVERED DEFENSE TELECOMMUNICATIONS EQUIPMENT OR SERVICES--REPRESENTATION (MAY 2021)

The Offeror is not required to complete the representation in this provision if the Offeror has represented in the provision at 252.204-7016, Covered Defense Telecommunications Equipment or Services--Representation, that it “does not provide covered defense 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.”

(a) Definitions. Covered defense telecommunications equipment or services, covered mission, critical technology, and substantial or essential component, as used in this provision, have the meanings given in the 252.204-7018 clause, Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services, of this solicitation.

(b) Prohibition. Section 1656 of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91) prohibits agencies from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service to carry out covered missions that uses covered defense telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(c) Procedures. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) at <https://www.sam.gov> for entities that are excluded when providing any equipment, system, or service to carry out covered missions that uses covered defense telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless a waiver is granted.

(d) Representation. If in its annual representations and certifications in SAM the Offeror has represented in paragraph (c) of the provision at 252.204-7016, Covered Defense Telecommunications Equipment or Services--Representation, that it “does” provide covered defense 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, then the Offeror shall complete the following additional representation:

The Offeror represents that it [] will [] will not provide covered defense telecommunications equipment or services as a part of its offered products or services to DoD in the performance of any award resulting from this solicitation.

(e) Disclosures. If the Offeror has represented in paragraph (d) of this provision that it “will provide covered defense telecommunications equipment or services,” the Offeror shall provide the following information as part of the offer:

(1) A description of all covered defense telecommunications equipment and services offered (include brand or manufacturer; product, such as model number, original equipment manufacturer (OEM) number, manufacturer part number, or wholesaler number; and item description, as applicable).

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

(3) For services, the entity providing the covered defense telecommunications services (include entity name, unique entity identifier, and Commercial and Government Entity (CAGE) code, if known).

(4) For equipment, the entity that produced or provided the covered defense telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known).

(End of provision)

252.225-7055 REPRESENTATION REGARDING BUSINESS OPERATIONS WITH THE MADURO REGIME (MAY 2022)

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

Agency or instrumentality of the government of Venezuela, business operations, government of Venezuela, and person have the meaning given in the clause 252.225-7056, Prohibition Regarding Business Operations with the Maduro Regime, of this solicitation.

(b) Prohibition. In accordance with section 890 of the National Defense Authorization Act for Fiscal Year 2020 (Pub. L. 116-92), DoD is prohibited from entering into a contract for the procurement of products or services with any person that has business operations with an authority of the government of Venezuela that is not recognized as the legitimate government of Venezuela by the U.S. Government, unless the person has a valid license to operate in Venezuela issued by the Office of Foreign Assets Control of the Department of the Treasury.

(c) Representation. By submission of its offer, the Offeror represents that the Offeror is a person that--

(1) Does not have any business operations with an authority of the Maduro regime or the government of Venezuela that is not recognized as the legitimate government of Venezuela by the U.S. Government; or

(2) Has a valid license to operate in Venezuela issued by the Office of Foreign Assets Control of the Department of the Treasury.

(End of provision)

252.225-7057 PREAWARD DISCLOSURE OF EMPLOYMENT OF INDIVIDUALS WHO WORK IN THE PEOPLE'S REPUBLIC OF CHINA (AUG 2022)

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

Covered contract and covered entity have the meaning given in the clause 252.225-7058, Postaward Disclosure of Employment of Individuals Who Work in the People's Republic of China.

(b) Prohibition on award. In accordance with section 855 of the National Defense Authorization Act for Fiscal Year 2022 (Pub. L. 117-81, 10 U.S.C. 4651 note prec.), DoD may not award a contract to the Offeror if it is a covered entity and proposes to employ one or more individuals who will perform work in the People's Republic of China on a covered contract, unless the Offeror has disclosed its use of workforce and facilities in the People's Republic of China.

(c) Preaward disclosure requirement. At the time of submission of an offer for a covered contract, an Offeror that is a covered entity shall provide disclosures to include--

(1) The proposed use of workforce on a covered contract or subcontract, if the Offeror employs one or more individuals who perform work in the People's Republic of China;

(2) The total number of such individuals who will perform work in the People's Republic of China; and

(3) A description of the physical presence, including street address or addresses, in the People's Republic of China, where work on the covered contract will be performed.

(End of provision)

252.225-7059 PROHIBITION ON CERTAIN PROCUREMENTS FROM THE XINJIANG UYGHUR AUTONOMOUS REGION - REPRESENTATION (JUN 2023)

(a) Definitions. Forced labor and XUAR, as used in this provision, have the meaning given in the 252.225-7060, Prohibition on Certain Procurements from the Xinjiang Uyghur Autonomous Region, clause of this solicitation.

(b) Prohibition. DoD may not knowingly procure any products mined, produced, or manufactured wholly or in part by forced labor from XUAR or from an entity that has used labor from within or transferred from XUAR as part of

any forced labor programs, as specified in paragraph (b) of the 252.225-7060, Prohibition on certain procurements from the Xinjiang Uyghur Autonomous Region, clause of this solicitation.

(c) Representation. By submission of its offer, the Offeror represents that it has made a good faith effort to determine that forced labor from XUAR will not be used in the performance of a contract resulting from this solicitation.

(End of provision)

SECTION 00 70 00 - CONDITIONS OF THE CONTRACT

52.202-1 DEFINITIONS (JUN 2020)

When a solicitation provision or contract clause uses a word or term that is defined in the Federal Acquisition Regulation (FAR), the word or term has the same meaning as the definition in FAR 2.101 in effect at the time the solicitation was issued, unless--

- (a) The solicitation, or amended solicitation, provides a different definition;
- (b) The contracting parties agree to a different definition;
- (c) The part, subpart, or section of the FAR where the provision or clause is prescribed provides a different meaning;
- (d) The word or term is defined in FAR part 31, for use in the cost principles and procedures; or
- (e) The word or term defines an acquisition-related threshold, and if the threshold is adjusted for inflation as set forth in FAR 1.109(a), then the changed threshold applies throughout the remaining term of the contract, unless there is a subsequent threshold adjustment; see FAR 1.109(d).

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (MAY 2014)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract

upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUN 2020)

(a) Except as provided in (b) of this clause, the Contractor shall not enter into any agreement with an actual or prospective subcontractor, nor otherwise act in any manner, which has or may have the effect of restricting sales by such subcontractors directly to the Government of any item or process (including computer software) made or furnished by the subcontractor under this contract or under any follow-on production contract.

(b) The prohibition in (a) of this clause does not preclude the Contractor from asserting rights that are otherwise authorized by law or regulation.

(c) The Contractor agrees to incorporate the substance of this clause, including this paragraph (c), in all subcontracts under this contract which exceed the simplified acquisition threshold, as defined in Federal Acquisition Regulation 2.101 on the date of subcontract award.

(End of Clause)

52.203-7 ANTI-KICKBACK PROCEDURES (JUN 2020)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) 41 U.S.C. chapter 87, Kickbacks, prohibits any person from--

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Attorney General.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this paragraph (c)(5) but excepting paragraph (c)(1) of this clause, in all subcontracts under this contract that exceed the threshold specified in Federal Acquisition Regulation 3.502-2(i) on the date of subcontract award.

(End of Clause)

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (MAY 2014)

(a) If the Government receives information that a contractor or a person has violated 41 U.S.C. 2102-2104, Restrictions on Obtaining and Disclosing Certain Information, the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct violates 41 U.S.C. 2102 for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct punishable under 41 U.S.C. 2105(a).

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

(End of clause)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (MAY 2014)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of 41 U.S.C. 2102 or 2103, as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

- (i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or
 - (ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.
- (5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.
- (c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the statute by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.
- (d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 2020)

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

Agency means executive agency as defined in Federal Acquisition Regulation (FAR) 2.101.

Covered Federal action means any of the following actions:

- (1) Awarding any Federal contract.
- (2) Making any Federal grant.
- (3) Making any Federal loan.
- (4) Entering into any cooperative agreement.
- (5) Extending, continuing, renewing, amending, or modifying any Federal contract, grant, loan, or cooperative agreement.

Indian tribe and tribal organization have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b) and include Alaskan Natives.

Influencing or attempting to influence means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

Local government means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate

district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

Officer or employee of an agency includes the following individuals who are employed by an agency:

- (1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.
- (2) A member of the uniformed services, as defined in subsection 101(3), Title 37, United States Code.
- (3) A special Government employee, as defined in section 202, Title 18, United States Code.
- (4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

Person means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization eligible to receive Federal contracts, grants, cooperative agreements, or loans from an agency, but only with respect to expenditures by such tribe or organization that are made for purposes specified in paragraph (b) of this clause and are permitted by other Federal law.

Reasonable compensation means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

Reasonable payment means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

Recipient includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization eligible to receive Federal contracts, grants, cooperative agreements, or loans from an agency, but only with respect to expenditures by such tribe or organization that are made for purposes specified in paragraph (b) of this clause and are permitted by other Federal law.

Regularly employed means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

State means a State of the United States, the District of Columbia, or an outlying area of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibition. 31 U.S.C. 1352 prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal actions. In accordance with 31 U.S.C. 1352, the Contractor shall not use appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the award of this contractor the extension, continuation, renewal, amendment, or modification of this contract.

- (1) The term appropriated funds does not include profit or fee from a covered Federal action.

(2) To the extent the Contractor can demonstrate that the Contractor has sufficient monies, other than Federal appropriated funds, the Government will assume that these other monies were spent for any influencing activities that would be unallowable if paid for with Federal appropriated funds.

(c) Exceptions. The prohibition in paragraph (b) of this clause does not apply under the following conditions:

(1) Agency and legislative liaison by Contractor employees.

(i) Payment of reasonable compensation made to an officer or employee of the Contractor if the payment is for agency and legislative liaison activities not directly related to this contract. For purposes of this paragraph, providing any information specifically requested by an agency or Congress is permitted at any time.

(ii) Participating with an agency in discussions that are not related to a specific solicitation for any covered Federal action, but that concern--

(A) The qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities; or

(B) The application or adaptation of the person's products or services for an agency's use.

(iii) Providing prior to formal solicitation of any covered Federal action any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(iv) Participating in technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(v) Making capability presentations prior to formal solicitation of any covered Federal action by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub.L. 95-507, and subsequent amendments.

(2) Professional and technical services. (i) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(ii) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(iii) As used in paragraph (c)(2) of this clause, "professional and technical services" are limited to advice and analysis directly applying any professional or technical discipline (for examples, see FAR 3.803(a)(2)(iii)).

(iv) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(3) Only those communications and services expressly authorized by paragraphs (c)(1) and (2) of this clause are permitted.

(d) Disclosure. (1) If the Contractor did not submit OMB Standard Form LLL, Disclosure of Lobbying Activities, with its offer, but registrants under the Lobbying Disclosure Act of 1995 have subsequently made a lobbying contact

on behalf of the Contractor with respect to this contract, the Contractor shall complete and submit OMB Standard Form LLL to provide the name of the lobbying registrants, including the individuals performing the services.

(2) If the Contractor did submit OMB Standard Form LLL disclosure pursuant to paragraph (d) of the provision at FAR 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions, and a change occurs that affects Block 10 of the OMB Standard Form LLL (name and address of lobbying registrant or individuals performing services), the Contractor shall, at the end of the calendar quarter in which the change occurs, submit to the Contracting Officer within 30 days an updated disclosure using OMB Standard Form LLL.

(e) Penalties. (1) Any person who makes an expenditure prohibited under paragraph (b) of this clause or who fails to file or amend the disclosure to be filed or amended by paragraph (d) of this clause shall be subject to civil penalties as provided for by 31 U.S.C.1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(g) Subcontracts.

(1) The Contractor shall obtain a declaration, including the certification and disclosure in paragraphs (c) and (d) of the provision at FAR 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions, from each person requesting or receiving a subcontract under this contract that exceeds the threshold specified in FAR 3.808 on the date of subcontract award. The Contractor or subcontractor that awards the subcontract shall retain the declaration.

(2) A copy of each subcontractor disclosure form (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall, at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor, submit to the Contracting Officer within 30 days a copy of all disclosures. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(3) The Contractor shall include the substance of this clause, including this paragraph (g), in any subcontract that exceeds the threshold specified in FAR 3.808 on the date of subcontract award.

(End of clause)

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)

52.203-19 PROHIBITION ON REQUIRING CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS OR STATEMENTS (JAN 2017)

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

Internal confidentiality agreement or statement means a confidentiality agreement or any other written statement that the contractor requires any of its employees or subcontractors to sign regarding nondisclosure of contractor information, except that it does not include confidentiality agreements arising out of civil litigation or confidentiality agreements that contractor employees or subcontractors sign at the behest of a Federal agency.

Subcontract means any contract as defined in subpart 2.1 entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

Subcontractor means any supplier, distributor, vendor, or firm (including a consultant) that furnishes supplies or services to or for a prime contractor or another subcontractor.

(b) The Contractor shall not require its employees or subcontractors to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting such employees or subcontractors from lawfully reporting waste, fraud, or abuse related to the performance of a Government contract to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information (e.g., agency Office of the Inspector General).

(c) The Contractor shall notify current employees and subcontractors that prohibitions and restrictions of any preexisting internal confidentiality agreements or statements covered by this clause, to the extent that such prohibitions and restrictions are inconsistent with the prohibitions of this clause, are no longer in effect.

(d) The prohibition in paragraph (b) of this clause does not contravene requirements applicable to Standard Form 312 (Classified Information Nondisclosure Agreement), Form 4414 (Sensitive Compartmented Information Nondisclosure Agreement), or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

(e) In accordance with section 743 of Division E, Title VII, of the Consolidated and Further Continuing Appropriations Act, 2015, (Pub. L. 113-235), and its successor provisions in subsequent appropriations acts (and as extended in continuing resolutions) use of funds appropriated (or otherwise made available) is prohibited, if the Government determines that the Contractor is not in compliance with the provisions of this clause.

(f) The Contractor shall include the substance of this clause, including this paragraph (f), in subcontracts under such contracts.

(End of clause)

52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS (JUN 2020)

(a) Definitions. As used in this clause:

Executive means officers, managing partners, or any other employees in management positions.

First-tier subcontract means a subcontract awarded directly by the Contractor for the purpose of acquiring supplies or services (including construction) for performance of a prime contract. It does not include the Contractor's supplier agreements with vendors, such as long-term arrangements for materials or supplies that benefit multiple contracts and/or the costs of which are normally applied to a Contractor's general and administrative expenses or indirect costs.

Month of award means the month in which a contract is signed by the Contracting Officer or the month in which a first-tier subcontract is signed by the Contractor.

Total compensation means the cash and noncash dollar value earned by the executive during the Contractor's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

(1) Salary and bonus.

(2) Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Financial Accounting Standards Board's Accounting Standards Codification (FASB ASC) 718, Compensation-Stock Compensation.

(3) Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

(4) Change in pension value. This is the change in present value of defined benefit and actuarial

pension plans.

(5) Above-market earnings on deferred compensation which is not tax-qualified.

(6) Other compensation, if the aggregate value of all such other compensation (e.g., severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

(b) Section 2(d)(2) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.

(c) Nothing in this clause requires the disclosure of classified information.

(d)(1) Executive compensation of the prime contractor. As a part of its annual registration requirement in the System for Award Management (SAM) (Federal Acquisition Regulation FAR provision 52.204-7), the Contractor shall report the names and total compensation of each of the five most highly compensated executives for its preceding completed fiscal year, if—

(i) In the Contractor's preceding fiscal year, the Contractor received—

(A) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants), cooperative agreements, and other forms of Federal financial assistance; and

(B) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants), cooperative agreements, and other forms of Federal financial assistance; and

(ii) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

(2) First-tier subcontract information. Unless otherwise directed by the Contracting Officer, or as provided in paragraph (g) of this clause, by the end of the month following the month of award of a first-tier subcontract valued at or above the threshold specified in FAR 4.1403(a) on the date of subcontract award, the Contractor shall report the following information at <http://www.fsrc.gov> for that first-tier subcontract. (The Contractor shall follow the instructions at <http://www.fsrc.gov> to report the data.)

(i) Unique entity identifier for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has a parent company.

(ii) Name of the subcontractor.

(iii) Amount of the subcontract award.

(iv) Date of the subcontract award.

(v) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.

(vi) Subcontract number (the subcontract number assigned by the Contractor).

(vii) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(viii) Subcontractor's primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(ix) The prime contract number, and order number if applicable.

(x) Awarding agency name and code.

(xi) Funding agency name and code.

(xii) Government contracting office code.

(xiii) Treasury account symbol (TAS) as reported in FPDS.

(xiv) The applicable North American Industry Classification System code (NAICS).

(3) Executive compensation of the first-tier subcontractor. Unless otherwise directed by the Contracting Officer, by the end of the month following the month of award of a first-tier subcontract valued at or above the threshold specified in FAR 4.1403(a) on the date of subcontract award, and annually thereafter calculated from the prime contract award date), the Contractor shall report the names and total compensation of each of the five most highly compensated executives for that first-tier subcontractor for the first-tier subcontractor's preceding completed fiscal year at <http://www.fhrs.gov>, if—

(i) In the subcontractor's preceding fiscal year, the subcontractor received—

(A) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants), cooperative agreements, and other forms of Federal financial assistance; and

(B) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants), cooperative agreements, and other forms of Federal financial assistance; and

(ii) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>.)

(e) The Contractor shall not split or break down first-tier subcontract awards to a value below the threshold specified in FAR 4.1403(a), on the date of subcontract award, to avoid the reporting requirements in paragraph (d) of this clause.

(f) The Contractor is required to report information on a first-tier subcontract covered by paragraph (d) when the subcontract is awarded. Continued reporting on the same subcontract is not required unless one of the reported data elements changes during the performance of the subcontract. The Contractor is not required to make further reports after the first-tier subcontract expires.

(g)(1) If the Contractor in the previous tax year had gross income, from all sources, under \$300,000, the Contractor is exempt from the requirement to report subcontractor awards.

(2) If a subcontractor in the previous tax year had gross income from all sources under \$300,000, the Contractor does not need to report awards for that subcontractor.

(h) The FSRS database at <http://www.fsrs.gov> will be prepopulated with some information from SAM and the FPDS database. If FPDS information is incorrect, the contractor should notify the contracting officer. If the SAM information is incorrect, the contractor is responsible for correcting this information.

(End of clause)

52.204-13 SYSTEM FOR AWARD MANAGEMENT MAINTENANCE (OCT 2018)

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

Electronic Funds Transfer (EFT) indicator means a four-character suffix to the unique entity identifier. The suffix is assigned at the discretion of the commercial, nonprofit, or Government entity to establish additional System for Award Management (SAM) records for identifying alternative EFT accounts (see subpart 32.11) for the same entity.

Registered in the System for Award Management (SAM) means that--

- (1) The Contractor has entered all mandatory information, including the unique entity identifier and the EFT indicator (if applicable), the Commercial and Government Entity (CAGE) code, as well as data required by the Federal Funding Accountability and Transparency Act of 2006 (see subpart 4.14), into SAM;
- (2) The Contractor has completed the Core, Assertions, Representations and Certifications, and Points of Contact sections of the registration in SAM;
- (3) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS). The Contractor will be required to provide consent for TIN validation to the Government as a part of the SAM registration process; and
- (4) The Government has marked the record ``Active".

System for Award Management (SAM) means the primary Government repository for prospective Federal awardee and Federal awardee information and the centralized Government system for certain contracting, grants, and other assistance-related processes. It includes—

- (1) Data collected from prospective Federal awardees required for the conduct of business with the Government;
- (2) Prospective contractor-submitted annual representations and certifications in accordance with FAR subpart 4.12; and
- (3) Identification of those parties excluded from receiving Federal contracts, certain subcontracts, and certain types of Federal financial and non-financial assistance and benefits.

Unique entity identifier means a number or other identifier used to identify a specific commercial, nonprofit, or Government entity. See www.sam.gov for the designated entity for establishing unique entity identifiers.

(b) If the solicitation for this contract contained the provision 52.204-7 with its Alternate I, and the Contractor was unable to register prior to award, the Contractor shall be registered in SAM within 30 days after award or before three days prior to submission of the first invoice, whichever occurs first.

(c) The Contractor shall maintain registration in SAM during contract performance and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement. The Contractor is responsible for the currency, accuracy and completeness of the data within SAM, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in SAM after the initial registration, the Contractor is required to review and update on an annual basis, from the date of initial registration

or subsequent updates, its information in SAM to ensure it is current, accurate and complete. Updating information in SAM does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(d)(1)(i) If a Contractor has legally changed its business name or "doing business as" name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to--

(A) Change the name in SAM;

(B) Comply with the requirements of subpart 42.12 of the FAR; and

(C) Agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor shall provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (d)(1)(i) of this clause, or fails to perform the agreement at paragraph (d)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the SAM information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the SAM record to reflect an assignee for the purpose of assignment of claims (see FAR subpart 32.8, Assignment of Claims). Assignees shall be separately registered in SAM. Information provided to the Contractor's SAM record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the EFT clause of this contract.

(3) The Contractor shall ensure that the unique entity identifier is maintained with the entity designated at www.sam.gov for establishment of the unique entity identifier throughout the life of the contract. The Contractor shall communicate any change to the unique entity identifier to the Contracting Officer within 30 days after the change, so an appropriate modification can be issued to update the data on the contract. A change in the unique entity identifier does not necessarily require a novation be accomplished.

(e) Contractors may obtain additional information on registration and annual confirmation requirements at <https://www.sam.gov>.

(End of clause)

52.204-18 COMMERCIAL AND GOVERNMENT ENTITY CODE MAINTENANCE (AUG 2020)

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

Commercial and Government Entity (CAGE) code means--

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

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

(b) Contractors shall ensure that the CAGE code is maintained throughout the life of the contract for each location of contract, including subcontract, performance. For contractors registered in the System for Award Management (SAM), the DLA Commercial and Government Entity (CAGE) Branch shall only modify data received from SAM in the CAGE master file if the contractor initiates those changes via update of its SAM registration. Contractors undergoing a novation or change-of-name agreement shall notify the contracting officer in accordance with subpart 42.12. The contractor shall communicate any change to the CAGE code to the contracting officer within 30 days after the change, so that a modification can be issued to update the CAGE code on the contract.

(c) Contractors located in the United States or its outlying areas that are not registered in SAM shall submit written change requests to the DLA Commercial and Government Entity (CAGE) Branch. Requests for changes shall be provided at <https://cage.dla.mil>. Change requests to the CAGE master file are accepted from the entity identified by the code.

(d) Contractors located outside the United States and its outlying areas that are not registered in SAM shall contact the appropriate National Codification Bureau (points of contact available at <http://www.nato.int/structur/AC/135/main/links/contacts.htm>) or NSPA at <https://eportal.nspa.nato.int/AC135Public/scage/CageList.aspx> to request CAGE changes.

(e) Additional guidance for maintaining CAGE codes is available at <https://cage.dla.mil>.

(f) If the contract includes Federal Acquisition Regulation clause 52.204-2, Security Requirements, the contractor shall ensure that subcontractors maintain their CAGE code(s) throughout the life of the contract.

(End of Clause)

52.204-19 INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS (DEC 2014)

The Contractor's representations and certifications, including those completed electronically via the System for Award Management (SAM), are incorporated by reference into the contract.

(End of clause)

52.204-23 PROHIBITION ON CONTRACTING FOR HARDWARE, SOFTWARE, AND SERVICES DEVELOPED OR PROVIDED BY KASPERSKY LAB COVERED ENTITIES (DEC 2023)

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

Kaspersky Lab covered article means any hardware, software, or service that--

(1) Is developed or provided by a Kaspersky Lab covered entity;

(2) Includes any hardware, software, or service developed or provided in whole or in part by a Kaspersky Lab covered entity; or

(3) Contains components using any hardware or software developed in whole or in part by a Kaspersky Lab covered entity.

Kaspersky Lab covered entity means--

- (1) Kaspersky Lab;
- (2) Any successor entity to Kaspersky Lab, including any change in name, e.g., "Kaspersky";
- (3) Any entity that controls, is controlled by, or is under common control with Kaspersky Lab; or
- (4) Any entity of which Kaspersky Lab has a majority ownership.

(b) Prohibition. Section 1634 of Division A of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91) prohibits Government use of any Kaspersky Lab covered article. The Contractor is prohibited from--

- (1) Providing any Kaspersky Lab covered article that the Government will use on or after October 1, 2018; and
- (2) Using any Kaspersky Lab covered article on or after October 1, 2018, in the development of data or deliverables first produced in the performance of the contract.

(c) Reporting requirement.

(1) In the event the Contractor identifies a Kaspersky Lab covered article provided to the Government during contract performance, or the Contractor is notified of such by a subcontractor at any tier or any other source, the Contractor shall report, in writing, to the Contracting Officer or, in the case of the Department of Defense, to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (c)(1) of this clause:

- (i) Within 3 business days from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; brand; model number (Original Equipment Manufacturer (OEM) number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
- (ii) Within 10 business days of submitting the report pursuant to paragraph (c)(1) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of a Kaspersky Lab covered article, any reasons that led to the use or submission of the Kaspersky Lab covered article, and any additional efforts that will be incorporated to prevent future use or submission of Kaspersky Lab covered articles.

(d) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts including subcontracts for the acquisition of commercial products or commercial services.

(End of clause)

52.204-25 PROHIBITION ON CONTRACTING FOR CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (NOV 2021)

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

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means--

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment; or
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means--

- (1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;
- (2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled--
 - (i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or
 - (ii) For reasons relating to regional stability or surreptitious listening;
- (3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);
- (4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);
- (5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or
- (6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(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. The Contractor is prohibited from providing to the Government 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, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(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, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. 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.

(c) Exceptions. This clause does not prohibit contractors from providing--

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

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

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial products or commercial services.

(End of clause)

52.204-27 PROHIBITION ON A BYTEDANCE COVERED APPLICATION (JUN 2023)

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

Covered application means the social networking service TikTok or any successor application or service developed or provided by ByteDance Limited or an entity owned by ByteDance Limited.

Information technology, as defined in 40 U.S.C. 11101(6)--

(1) Means any equipment or interconnected system or subsystem of equipment, used in the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the executive agency, if the equipment is used by the executive agency directly or is used by a contractor under a contract with the executive agency that requires the use-

(i) Of that equipment; or

(ii) Of that equipment to a significant extent in the performance of a service or the furnishing of a product;

(2) Includes computers, ancillary equipment (including imaging peripherals, input, output, and storage devices necessary for security and surveillance), peripheral equipment designed to be controlled by the central processing unit of a computer, software, firmware and similar procedures, services (including support services), and related resources; but

(3) Does not include any equipment acquired by a Federal contractor incidental to a Federal contract.

(b) Prohibition. Section 102 of Division R of the Consolidated Appropriations Act, 2023 (Pub. L. 117-328), the No TikTok on Government Devices Act, and its implementing guidance under Office of Management and Budget (OMB) Memorandum M-23-13, dated February 27, 2023, "No TikTok on Government Devices" Implementation Guidance, collectively prohibit the presence or use of a covered application on executive agency information technology, including certain equipment used by Federal contractors. The Contractor is prohibited from having or using a covered application on any information technology owned or managed by the Government, or on any information technology used or provided by the Contractor under this contract, including equipment provided by the Contractor's employees; however, this prohibition does not apply if the Contracting Officer provides written notification to the Contractor that an exception has been granted in accordance with OMB Memorandum M-23-13.

(c) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (c), in all subcontracts, including subcontracts for the acquisition of commercial products or commercial services.

(End of clause)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (NOV 2021)

(a) Definition. Commercially available off-the-shelf (COTS) item, as used in this clause--

(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" in 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.

(b) The Government suspends or debar Contractors to protect the Government's interests. Other than a subcontract for a commercially available off-the-shelf item, the Contractor shall not enter into any subcontract, in excess of the threshold specified in FAR 9.405-2(b) on the date of subcontract award, with a Contractor that is debarred, suspended, or proposed for debarment by any executive agency unless there is a compelling reason to do so.

(c) The Contractor shall require each proposed subcontractor whose subcontract will exceed the threshold specified in FAR 9.405-2(b) on the date of subcontract award, other than a subcontractor providing a commercially available off-the-shelf item, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principals, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(d) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party (other than a subcontractor providing a commercially available off-the-shelf item) that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the System for Award Management (SAM) Exclusions). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being listed with an exclusion in SAM.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its being listed with an exclusion in SAM.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(e) Subcontracts. Unless this is a contract for the acquisition of commercial products or commercial services, the Contractor shall include the requirements of this clause, including this paragraph (e) (appropriately modified for the identification of the parties), in each subcontract that--

(1) Exceeds the threshold specified in FAR 9.405-2(b) on the date of subcontract award; and

(2) Is not a subcontract for commercially available off-the-shelf items.

(End of clause)

52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (OCT 2018)

(a) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIS) on a semi-annual basis, throughout the life of the contract, by posting the required information in the System for Award Management Management via <https://www.sam.gov>.

(b) As required by section 3010 of the Supplemental Appropriations Act, 2010 (Pub. L. 111-212), all information posted in FAPIS on or after April 15, 2011, except past performance reviews, will be publicly available. FAPIS consists of two segments--

(1) The non-public segment, into which Government officials and the Contractor post information, which can only be viewed by--

(i) Government personnel and authorized users performing business on behalf of the Government; or

(ii) The Contractor, when viewing data on itself; and

(2) The publicly-available segment, to which all data in the non-public segment of FAPIS is automatically transferred after a waiting period of 14 calendar days, except for--

(i) Past performance reviews required by subpart 42.15;

(ii) Information that was entered prior to April 15, 2011; or

(iii) Information that is withdrawn during the 14-calendar-day waiting period by the Government official who posted it in accordance with paragraph (c)(1) of this clause.

(c) The Contractor will receive notification when the Government posts new information to the Contractor's record.

(1) If the Contractor asserts in writing within 7 calendar days, to the Government official who posted the information, that some of the information posted to the non-public segment of FAPIS is covered by a disclosure exemption under the Freedom of Information Act, the Government official who posted the information must within 7 calendar days remove the posting from FAPIS and resolve the issue in accordance with agency Freedom of Information procedures, prior to reposting the releasable information. The contractor must cite 52.209-9 and request removal within 7 calendar days of the posting to FAPIS.

(2) The Contractor will also have an opportunity to post comments regarding information that has been posted by the Government. The comments will be retained as long as the associated information is retained, i.e., for a total period of 6 years. Contractor comments will remain a part of the record unless the Contractor revises them.

(3) As required by section 3010 of Pub. L. 111-212, all information posted in FAPIS on or after April 15, 2011, except past performance reviews, will be publicly available.

(d) Public requests for system information posted prior to April 15, 2011, will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.

(End of clause)

52.209-10 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS. (NOV 2015)

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

Inverted domestic corporation means a foreign incorporated entity that meets the definition of an inverted domestic corporation under 6 U.S.C. 395(b), applied in accordance with the rules and definitions of 6 U.S.C. 395(c).

Subsidiary means an entity in which more than 50 percent of the entity is owned--

(1) Directly by a parent corporation; or

(2) Through another subsidiary of a parent corporation.

(b) If the contractor reorganizes as an inverted domestic corporation or becomes a subsidiary of an inverted domestic corporation at any time during the period of performance of this contract, the Government may be prohibited from paying for Contractor activities performed after the date when it becomes an inverted domestic corporation or subsidiary. The Government may seek any available remedies in the event the Contractor fails to perform in accordance with the terms and conditions of the contract as a result of Government action under this clause.

(c) Exceptions to this prohibition are located at 9.108-2.

(d) In the event the Contractor becomes either an inverted domestic corporation, or a subsidiary of an inverted domestic corporation during contract performance, the Contractor shall give written notice to the Contracting Officer within five business days from the date of the inversion event.

(End of clause)

52.210-1 MARKET RESEARCH (NOV 2021)

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

Commercial product, commercial service, and nondevelopmental item have the meaning contained in Federal Acquisition Regulation (FAR) 2.101.

(b) Before awarding subcontracts for other than commercial acquisitions, where the subcontracts are over the simplified acquisition threshold, as defined in FAR 2.101 on the date of subcontract award, the Contractor shall conduct market research to--

(1) Determine if commercial products, commercial services, or, to the extent commercial products suitable to meet the agency's needs are not available, nondevelopmental items are available that--

(i) Meet the agency's requirements;

(ii) Could be modified to meet the agency's requirements; or

(iii) Could meet the agency's requirements if those requirements were modified to a reasonable extent; and

(2) Determine the extent to which commercial products, commercial services, or nondevelopmental items could be incorporated at the component level.

(End of clause)

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

The interim completion date for the utility crossing work is September 30, 2025.

All construction shall be completed by September 11, 2026.

All turf and plant establishment shall be completed by September 10, 2027.

The exercise of the option will not change any of the completion dates.

The completion date is based on the assumption that the successful offeror will receive the notice to proceed by January 15, 2025. The completion date will be extended by the number of calendar days after the above date that the Contractor receives the notice to proceed, except to the extent that the delay in issuance of the notice to proceed results from the failure of the Contractor to execute the contract and give the required performance and payment bonds within the time specified in the offer.

(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 following amounts:

Liquidated Damages for Construction:

\$2,768.67 for each calendar day of delay until the work is completed or accepted.

Liquidated Damages for Turf and Plant Establishment:

\$1,249.32 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)

52.211-13 TIME EXTENSIONS (SEP 2000)

Time extensions for contract changes will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements related to the changed work and that

the remaining contract completion dates for all other portions of the work will not be altered. The change order also may provide an equitable readjustment of liquidated damages under the new completion schedule.

(End of clause)

52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

(End of clause)

52.214-26 AUDIT AND RECORDS--SEALED BIDDING (JUN 2020)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Certified cost or pricing data. If the Contractor has been required to submit certified cost or pricing data in connection with the pricing of any modification to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the certified cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

- (1) The proposal for the modification;
- (2) The discussions conducted on the proposal(s), including those related to negotiating;
- (3) Pricing of the modification; or
- (4) Performance of the modification.

(c) Comptroller General. In the case of pricing any modification, the Comptroller General of the United States, or an authorized representative, shall have the same rights as specified in paragraph (b) of this clause and also the right to interview any current employee regarding such transactions.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in reproduction, until 3 years after final payment under this contract, or for any other period specified in Subpart 4.7 of the Federal Acquisition Regulation (FAR). FAR Subpart 4.7, Contractor Records Retention, in effect on the date of this contract, is incorporated by reference in its entirety and made a part of this contract.

- (1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

(2) Records pertaining to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to the performance of this contract shall be made available until disposition of such appeals, litigation, or claims.

(e) Subcontracts. The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts expected to exceed the threshold for submission of certified cost or pricing data in FAR 15.403-4(a)(1) on the date of subcontract award.

(End of clause)

52.214-27 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (DEVIATION 2022-00001) (OCT 2021)

(a) This clause shall become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed \$2 million on the date of execution of the modification, except that this clause does not apply to a modification if an exception under FAR 15.403-1(b) applies.

(b) If any price, including profit, negotiated in connection with any modification under this clause, was increased by any significant amount because (1) the Contractor or a subcontractor furnished certified cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data, (2) a subcontractor or prospective subcontractor furnished the Contractor certified cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data, or (3) any of these parties furnished data of any description that were not accurate, the price shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) of this clause.

(c) Any reduction in the contract price under paragraph (b) of this clause due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which (1) the actual subcontract or (2) the actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective certified cost or pricing data.

(d)(1) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made, the Contractor agrees not to raise the following matters as a defense—

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current certified cost or pricing data had been submitted;

(ii) The Contracting Officer should have known that the certified cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer;

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract; or

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2)(i) Except as prohibited by subdivision (d)(2)(ii) of this clause, an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if—

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the certified cost or pricing data were available before the date of agreement on the price of the contract (or price of the modification) and that the data were not submitted before such date.

(ii) An offset shall not be allowed if—

(A) The understated data was known by the Contractor to be understated when the Certificate of Current Cost or Pricing Data was signed; or

(B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the date of agreement on price.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid—

(1) Interest compounded daily, as required by 26 U.S.C. 6622, on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted certified cost or pricing data which were incomplete, inaccurate, or noncurrent.

(End of clause)

52.214-28 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (DEVIATION 2022-O0001) (OCT 2021)

(a) The requirements of paragraphs (b) and (c) of this clause shall—

(1) Become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed \$2 million on the date of execution of the modification, and

(2) Be limited to such modifications.

(b) Before awarding any subcontract expected to exceed \$2 million, on the date of agreement on price or the date of award, whichever is later, or before pricing any subcontract modifications involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed \$2 million, the Contractor shall require the subcontractor to submit certified cost or pricing data (actually or by specific identification in writing), as part of the subcontractor's proposal in accordance with Federal Acquisition Regulation (FAR) 15.408, Table 15-2 (to include any information reasonably required to explain the subcontractor's estimating process such as the judgmental factors applied and the mathematical or other methods used in the estimate, including those used in projecting from known data, and the nature and amount of any contingencies included in the price), unless an exception under FAR 15.403-1(b) applies. If the \$2 million threshold for submission of certified cost or pricing data specified is adjusted for inflation as set forth in FAR 1.109(a), then pursuant to FAR 1.109(d) the changed threshold applies throughout the remaining term of the contract, unless there is a subsequent threshold adjustment.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in subsection 15.406-2 of the Federal Acquisition Regulation that, to the best of its knowledge and belief, the data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that, when entered into, exceeds \$2 million.

(End of clause)

52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (NOV 2020)

(a) Definition. Small business concern, as used in this clause--

(1) Means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

(2) Affiliates, as used in paragraph (a)(1) of this clause, 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) Applicability. This clause applies only to--

(1) Contracts that have been totally set aside for small business concerns; and

(2) Orders set aside for small business concerns under multiple-award contracts as described in 8.405-5 and 16.505(b)(2)(i)(F).

(c) General. (1) Offers are solicited only from small business concerns. Offers received from concerns that are not small business concerns shall be considered nonresponsive and will be rejected.

(2) Any award resulting from this solicitation will be made to a small business concern.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (FEB 2024)

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

HUBZone small business concern means a small business concern that meets the requirements described in 13 CFR 126.200, certified by the Small Business Administration (SBA) and designated by SBA as a HUBZone small business concern in the Dynamic Small Business Search (DSBS) and SAM.

Service-disabled veteran-owned small business (SDVOSB) concern means a small business concern--

(1)(i) Not less than 51 percent of which is owned and controlled 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; or

(2) A small business concern eligible under the SDVOSB Program in accordance with 13 CFR part 128 (see subpart 19.14).

(3) Service-disabled veteran, as used in this definition, 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), and who is registered in the Beneficiary Identification and Records Locator Subsystem, or successor system that is maintained by the Department of Veterans Affairs' Veterans Benefits Administration, as a service-disabled veteran.

Service-disabled veteran-owned small business (SDVOSB) concern eligible under the SDVOSB Program means an SDVOSB concern that--

(1) Effective January 1, 2024, is designated in the System for Award Management (SAM) as certified by the Small Business Administration (SBA) in accordance with 13 CFR 128.300; or

(2) Has represented that it is an SDVOSB concern in SAM and submitted a complete application for certification to SBA on or before December 31, 2023.

Service-disabled veteran-owned small business (SDVOSB) Program means a program that authorizes contracting officers to limit competition, including award on a sole-source basis, to SDVOSB concerns eligible under the SDVOSB Program.

Small business concern 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 and size standards in 13 CFR part 121, including the size standard that corresponds to the NAICS code assigned to the contract or subcontract.

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

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

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

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

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

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

(1) Not less than 51 percent of which is owned and controlled 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.

(b) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged

business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(c)(1) A joint venture qualifies as a small business concern if--

(i) Each party to the joint venture qualifies as small under the size standard for the solicitation; or

(ii) The protege is small under the size standard for the solicitation in a joint venture comprised of a mentor and protege with an approved mentor-protege agreement under a SBA mentor-protege program. (See 13 CFR 125.9(d).)

(2) A joint venture qualifies as a HUBZone small business concern if it complies with the requirements in 13 CFR 126.616(a) through (c).

(d) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

(e)(1) The Contractor may accept a subcontractor's written representations of its size and socioeconomic status as a small business, small disadvantaged business, veteran-owned small business, service-disabled veteran-owned small business, or a women-owned small business if the subcontractor represents that the size and socioeconomic status representations with its offer are current, accurate, and complete as of the date of the offer for the subcontract.

(2) The Contractor may accept a subcontractor's representations of its size and socioeconomic status as a small business, small disadvantaged business, veteran-owned small business, service-disabled veteran-owned small business, or a women-owned small business in the System for Award Management (SAM) if--

(i) The subcontractor is registered in SAM; and

(ii) The subcontractor represents that the size and socioeconomic status representations made in SAM are current, accurate and complete as of the date of the offer for the subcontract.

(3) The Contractor may not require the use of SAM for the purposes of representing size or socioeconomic status in connection with a subcontract.

(4) In accordance with 13 CFR 121.411, 126.900, 127.700, and 128.600, a contractor acting in good faith is not liable for misrepresentations made by its subcontractors regarding the subcontractor's size or socioeconomic status.

(5) The Contractor shall confirm that a subcontractor representing itself as a HUBZone small business concern is certified by SBA as a HUBZone small business concern by accessing SAM or by accessing DSBS at https://web.sba.gov/pro-net/search/dsp_dsbs.cfm. If the subcontractor is a joint venture, the Contractor shall confirm that at least one party to the joint venture is certified by SBA as a HUBZone small business concern. The Contractor may confirm the representation by accessing SAM.

(End of clause)

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

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

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

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

(c) Applicability. This clause applies only to—

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), it will not pay more than 50 percent of the amount paid by the Government for contract performance, excluding the cost of materials, to

subcontractors that are not similarly situated entities. Any work that a similarly situated entity further subcontracts will count towards the prime contractor's 50 percent subcontract amount that cannot be exceeded. When a contract includes both supplies and services, the 50 percent limitation shall apply only to the supply portion of the contract;

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

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

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

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

[Contracting Officer check as appropriate.]

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

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

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

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

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

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

(End of clause)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (FEB 2024)

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

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

Small business concern--

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

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

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

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

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

(3) For long-term contracts--

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

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

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

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

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

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

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

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

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

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

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

(1) The Contractor represents that it [] is, [] is not a small business concern under NAICS Code 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 124.1001.

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

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

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

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

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

(8) Service-disabled veteran-owned small business (SDVOSB) joint venture eligible under the SDVOSB Program. The Contractor represents that it [] is, [] is not an SDVOSB joint venture eligible under the SDVOSB Program that complies with the requirements of 13 CFR 128.402. [The Contractor shall enter the name and unique entity identifier of each party to the joint venture: .]

(9) [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)

52.222-3 CONVICT LABOR (JUN 2003)

(a) Except as provided in paragraph (b) of this clause, the Contractor shall not employ in the performance of this contract any person undergoing a sentence of imprisonment imposed by any court of a State, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands.

(b) The Contractor is not prohibited from employing persons--

(1) On parole or probation to work at paid employment during the term of their sentence;

(2) Who have been pardoned or who have served their terms; or

(3) Confined for violation of the laws of any of the States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(i) The worker is paid or is in an approved work training program on a voluntary basis;

(ii) Representatives of local union central bodies or similar labor union organizations have been consulted;

(iii) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services;

(iv) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(v) The Attorney General of the United States has certified that the work-release laws or **regulations** of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS - OVERTIME COMPENSATION (MAY 2018)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate specified at 29 CFR 5.5(b)(2) per affected employee for each calendar day on which the employer required

or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards statute (found at 40 U.S.C. chapter 37). In accordance with the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C. 2461 Note), the Department of Labor adjusts this civil monetary penalty for inflation no later than January 15 each year.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards statute.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Construction Wage Rate Requirements statute.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts that may require or involve the employment of laborers and mechanics and require subcontractors to include these provisions in any such lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

52.222-6 CONSTRUCTION WAGE RATE REQUIREMENTS (AUG 2018)

(a) Definition.—“Site of the work”—

(1) Means—

(i) *The primary site of the work.* The physical place or places where the construction called for in the contract will remain when work on it is completed; and

(ii) *The secondary site of the work, if any.* Any other site where a significant portion of the building or work is constructed, provided that such site is—

(A) Located in the United States; and

(B) Established specifically for the performance of the contract or project;

(2) Except as provided in paragraph (3) of this definition, includes any fabrication plants, mobile factories, batch plants, borrow pits, job headquarters, tool yards, etc., provided—

(i) They are dedicated exclusively, or nearly so, to performance of the contract or project; and

(ii) They are adjacent or virtually adjacent to the “primary site of the work” as defined in paragraph (a)(1)(i), or the “secondary site of the work” as defined in paragraph (a)(1)(ii) of this definition;

(3) Does not include permanent home offices, branch plant establishments, fabrication plants, or tool yards of a Contractor or subcontractor whose locations and continuance in operation are determined wholly without regard to a particular Federal contract or project. In addition, fabrication plants, batch plants, borrow pits, job headquarters, yards, etc., of a commercial or material supplier which are established by a supplier of materials for the project before opening of bids and not on the Project site, are not included in the "site of the work." Such permanent, previously established facilities are not a part of the "site of the work" even if the operations for a period of time may be dedicated exclusively or nearly so, to the performance of a contract.

(b)(1) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, or as may be incorporated for a secondary site of the work, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Any wage determination incorporated for a secondary site of the work shall be effective from the first day on which work under the contract was performed at that site and shall be incorporated without any adjustment in contract price or estimated cost. Laborers employed by the construction Contractor or construction subcontractor that are transporting portions of the building or work between the secondary site of the work and the primary site of the work shall be paid in accordance with the wage determination applicable to the primary site of the work.

(2) Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Construction Wage Rate Requirements statute on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (e) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such period.

(3) Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

(4) The wage determination (including any additional classifications and wage rates conformed under paragraph (c) of this clause) and the Construction Wage Rate Requirements statute poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the primary site of the work and the secondary site of the work, if any, in a prominent and accessible place where it can be easily seen by the workers.

(c)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the:

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

The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to paragraphs (c)(2) and (c)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(d) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(e) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Construction Wage Rate Requirements statute have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(End of clause)

52.222-7 WITHHOLDING OF FUNDS (MAY 2014)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Construction Wage Rate Requirements statute prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(End of clause)

52.222-8 PAYROLLS AND BASIC RECORDS (JUL 2021)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct

classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) (Construction Wage Rate Requirement statute)), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Construction Wage Rate Requirements, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B), the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph(a) of this clause, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be obtained from the U.S. Department of Labor Wage and Hour Division website at <https://www.dol.gov/agencies/whd/forms>. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Contracting Officer, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a Prime Contractor to require a subcontractor to provide addresses and social security numbers to the Prime Contractor for its own records, without weekly submission to the Contracting Officer.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours

on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(End of clause)

52.222-9 APPRENTICES AND TRAINEES (JUL 2005)

(a) Apprentices. (1) An apprentice will be permitted to work at less than the predetermined rate for the work performed when employed--

(i) Pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer, and Labor Services (OATELS) or with a State Apprenticeship Agency recognized by the OATELS; or

(ii) In the first 90 days of probationary employment as an apprentice in such an apprenticeship program, even though not individually registered in the program, if certified by the OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program.

(3) Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph (a)(1) of this clause, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination.

(5) Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(6) In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees.

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer, and Labor Services (OATELS). The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by OATELS.

(2) Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the OATELS shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed.

(3) In the event OATELS withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(End of clause)

52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(End of clause)

52.222-11 SUBCONTRACTS (LABOR STANDARDS) (MAY 2014)

(a) Definition. Construction, alteration or repair, as used in this clause, means all types of work done by laborers and mechanics employed by the construction Contractor or construction subcontractor on a particular building or work at the site thereof, including without limitation--

(1) Altering, remodeling, installation (if appropriate) on the site of the work of items fabricated off-site;

(2) Painting and decorating;

(3) Manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the building or work;

(4) Transportation of materials and supplies between the site of the work within the meaning of paragraphs (a)(1)(i) and (ii) of the "site of work" as defined in the FAR clause at 52.222-6, Construction Wage Rate Requirements of this contract, and a facility which is dedicated to the construction of the building or work and is deemed part of the site of the work within the meaning of paragraph (2) of the "site of work" definition; and

(5) Transportation of portions of the building or work between a secondary site where a significant portion of the building or work is constructed, which is part of the "site of work" definition in paragraph (a)(1)(ii) of the FAR clause at 52.222-6, Construction Wage Rate Requirements, and the physical place or places where the building or work will remain (paragraph (a)(1)(i) of the FAR clause at 52.222-6, in the "site of the work" definition).

(b) The Contractor shall insert in any subcontracts for construction, alterations and repairs within the United States the clauses entitled--

- (1) Construction Wage Rate Requirements;
- (2) Contract Work Hours and Safety Standards--Overtime Compensation (if the clause is included in this contract);
- (3) Apprentices and Trainees;
- (4) Payrolls and Basic Records;
- (5) Compliance with Copeland Act Requirements;
- (6) Withholding of Funds;
- (7) Subcontracts (Labor Standards);
- (8) Contract Termination--Debarment;
- (9) Disputes Concerning Labor Standards;
- (10) Compliance with Construction Wage Rate Requirements and Related Regulations; and
- (11) Certification of Eligibility.

(c) The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor performing construction within the United States with all the contract clauses cited in paragraph (b).

(d)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Standard Form (SF) 1413, Statement and Acknowledgment, for each subcontract for construction within the United States, including the subcontractor's signed and dated acknowledgment that the clauses set forth in paragraph (b) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

(e) The Contractor shall insert the substance of this clause, including this paragraph (e) in all subcontracts for construction within the United States.

(End of clause)

52.222-12 CONTRACT TERMINATION--DEBARMENT (MAY 2014)

A breach of the contract clauses entitled Construction Wage Rate Requirements, Contract Work Hours and Safety Standards--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Construction Wage Rate Requirements and Related Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

(End of clause)

52.222-13 COMPLIANCE WITH CONSTRUCTION WAGE RATE REQUIREMENTS AND RELATED REGULATIONS (MAY 2014)

All rulings and interpretations of the Construction Wage Rate Requirements and related statutes contained in 29 CFR parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(End of clause)

52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(End of clause)

52.222-15 CERTIFICATION OF ELIGIBILITY (MAY 2014)

(a) By entering into this contract, the Contractor certifies that neither it nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b)(2) or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b)(2) or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(End of clause)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (APR 2015)

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

Gender identity has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

Segregated facilities means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

Sexual orientation has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-26 EQUAL OPPORTUNITY (SEPT 2016)

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

Compensation means any payments made to, or on behalf of, an employee or offered to an applicant as remuneration for employment, including but not limited to salary, wages, overtime pay, shift differentials, bonuses, commissions, vacation and holiday pay, allowances, insurance and other benefits, stock options and awards, profit sharing, and retirement.

Compensation information means the amount and type of compensation provided to employees or offered to applicants, including, but not limited to, the desire of the Contractor to attract and retain a particular employee for the value the employee is perceived to add to the Contractor's profit or productivity; the availability of employees with like skills in the marketplace; market research about the worth of similar jobs in the relevant marketplace; job analysis, descriptions, and evaluations; salary and pay structures; salary surveys; labor union agreements; and Contractor decisions, statements and policies related to setting or altering employee compensation.

Essential job functions means the fundamental job duties of the employment position an individual holds. A job function may be considered essential if--

- (1) The access to compensation information is necessary in order to perform that function or another routinely assigned business task; or
- (2) The function or duties of the position include protecting and maintaining the privacy of employee personnel records, including compensation information.

Gender identity has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

Sexual orientation has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

United States means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b)(1) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(2) If the Contractor is a religious corporation, association, educational institution, or society, the requirements of this clause do not apply with respect to the employment of individuals of a particular religion to perform work connected with the carrying on of the Contractor's activities (41 CFR 60-1.5).

(c) (1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(5)(i) The Contractor shall not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This prohibition against discrimination does not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(ii) The Contractor shall disseminate the prohibition on discrimination in paragraph (c)(5)(i) of this clause, using language prescribed by the Director of the Office of Federal Contract Compliance Programs (OFCCP), to employees and applicants by--

(A) Incorporation into existing employee manuals or handbooks; and

(B) Electronic posting or by posting a copy of the provision in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(7) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(8) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(9) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(10) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(11) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(12) The Contractor shall take such action with respect to any subcontract or purchase order as the Director of OFCCP may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(d) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR part 60-1.

(End of clause)

52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (APR 2015)

(a) Definitions. "Covered area" means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary" means the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number" means the Federal Social Security number used on the employer's quarterly Federal tax return, U.S. Treasury Department Form 941.

"Gender identity" has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

"Minority" means --

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

“Sexual orientation” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of \$10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for

promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at

least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

(o) Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(End of clause)

52.222-35 EQUAL OPPORTUNITY FOR VETERANS (JUN 2020)

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

"Active duty wartime or campaign badge veteran," "Armed Forces service medal veteran," "disabled veteran," "protected veteran," "qualified disabled veteran," and "recently separated veteran" have the meanings given at Federal Acquisition Regulation (FAR) 22.1301.

(b) Equal opportunity clause. The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-300.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified protected veterans, and requires affirmative action by the Contractor to employ and advance in employment qualified protected veterans.

(c) Subcontracts. The Contractor shall insert the terms of this clause in subcontracts valued at or above the threshold specified in FAR 22.1303(a) on the date of subcontract award, unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

(End of clause)

52.222-36 EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES (JUN 2020)

(a) Equal opportunity clause. The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-741.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified individuals on the basis of disability, and requires affirmative action by the Contractor to employ and advance in employment qualified individuals with disabilities.

(b) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of the threshold specified in Federal Acquisition Regulation (FAR) 22.1408(a) on the date of subcontract award, unless exempted by rules, regulations, or orders of the Secretary, so that such provisions will be binding upon each subcontractor or vendor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs of the U.S. Department of Labor, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON VETERANS (JUN 2020)

(a) Definitions. As used in this clause, "active duty wartime or campaign badge veteran," "Armed Forces service medal veteran," "disabled veteran," "protected veteran," and "recently separated veteran," have the meanings given in Federal Acquisition Regulation (FAR) 22.1301.

(b) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The total number of employees in the contractor's workforce, by job category and hiring location, who are protected veterans (i.e., active duty wartime or campaign badge veterans, Armed Forces service medal veterans, disabled veterans, and recently separated veterans);

(2) The total number of new employees hired during the period covered by the report, and of the total, the number of protected veterans (i.e., active duty wartime or campaign badge veterans, Armed Forces service medal veterans, disabled veterans, and recently separated veterans); and

(3) The maximum number and minimum number of employees of the Contractor or subcontractor at each hiring location during the period covered by the report.

(c) The Contractor shall report the above items by filing the VETS-4212 "Federal Contractor Veterans' Employment Report" (see "VETS-4212 Federal Contractor Reporting" and "Filing Your VETS-4212 Report" at <http://www.dol.gov/vets/vets4212.htm>).

(d) The Contractor shall file VETS-4212 Reports no later than September 30 of each year.

(e) The employment activity report required by paragraphs (b)(2) and (b)(3) of this clause shall reflect total new hires, and maximum and minimum number of employees, during the most recent 12-month period preceding the ending date selected for the report. Contractors may select an ending date--

(1) As of the end of any pay period between July 1 and August 31 of the year the report is due; or

(2) As of December 31, if the Contractor has prior written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(f) The number of veterans reported must be based on data known to the contractor when completing the VETS-4212. The contractor's knowledge of veterans status may be obtained in a variety of ways, including an invitation to applicants to self-identify (in accordance with 41 CFR 60-300.42), voluntary self-disclosure by employees, or actual knowledge of veteran status by the contractor. This paragraph does not relieve an employer of liability for discrimination under 38 U.S.C. 4212.

(g) The Contractor shall insert the terms of this clause in subcontracts valued at or above the threshold specified in FAR 22.1303(a) on the date of subcontract award, unless exempted by rules, regulations, or orders of the Secretary of Labor.

(End of clause)

52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT (DEC 2010)

(a) During the term of this contract, the Contractor shall post an employee notice, of such size and in such form, and containing such content as prescribed by the Secretary of Labor, in conspicuous places in and about its plants and offices where employees covered by the National Labor Relations Act engage in activities relating to the performance of the contract, including all places where notices to employees are customarily posted both physically and electronically, in the languages employees speak, in accordance with 29 CFR 471.2(d) and (f).

(1) Physical posting of the employee notice shall be in conspicuous places in and about the Contractor's plants and offices so that the notice is prominent and readily seen by employees who are covered by the National Labor Relations Act and engage in activities related to the performance of the contract.

(2) If the Contractor customarily posts notices to employees electronically, then the Contractor shall also post the required notice electronically by displaying prominently, on any Web site that is maintained by the Contractor and is customarily used for notices to employees about terms and conditions of employment, a link to the Department of Labor's Web site that contains the full text of the poster. The link to the Department's Web site, as referenced in (b)(3) of this section, must read, "Important Notice about Employee Rights to Organize and Bargain Collectively with Their Employers."

(b) This required employee notice, printed by the Department of Labor, may be--

(1) Obtained from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW., Room N-5609, Washington, DC 20210, (202) 693-0123, or from any field office of the Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Provided by the Federal contracting agency if requested;

(3) Downloaded from the Office of Labor-Management Standards Web site at <http://www.dol.gov/olms/regs/compliance/EO13496.htm>; or

(4) Reproduced and used as exact duplicate copies of the Department of Labor's official poster.

(c) The required text of the employee notice referred to in this clause is located at Appendix A, Subpart A, 29 CFR Part 471.

(d) The Contractor shall comply with all provisions of the employee notice and related rules, regulations, and orders of the Secretary of Labor.

(e) In the event that the Contractor does not comply with the requirements set forth in paragraphs (a) through (d) of this clause, this contract may be terminated or suspended in whole or in part, and the Contractor may be suspended or debarred in accordance with 29 CFR 471.14 and subpart 9.4. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 471, which implements Executive Order 13496 or as otherwise provided by law.

(f) Subcontracts. (1) The Contractor shall include the substance of this clause, including this paragraph (f), in every subcontract that exceeds \$10,000 and will be performed wholly or partially in the United States, unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 3 of Executive Order 13496 of January 30, 2009, so that such provisions will be binding upon each subcontractor.

(2) The Contractor shall not procure supplies or services in a way designed to avoid the applicability of Executive Order 13496 or this clause.

(3) The Contractor shall take such action with respect to any such subcontract as may be directed by the Secretary of Labor as a means of enforcing such provisions, including the imposition of sanctions for noncompliance.

(4) However, if the Contractor becomes involved in litigation with a subcontractor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

(End of clause)

52.222-50 COMBATING TRAFFICKING IN PERSONS (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.

Coercion means--

(1) Threats of serious harm to or physical restraint against any person;

(2) Any scheme, plan, or pattern intended to cause a person to believe that failure to perform an act would result in serious harm to or physical restraint against any person; or

(3) The abuse or threatened abuse of the legal process.

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.

Commercial sex act means any sex act on account of which anything of value is given to or received by any person.

Debt bondage means the status or condition of a debtor arising from a pledge by the debtor of his or her personal services or of those of a person under his or her control as a security for debt, if the value of those services as

reasonably assessed is not applied toward the liquidation of the debt or the length and nature of those services are not respectively limited and defined.

Employee means an employee of the Contractor directly engaged in the performance of work under the contract who has other than a minimal impact or involvement in contract performance.

Forced Labor means knowingly providing or obtaining the labor or services of a person--

- (1) By threats of serious harm to, or physical restraint against, that person or another person;
- (2) By means of any scheme, plan, or pattern intended to cause the person to believe that, if the person did not perform such labor or services, that person or another person would suffer serious harm or physical restraint; or
- (3) By means of the abuse or threatened abuse of law or the legal process.

Involuntary servitude includes a condition of servitude induced by means of--

- (1) Any scheme, plan, or pattern intended to cause a person to believe that, if the person did not enter into or continue in such conditions, that person or another person would suffer serious harm or physical restraint; or
- (2) The abuse or threatened abuse of the legal process.

Recruitment fees means fees of any type, including charges, costs, assessments, or other financial obligations, that are associated with the recruiting process, regardless of the time, manner, or location of imposition or collection of the fee.

- (1) Recruitment fees include, but are not limited to, the following fees (when they are associated with the recruiting process) for--
 - (i) Soliciting, identifying, considering, interviewing, referring, retaining, transferring, selecting, training, providing orientation to, skills testing, recommending, or placing employees or potential employees;
 - (ii) Advertising;
 - (iii) Obtaining permanent or temporary labor certification, including any associated fees;
 - (iv) Processing applications and petitions;
 - (v) Acquiring visas, including any associated fees;
 - (vi) Acquiring photographs and identity or immigration documents, such as passports, including any associated fees;
 - (vii) Accessing the job opportunity, including required medical examinations and immunizations; background, reference, and security clearance checks and examinations; and additional certifications;
 - (viii) An employer's recruiters, agents or attorneys, or other notary or legal fees;
 - (ix) Language interpretation or translation, arranging for or accompanying on travel, or providing other advice to employees or potential employees;
 - (x) Government-mandated fees, such as border crossing fees, levies, or worker welfare funds;
 - (xi) Transportation and subsistence costs--

(A) While in transit, including, but not limited to, airfare or costs of other modes of transportation, terminal fees, and travel taxes associated with travel from the country of origin to the country of performance and the return journey upon the end of employment; and

(B) From the airport or disembarkation point to the worksite;

(xii) Security deposits, bonds, and insurance; and

(xiii) Equipment charges.

(2) A recruitment fee, as described in the introductory text of this definition, is a recruitment fee, regardless of whether the payment is--

(i) Paid in property or money;

(ii) Deducted from wages;

(iii) Paid back in wage or benefit concessions;

(iv) Paid back as a kickback, bribe, in-kind payment, free labor, tip, or tribute; or

(v) Collected by an employer or a third party, whether licensed or unlicensed, including, but not limited to--

(A) Agents;

(B) Labor brokers;

(C) Recruiters;

(D) Staffing firms (including private employment and placement firms);

(E) Subsidiaries/affiliates of the employer;

(F) Any agent or employee of such entities; and

(G) Subcontractors at all tiers.

Severe forms of trafficking in persons means--

(1) Sex trafficking in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age; or

(2) The recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

Sex trafficking means the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act.

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 furnishes 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) Policy. The United States Government has adopted a policy prohibiting trafficking in persons including the trafficking-related activities of this clause. Contractors, contractor employees, and their agents shall not--

- (1) Engage in severe forms of trafficking in persons during the period of performance of the contract;
- (2) Procure commercial sex acts during the period of performance of the contract;
- (3) Use forced labor in the performance of the contract;
- (4) Destroy, conceal, confiscate, or otherwise deny access by an employee to the employee's identity or immigration documents, such as passports or drivers' licenses, regardless of issuing authority;
- (5)(i) Use misleading or fraudulent practices during the recruitment of employees or offering of employment, such as failing to disclose, in a format and language understood by the employee or potential employee, basic information or making material misrepresentations during the recruitment of employees regarding the key terms and conditions of employment, including wages and fringe benefits, the location of work, the living conditions, housing and associated costs (if employer or agent provided or arranged), any significant costs to be charged to the employee or potential employee, and, if applicable, the hazardous nature of the work;
- (ii) Use recruiters that do not comply with local labor laws of the country in which the recruiting takes place;
- (6) Charge employees or potential employees recruitment fees;
- (7)(i) Fail to provide return transportation or pay for the cost of return transportation upon the end of employment--
 - (A) For an employee who is not a national of the country in which the work is taking place and who was brought into that country for the purpose of working on a U.S. Government contract or subcontract (for portions of contracts performed outside the United States); or
 - (B) For an employee who is not a United States national and who was brought into the United States for the purpose of working on a U.S. Government contract or subcontract, if the payment of such costs is required under existing temporary worker programs or pursuant to a written agreement with the employee (for portions of contracts performed inside the United States); except that--
 - (ii) The requirements of paragraphs (b)(7)(i) of this clause shall not apply to an employee who is--
 - (A) Legally permitted to remain in the country of employment and who chooses to do so; or
 - (B) Exempted by an authorized official of the contracting agency from the requirement to provide return transportation or pay for the cost of return transportation;
 - (iii) The requirements of paragraph (b)(7)(i) of this clause are modified for a victim of trafficking in persons who is seeking victim services or legal redress in the country of employment, or for a witness in an enforcement action related to trafficking in persons. The contractor shall provide the return transportation or pay the cost of return transportation in a way that does not obstruct the victim services, legal redress, or witness activity. For example, the contractor shall not only offer return transportation to a witness at a time when the witness is still needed to testify. This paragraph does not apply when the exemptions at paragraph (b)(7)(ii) of this clause apply.
- (8) Provide or arrange housing that fails to meet the host country housing and safety standards; or
- (9) If required by law or contract, fail to provide an employment contract, recruitment agreement, or other required work document in writing. Such written work document shall be in a language the employee understands. If the

employee must relocate to perform the work, the work document shall be provided to the employee at least five days prior to the employee relocating. The employee's work document shall include, but is not limited to, details about work description, wages, prohibition on charging recruitment fees, work location(s), living accommodations and associated costs, time off, roundtrip transportation arrangements, grievance process, and the content of applicable laws and regulations that prohibit trafficking in persons.

(c) Contractor requirements. The Contractor shall--

(1) Notify its employees and agents of--

(i) The United States Government's policy prohibiting trafficking in persons, described in paragraph (b) of this clause; and

(ii) The actions that will be taken against employees or agents for violations of this policy. Such actions for employees may include, but are not limited to, removal from the contract, reduction in benefits, or termination of employment; and

(2) Take appropriate action, up to and including termination, against employees, agents, or subcontractors that violate the policy in paragraph (b) of this clause.

(d) Notification.

(1) The Contractor shall inform the Contracting Officer and the agency Inspector General immediately of--

(i) Any credible information it receives from any source (including host country law enforcement) that alleges a Contractor employee, subcontractor, subcontractor employee, or their agent has engaged in conduct that violates the policy in paragraph (b) of this clause (see also 18 U.S.C. 1351, Fraud in Foreign Labor Contracting, and 52.203-13(b)(3)(i)(A), if that clause is included in the solicitation or contract, which requires disclosure to the agency Office of the Inspector General when the Contractor has credible evidence of fraud); and

(ii) Any actions taken against a Contractor employee, subcontractor, subcontractor employee, or their agent pursuant to this clause.

(2) If the allegation may be associated with more than one contract, the Contractor shall inform the contracting officer for the contract with the highest dollar value.

(e) Remedies. In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraphs (c), (d), (g), (h), or (i) of this clause may result in--

(1) Requiring the Contractor to remove a Contractor employee or employees from the performance of the contract;

(2) Requiring the Contractor to terminate a subcontract;

(3) Suspension of contract payments until the Contractor has taken appropriate remedial action;

(4) Loss of award fee, consistent with the award fee plan, for the performance period in which the Government determined Contractor non-compliance;

(5) Declining to exercise available options under the contract;

(6) Termination of the contract for default or cause, in accordance with the termination clause of this contract; or

(7) Suspension or debarment.

(f) Mitigating and aggravating factors. When determining remedies, the Contracting Officer may consider the following:

(1) Mitigating factors. The Contractor had a Trafficking in Persons compliance plan or an awareness program at the time of the violation, was in compliance with the plan, and has taken appropriate remedial actions for the violation, that may include reparation to victims for such violations.

(2) Aggravating factors. The Contractor failed to abate an alleged violation or enforce the requirements of a compliance plan, when directed by the Contracting Officer to do so.

(g) Full cooperation. (1) The Contractor shall, at a minimum--

(i) Disclose to the agency Inspector General information sufficient to identify the nature and extent of an offense and the individuals responsible for the conduct;

(ii) Provide timely and complete responses to Government auditors' and investigators' requests for documents;

(iii) Cooperate fully in providing reasonable access to its facilities and staff (both inside and outside the U.S.) to allow contracting agencies and other responsible Federal agencies to conduct audits, investigations, or other actions to ascertain compliance with the Trafficking Victims Protection Act of 2000 (22 U.S.C. chapter 78), E.O. 13627, or any other applicable law or regulation establishing restrictions on trafficking in persons, the procurement of commercial sex acts, or the use of forced labor; and

(iv) Protect all employees suspected of being victims of or witnesses to prohibited activities, prior to returning to the country from which the employee was recruited, and shall not prevent or hinder the ability of these employees from cooperating fully with Government authorities.

(2) The requirement for full cooperation does not foreclose any Contractor rights arising in law, the FAR, or the terms of the contract. It does not--

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

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

(iii) Restrict the Contractor from--

(A) Conducting an internal investigation; or

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

(h) Compliance plan. (1) This paragraph (h) applies to any portion of the contract that--

(i) Is for supplies, other than commercially available off-the-shelf items, acquired outside the United States, or services to be performed outside the United States; and

(ii) Has an estimated value that exceeds \$550,000.

(2) The Contractor shall maintain a compliance plan during the performance of the contract that is appropriate--

(i) To the size and complexity of the contract; and

(ii) To the nature and scope of the activities to be performed for the Government, including the number of non-United States citizens expected to be employed and the risk that the contract or subcontract will involve services or supplies susceptible to trafficking in persons.

(3) Minimum requirements. The compliance plan must include, at a minimum, the following:

(i) An awareness program to inform contractor employees about the Government's policy prohibiting trafficking-related activities described in paragraph (b) of this clause, the activities prohibited, and the actions that will be taken against the employee for violations. Additional information about Trafficking in Persons and examples of awareness programs can be found at the Web site for the Department of State's Office to Monitor and Combat Trafficking in Persons at <http://www.state.gov/j/tip/>.

(ii) A process for employees to report, without fear of retaliation, activity inconsistent with the policy prohibiting trafficking in persons, including a means to make available to all employees and potential employees the hotline phone number of the Global Human Trafficking Hotline at 1-844-888-FREE and its email address at help@befree.org.

(iii) A recruitment and wage plan that only permits the use of recruitment companies with trained employees, prohibits charging recruitment fees to the employee or potential employee, and ensures that wages meet applicable host-country legal requirements or explains any variance.

(iv) A housing plan, if the Contractor or subcontractor intends to provide or arrange housing, that ensures that the housing meets host-country housing and safety standards.

(v) Procedures to prevent agents and subcontractors at any tier and at any dollar value from engaging in trafficking in persons (including activities in paragraph (b) of this clause) and to monitor, detect, and terminate any agents, subcontracts, or subcontractor employees that have engaged in such activities.

(4) Posting.

(i) The Contractor shall post the relevant contents of the compliance plan, no later than the initiation of contract performance, at the workplace (unless the work is to be performed in the field or not in a fixed location) and on the Contractor's Web site (if one is maintained). If posting at the workplace or on the Web site is impracticable, the Contractor shall provide the relevant contents of the compliance plan to each worker in writing.

(ii) The Contractor shall provide the compliance plan to the Contracting Officer upon request.

(5) Certification. Annually after receiving an award, the Contractor shall submit a certification to the Contracting Officer that--

(i) It has implemented a compliance plan to prevent any prohibited activities identified at paragraph (b) of this clause and to monitor, detect, and terminate any agent, subcontract or subcontractor employee engaging in prohibited activities; and

(ii) After having conducted due diligence, either--

(A) To the best of the Contractor's knowledge and belief, neither it nor any of its agents, subcontractors, or their agents is engaged in any such activities; or

(B) If abuses relating to any of the prohibited activities identified in paragraph (b) of this clause have been found, the Contractor or subcontractor has taken the appropriate remedial and referral actions.

(i) Subcontracts. (1) The Contractor shall include the substance of this clause, including this paragraph (i), in all subcontracts and in all contracts with agents. The requirements in paragraph (h) of this clause apply only to any portion of the subcontract that--

(i) Is for supplies, other than commercially available off-the-shelf items, acquired outside the United States, or services to be performed outside the United States; and

(ii) Has an estimated value that exceeds \$550,000.

(2) If any subcontractor is required by this clause to submit a certification, the Contractor shall require submission prior to the award of the subcontract and annually thereafter. The certification shall cover the items in paragraph (h)(5) of this clause.

(End of clause)

52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION (MAY 2022)

(a) Definitions. As used in this clause--Commercially available off-the-shelf (COTS) item—

(1) Means any item of supply 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, 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. Per 46 CFR 525.1(c)(2), "bulk cargo" means cargo that is loaded and carried in bulk onboard ship without mark or count, in a loose unpackaged form, having homogenous characteristics. Bulk cargo loaded into intermodal equipment, except LASH or Seabee barges, is subject to mark and count and, therefore, ceases to be bulk cargo.

Employee assigned to the contract means an employee who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), who is directly performing work, in the United States, under a contract that is required to include the clause prescribed at 22.1803. An employee is not considered to be directly performing work under a contract if the employee--

(1) Normally performs support work, such as indirect or overhead functions; and

(2) Does not perform any substantial duties applicable to the contract.

Subcontract means any contract, as defined in 2.101, entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

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

United States, as defined in 8 U.S.C. 1101(a)(38), means the 50 States, the District of Columbia, Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands.

(b) Enrollment and verification requirements.

(1) If the Contractor is not enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall--

(i) Enroll. Enroll as a Federal Contractor in the E-Verify program within 30 calendar days of contract award;

(ii) Verify all new employees. Within 90 calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); and

(iii) Verify employees assigned to the contract. For each employee assigned to the contract, initiate verification within 90 calendar days after date of enrollment or within 30 calendar days of the employee's assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).

(2) If the Contractor is enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall use E-Verify to initiate verification of employment eligibility of--

(i) All new employees. (A) Enrolled 90 calendar days or more. The Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or

(B) Enrolled less than 90 calendar days. Within 90 calendar days after enrollment as a Federal Contractor in E-Verify, the Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or

(ii) Employees assigned to the contract. For each employee assigned to the contract, the Contractor shall initiate verification within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).

(3) If the Contractor is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State or local government or the government of a Federally recognized Indian tribe; or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the Contractor may choose to verify only employees assigned to the contract, whether existing employees or new hires. The Contractor shall follow the applicable verification requirements at (b)(1) or (b)(2), respectively, except that any requirement for verification of new employees applies only to new employees assigned to the contract.

(4) Option to verify employment eligibility of all employees. The Contractor may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the contract. The Contractor shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within 180 calendar days of--

(i) Enrollment in the E-Verify program; or

(ii) Notification to E-Verify Operations of the Contractor's decision to exercise this option, using the contact information provided in the E-Verify program Memorandum of Understanding (MOU).

(5) The Contractor shall comply, for the period of performance of this contract, with the requirements of the E-Verify program MOU.

(i) The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the Contractor's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the Contractor will be referred to a suspension or debarment official.

(ii) During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the Contractor is excused from its obligations under paragraph (b) of this clause. If the suspension or debarment official determines not to suspend or debar the Contractor, then the Contractor must reenroll in E-Verify.

(c) Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <https://www.e-Verify.gov>.

(d) Individuals previously verified. The Contractor is not required by this clause to perform additional employment verification using E-Verify for any employee--

(1) Whose employment eligibility was previously verified by the Contractor through the E-Verify program;

(2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or

(3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD)-12, Policy for a Common Identification Standard for Federal Employees and Contractors.

(e) Subcontracts. The Contractor shall include the requirements of this clause, including this paragraph (e) (appropriately modified for identification of the parties), in each subcontract that--

(1) Is for--

(i) Services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or

(ii) Construction;

(2) Has a value of more than \$3,500; and

(3) Includes work performed in the United States.

(End of clause)

52.222-55 MINIMUM WAGES FOR CONTRACTOR WORKERS UNDER EXECUTIVE ORDER 14026 (JAN 2022)

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

"United States" means the 50 states, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, Johnston Island, Wake Island, and the outer Continental Shelf as defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331, et seq.).

"Worker"--

(1) (i) Means any person engaged in performing work on, or in connection with, a contract covered by Executive Order 14026, and --

(A) Whose wages under such contract are governed by the Fair Labor Standards Act (29 U.S.C. chapter 8), the Service Contract Labor Standards statute (41 U.S.C. chapter 67), or the Wage Rate Requirements (Construction) statute (40 U.S.C. chapter 31, subchapter IV);

(B) Other than individuals employed in a bona fide executive, administrative, or professional capacity, as those terms are defined in 29 CFR part 541;

(C) Regardless of the contractual relationship alleged to exist between the individual and the employer.

(ii) Includes workers performing on, or in connection with, the contract whose wages are calculated pursuant to special certificates issued under 29 U.S.C. 214(c).

(iii) Also includes any person working on, or in connection with, the contract and individually registered in a bona fide apprenticeship or training program registered with the Department of Labor's Employment and Training Administration, Office of Apprenticeship, or with a State Apprenticeship Agency recognized by the Office of Apprenticeship.

(2)(i) A worker performs on a contract if the worker directly performs the specific services called for by the contract; and

(ii) A worker performs in connection with a contract if the worker's work activities are necessary to the performance of a contract but are not the specific services called for by the contract.

(b) Executive Order minimum wage rate.

(1) The Contractor shall pay to workers, while performing in the United States, and performing on, or in connection with, this contract, a minimum hourly wage rate of \$15.00 per hour beginning January 30, 2022.

(2) The Contractor shall adjust the minimum wage paid, if necessary, beginning January 1, 2023, and annually thereafter, to meet the applicable annual E.O. minimum wage. The Administrator of the Department of Labor's Wage and Hour Division (the Administrator) will publish annual determinations in the Federal Register no later than 90 days before the effective date of the new E.O. minimum wage rate. The Administrator will also publish the applicable E.O. minimum wage on <https://www.sam.gov> (or any successor Web site), and a general notice on all wage determinations issued under the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute, that will provide information on the E.O. minimum wage and how to obtain annual updates. The applicable published E.O. minimum wage is incorporated by reference into this contract.

(3)(i) The Contractor may request a price adjustment only after the effective date of the new annual E.O. minimum wage determination. Prices will be adjusted only for increased labor costs (including subcontractor labor costs) as a result of an increase in the annual E.O. minimum wage, and for associated labor costs (including those for subcontractors). Associated labor costs shall include increases or decreases that result from changes in social security and unemployment taxes and workers' compensation insurance, but will not otherwise include any amount for general and administrative costs, overhead, or profit.

(ii) Subcontractors may be entitled to adjustments due to the new minimum wage, pursuant to paragraph (b)(2). Contractors shall consider any subcontractor requests for such price adjustment.

(iii) The Contracting Officer will not adjust the contract price under this clause for any costs other than those identified in paragraph (b)(3)(i) of this clause, and will not provide duplicate price adjustments with any price adjustment under clauses implementing the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute.

(4) The Contractor warrants that the prices in this contract do not include allowance for any contingency to cover increased costs for which adjustment is provided under this clause.

(5) A pay period under this clause may not be longer than semi-monthly, but may be shorter to comply with any applicable law or other requirement under this contract establishing a shorter pay period. Workers shall be paid no later than one pay period following the end of the regular pay period in which such wages were earned or accrued.

(6) The Contractor shall pay, unconditionally to each worker, all wages due free and clear without subsequent rebate or kickback. The Contractor may make deductions that reduce a worker's wages below the E.O. minimum wage rate only if done in accordance with 29 CFR 23.230, Deductions.

(7) The Contractor shall not discharge any part of its minimum wage obligation under this clause by furnishing fringe benefits or, with respect to workers whose wages are governed by the Service Contract Labor Standards statute, the cash equivalent thereof.

(8) Nothing in this clause shall excuse the Contractor from compliance with any applicable Federal or State prevailing wage law or any applicable law or municipal ordinance or any applicable contract establishing a minimum wage higher than the E.O. 14026 minimum wage. However, wage increases under such other laws or municipal ordinances are not subject to price adjustment under this subpart.

(9) The Contractor shall pay the E.O. minimum wage rate whenever it is higher than any applicable collective bargaining agreement(s) wage rate.

(10) The Contractor shall follow the policies and procedures in 29 CFR 23.240(b) and 23.280 for treatment of workers engaged in an occupation in which they customarily and regularly receive more than \$30 a month in tips.

(c)(1) This clause applies to workers as defined in paragraph (a). As provided in that definition--

(i) Workers are covered regardless of the contractual relationship alleged to exist between the contractor or subcontractor and the worker;

(ii) Workers with disabilities whose wages are calculated pursuant to special certificates issued under 29 U.S.C. 214(c) are covered; and

(iii) Workers who are registered in a bona fide apprenticeship program or training program registered with the Department of Labor's Employment and Training Administration, Office of Apprenticeship, or with a State Apprenticeship Agency recognized by the Office of Apprenticeship, are covered.

(2) This clause does not apply to--

(i) Fair Labor Standards Act (FLSA)-covered individuals performing in connection with contracts covered by the E.O., i.e. those individuals who perform duties necessary to the performance of the contract, but who are not directly engaged in performing the specific work called for by the contract, and who spend less than 20 percent of their hours worked in a particular workweek performing in connection with such contracts;

(ii) Individuals exempted from the minimum wage requirements of the FLSA under 29 U.S.C. 213(a) and 214(a) and (b), unless otherwise covered by the Service Contract Labor Standards statute, or the Wage Rate Requirements (Construction) statute. These individuals include but are not limited to--

(A) Learners, apprentices, or messengers whose wages are calculated pursuant to special certificates issued under 29 U.S.C. 214(a);

(B) Students whose wages are calculated pursuant to special certificates issued under 29 U.S.C. 214(b); and

(C) Those employed in a bona fide executive, administrative, or professional capacity (29 U.S.C. 213(a)(1) and 29 CFR part 541).

(d) Notice. The Contractor shall notify all workers performing work on, or in connection with, this contract of the applicable E.O. minimum wage rate under this clause. With respect to workers covered by the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute, the Contractor may meet this requirement by posting, in a prominent and accessible place at the worksite, the applicable wage determination under those statutes. With respect to workers whose wages are governed by the FLSA, the Contractor shall post notice, utilizing the poster provided by the Administrator, which can be obtained at www.dol.gov/agencies/whd/government-contracts, in a prominent and accessible place at the worksite. Contractors that customarily post notices to workers electronically may post the notice electronically provided the electronic posting is displayed prominently on any Web site that is maintained by the contractor, whether external or internal, and customarily used for notices to workers about terms and conditions of employment.

(e) Payroll Records. (1) The Contractor shall make and maintain records, for three years after completion of the work, containing the following information for each worker:

- (i) Name, address, and social security number;
- (ii) The worker's occupation(s) or classification(s);
- (iii) The rate or rates of wages paid;
- (iv) The number of daily and weekly hours worked by each worker;
- (v) Any deductions made; and
- (vi) Total wages paid.

(2) The Contractor shall make records pursuant to paragraph (e)(1) of this clause available for inspection and transcription by authorized representatives of the Administrator. The Contractor shall also make such records available upon request of the Contracting Officer.

(3) The Contractor shall make a copy of the contract available, as applicable, for inspection or transcription by authorized representatives of the Administrator.

(4) Failure to comply with this paragraph (e) shall be a violation of 29 CFR 23.260 and this contract. Upon direction of the Administrator or upon the Contracting Officer's own action, payment shall be withheld until such time as the noncompliance is corrected.

(5) Nothing in this clause limits or otherwise modifies the Contractor's payroll and recordkeeping obligations, if any, under the Service Contract Labor Standards statute, the Wage Rate Requirements (Construction) statute, the Fair Labor Standards Act, or any other applicable law.

(f) Access. The Contractor shall permit authorized representatives of the Administrator to conduct investigations, including interviewing workers at the worksite during normal working hours.

(g) Withholding. The Contracting Officer, upon his or her own action or upon written request of the Administrator, will withhold funds or cause funds to be withheld, from the Contractor under this or any other Federal contract with the same Contractor, sufficient to pay workers the full amount of wages required by this clause.

(h) Disputes. Department of Labor has set forth in 29 CFR 23.510, Disputes concerning contractor compliance, the procedures for resolving disputes concerning a contractor's compliance with Department of Labor regulations at 29 CFR part 23. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. These disputes include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the Department of Labor, or the workers or their representatives.

(i) Antiretaliation. The Contractor shall not discharge or in any other manner discriminate against any worker because such worker has filed any complaint or instituted or caused to be instituted any proceeding under or related to compliance with the E.O. or this clause, or has testified or is about to testify in any such proceeding.

(j) Subcontractor compliance. The Contractor is responsible for subcontractor compliance with the requirements of this clause and may be held liable for unpaid wages due subcontractor workers.

(k) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (k) in all subcontracts, regardless of dollar value, that are subject to the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute, and are to be performed in whole or in part in the United States.

(End of clause)

52.222-62 PAID SICK LEAVE UNDER EXECUTIVE ORDER 13706 (JAN 2022)

(a) Definitions. As used in this clause (in accordance with 29 CFR 13.2)--

Child, domestic partner, and domestic violence have the meaning given in 29 CFR 13.2.

Employee--(1)(i) Means any person engaged in performing work on or in connection with a contract covered by Executive Order (E.O.) 13706; and

(A) Whose wages under such contract are governed by the Service Contract Labor Standards statute (41 U.S.C. chapter 67), the Wage Rate Requirements (Construction) statute (40 U.S.C. chapter 31, subchapter IV), or the Fair Labor Standards Act (29 U.S.C. chapter 8);

(B) Including employees who qualify for an exemption from the Fair Labor Standards Act's minimum wage and overtime provisions;

(C) Regardless of the contractual relationship alleged to exist between the individual and the employer; and

(ii) Includes any person performing work on or in connection with the contract and individually registered in a bona fide apprenticeship or training program registered with the Department of Labor's Employment and Training Administration, Office of Apprenticeship, or with a State Apprenticeship Agency recognized by the Office of Apprenticeship.

(2)(i) An employee performs "on" a contract if the employee directly performs the specific services called for by the contract; and

(ii) An employee performs "in connection with" a contract if the employee's work activities are necessary to the performance of a contract but are not the specific services called for by the contract.

Individual related by blood or affinity whose close association with the employee is the equivalent of a family relationship has the meaning given in 29 CFR 13.2.

Multiemployer plan means a plan to which more than one employer is required to contribute and which is maintained pursuant to one or more collective bargaining agreements between one or more employee organizations and more than one employer.

Paid sick leave means compensated absence from employment that is required by E.O. 13706 and 29 CFR part 13.

Parent, sexual assault, spouse, and stalking have the meaning given in 29 CFR 13.2.

United States means the 50 States and the District of Columbia.

(b) Executive Order 13706. (1) This contract is subject to E.O. 13706 and the regulations issued by the Secretary of Labor in 29 CFR part 13 pursuant to the E.O.

(2) If this contract is not performed wholly within the United States, this clause only applies with respect to that part of the contract that is performed within the United States.

(c) Paid sick leave. The Contractor shall--

(1) Permit each employee engaged in performing work on or in connection with this contract to earn not less than 1 hour of paid sick leave for every 30 hours worked;

(2) Allow accrual and use of paid sick leave as required by E.O. 13706 and 29 CFR part 13;

(3) Comply with the accrual, use, and other requirements set forth in 29 CFR 13.5 and 13.6, which are incorporated by reference in this contract;

(4) Provide paid sick leave to all employees when due free and clear and without subsequent deduction (except as otherwise provided by 29 CFR 13.24), rebate, or kickback on any account;

(5) Provide pay and benefits for paid sick leave used no later than one pay period following the end of the regular pay period in which the paid sick leave was taken; and

(6) Be responsible for the compliance by any subcontractor with the requirements of E.O. 13706, 29 CFR part 13, and this clause.

(d) Contractors may fulfill their obligations under E.O. 13706 and 29 CFR part 13 jointly with other contractors through a multiemployer plan, or may fulfill their obligations through an individual fund, plan, or program (see 29 CFR 13.8).

(e) Withholding. The Contracting Officer will, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this or any other Federal contract with the same Contractor, so much of the accrued payments or advances as may be considered necessary to pay employees the full amount owed to compensate for any violation of the requirements of E.O. 13706, 29 CFR part 13, or this clause, including--

(1) Any pay and/or benefits denied or lost by reason of the violation;

(2) Other actual monetary losses sustained as a direct result of the violation; and

(3) Liquidated damages.

(f) Payment suspension/contract termination/contractor debarment. (1) In the event of a failure to comply with E.O. 13706, 29 CFR part 13, or this clause, the contracting agency may, on its own action or after authorization or by direction of the Department of Labor and written notification to the Contractor take action to cause suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(2) Any failure to comply with the requirements of this clause may be grounds for termination for default or cause.

(3) A breach of the contract clause may be grounds for debarment as a contractor and subcontractor as provided in 29 CFR 13.52.

(g) The paid sick leave required by E.O. 13706, 29 CFR part 13, and this clause is in addition to the Contractor's obligations under the Service Contract Labor Standards statute and Wage Rate Requirements (Construction) statute, and the Contractor may not receive credit toward its prevailing wage or fringe benefit obligations under those Acts for any paid sick leave provided in satisfaction of the requirements of E.O. 13706 and 29 CFR part 13.

(h) Nothing in E.O. 13706 or 29 CFR part 13 shall excuse noncompliance with or supersede any applicable Federal or State law, any applicable law or municipal ordinance, or a collective bargaining agreement requiring greater paid sick leave or leave rights than those established under E.O. 13706 and 29 CFR part 13.

(i) Recordkeeping. (1) The Contractor shall make and maintain, for no less than three (3) years from the completion of the work on the contract, records containing the following information for each employee, which the Contractor shall make available upon request for inspection, copying, and transcription by authorized representatives of the Administrator of the Wage and Hour Division of the Department of Labor:

(i) Name, address, and social security number of each employee.

(ii) The employee's occupation(s) or classification(s).

(iii) The rate or rates of wages paid (including all pay and benefits provided).

(iv) The number of daily and weekly hours worked.

(v) Any deductions made.

(vi) The total wages paid (including all pay and benefits provided) each pay period.

(vii) A copy of notifications to employees of the amount of paid sick leave the employee has accrued, as required under 29 CFR 13.5(a)(2).

(viii) A copy of employees' requests to use paid sick leave, if in writing, or, if not in writing, any other records reflecting such employee requests.

(ix) Dates and amounts of paid sick leave taken by employees (unless the Contractor's paid time off policy satisfies the requirements of E.O. 13706 and 29 CFR part 13 as described in 29 CFR 13.5(f)(5), leave shall be designated in records as paid sick leave pursuant to E.O. 13706).

(x) A copy of any written responses to employees' requests to use paid sick leave, including explanations for any denials of such requests, as required under 29 CFR 13.5(d)(3).

(xi) Any records reflecting the certification and documentation the Contractor may require an employee to provide under 29 CFR 13.5(e), including copies of any certification or documentation provided by an employee.

(xii) Any other records showing any tracking of or calculations related to an employee's accrual or use of paid sick leave.

(xiii) The relevant contract.

(xiv) The regular pay and benefits provided to an employee for each use of paid sick leave.

(xv) Any financial payment made for unused paid sick leave upon a separation from employment intended, pursuant to 29 CFR 13.5(b)(5), to relieve the Contractor from the obligation to reinstate such paid sick leave as otherwise required by 29 CFR 13.5(b)(4).

(2)(i) If the Contractor wishes to distinguish between an employee's covered and noncovered work, the Contractor shall keep records or other proof reflecting such distinctions. Only if the Contractor adequately segregates the employee's time will time spent on noncovered work be excluded from hours worked counted toward the accrual of paid sick leave. Similarly, only if the Contractor adequately segregates the employee's time may the Contractor properly refuse an employee's request to use paid sick leave on the ground that the employee was scheduled to perform noncovered work during the time he or she asked to use paid sick leave.

(ii) If the Contractor estimates covered hours worked by an employee who performs work in connection with contracts covered by the E.O. pursuant to 29 CFR 13.5(a)(1)(i) or (iii), the Contractor shall keep records or other proof of the verifiable information on which such estimates are reasonably based. Only if the Contractor relies on an estimate that is reasonable and based on verifiable information will an employee's time spent in connection with noncovered work be excluded from hours worked counted toward the accrual of paid sick leave. If the Contractor estimates the amount of time an employee spends performing in connection with contracts covered by the E.O., the Contractor shall permit the employee to use his or her paid sick leave during any work time for the Contractor.

(3) In the event the Contractor is not obligated by the Service Contract Labor Standards statute, the Wage Rate Requirements (Construction) statute, or the Fair Labor Standards Act to keep records of an employee's hours worked, such as because the employee is exempt from the Fair Labor Standards Act's minimum wage and overtime requirements, and the Contractor chooses to use the assumption permitted by 29 CFR 13.5(a)(1)(iii), the Contractor is excused from the requirement in paragraph (i)(1)(iv) of this clause and 29 CFR 13.25(a)(4) to keep records of the employee's number of daily and weekly hours worked.

(4)(i) Records relating to medical histories or domestic violence, sexual assault, or stalking, created for purposes of E.O. 13706, whether of an employee or an employee's child, parent, spouse, domestic partner, or other individual related by blood or affinity whose close association with the employee is the equivalent of a family relationship, shall be maintained as confidential records in separate files/records from the usual personnel files.

(ii) If the confidentiality requirements of the Genetic Information Nondiscrimination Act of 2008 (GINA), section 503 of the Rehabilitation Act of 1973, and/or the Americans with Disabilities Act (ADA) apply to records or documents created to comply with the recordkeeping requirements in this contract clause, the records and documents shall also be maintained in compliance with the confidentiality requirements of the GINA, section 503 of the Rehabilitation Act of 1973, and/or ADA as described in 29 CFR 1635.9, 41 CFR 60-741.23(d), and 29 CFR 1630.14(c)(1), respectively.

(iii) The Contractor shall not disclose any documentation used to verify the need to use 3 or more consecutive days of paid sick leave for the purposes listed in 29 CFR 13.5(c)(1)(iv) (as described in 29 CFR 13.5(e)(1)(ii)) and shall maintain confidentiality about any domestic abuse, sexual assault, or stalking, unless the employee consents or when disclosure is required by law.

(5) The Contractor shall permit authorized representatives of the Wage and Hour Division to conduct interviews with employees at the worksite during normal working hours.

(6) Nothing in this contract clause limits or otherwise modifies the Contractor's recordkeeping obligations, if any, under the Service Contract Labor Standards statute, the Wage Rate Requirements (Construction) statute, the Fair Labor Standards Act, the Family and Medical Leave Act, E.O. 14026, their respective implementing regulations, or any other applicable law.

(j) Interference/discrimination.

(1) The Contractor shall not in any manner interfere with an employee's accrual or use of paid sick leave as required by E.O. 13706 or 29 CFR part 13. Interference includes, but is not limited to--

(i) Miscalculating the amount of paid sick leave an employee has accrued;

- (ii) Denying or unreasonably delaying a response to a proper request to use paid sick leave;
 - (iii) Discouraging an employee from using paid sick leave;
 - (iv) Reducing an employee's accrued paid sick leave by more than the amount of such leave used;
 - (v) Transferring an employee to work on contracts not covered by the E.O. to prevent the accrual or use of paid sick leave;
 - (vi) Disclosing confidential information contained in certification or other documentation provided to verify the need to use paid sick leave; or
 - (vii) Making the use of paid sick leave contingent on the employee's finding a replacement worker or the fulfillment of the Contractor's operational needs.
- (2) The Contractor shall not discharge or in any other manner discriminate against any employee for--
- (i) Using, or attempting to use, paid sick leave as provided for under E.O. 13706 and 29 CFR part 13;
 - (ii) Filing any complaint, initiating any proceeding, or otherwise asserting any right or claim under E.O. 13706 and 29 CFR part 13;
 - (iii) Cooperating in any investigation or testifying in any proceeding under E.O. 13706 and 29 CFR part 13; or
 - (iv) Informing any other person about his or her rights under E.O. 13706 and 29 CFR part 13.
- (k) Notice. The Contractor shall notify all employees performing work on or in connection with a contract covered by the E.O. of the paid sick leave requirements of E.O. 13706, 29 CFR part 13, and this clause by posting a notice provided by the Department of Labor in a prominent and accessible place at the worksite so it may be readily seen by employees. Contractors that customarily post notices to employees electronically may post the notice electronically, provided such electronic posting is displayed prominently on any Web site that is maintained by the Contractor, whether external or internal, and customarily used for notices to employees about terms and conditions of employment.
- (l) Disputes concerning labor standards. Disputes related to the application of E.O. 13706 to this contract shall not be subject to the general disputes clause of the contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR part 13. Disputes within the meaning of this contract clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the Department of Labor, or the employees or their representatives.
- (m) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (m), in all subcontracts, regardless of dollar value, that are subject to the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute, and are to be performed in whole or in part in the United States.

(End of clause)

52.223-2 REPORTING OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS (MAY 2024)

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

Biobased product means a product determined by the U.S. Department of Agriculture (USDA) to be a commercial product or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products, including renewable domestic agricultural materials and forestry materials, or that is an intermediate ingredient or feedstock. The term includes, with respect to forestry materials, forest products that meet biobased content requirements, notwithstanding the market share the product holds, the age of the product, or whether the market for the product is new or emerging. (7 U.S.C. 8101) (7 CFR 3201.2).

USDA-designated product category means a generic grouping of products that are or can be made with biobased materials—

- (1) That are listed by USDA in a procurement guideline (7 CFR part 3201, subpart B); and
- (2) For which USDA has provided purchasing recommendations (available at <https://www.biopreferred.gov>).
- (b) The Contractor shall report to <https://www.sam.gov>, with a copy to the Contracting Officer, on the product types and dollar value of any biobased products in USDA-designated product categories purchased by the Contractor during the previous Government fiscal year, between October 1 and September 30; and
- (c) Submit this report no later than—
 - (1) October 31 of each year during contract performance; and
 - (2) At the end of contract performance.

(End of clause)

52.223-20 AEROSOLS (MAY 2024)

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

Global warming potential means how much a given mass of a chemical contributes to global warming over a given time period compared to the same mass of carbon dioxide. Carbon dioxide's global warming potential is defined as 1.0.

High global warming potential hydrofluorocarbons means any hydrofluorocarbons in a particular end use for which EPA's Significant New Alternatives Policy (SNAP) program has identified other acceptable alternatives that have lower global warming potential. The SNAP list of alternatives is found at 40 CFR part 82 subpart G with supplemental tables of alternatives available at (<https://www.epa.gov/snap/>).

Hydrofluorocarbons means compounds that only contain hydrogen, fluorine, and carbon.

- (b) Unless otherwise specified in the contract, the Contractor shall reduce its use, release, or emissions of high global warming potential hydrofluorocarbons, when feasible, from aerosol propellants or solvents under this contract. When determining feasibility of using a particular alternative, the Contractor shall consider environmental, technical, and economic factors such as—
 - (1) In-use emission rates, energy efficiency;
 - (2) Safety, such as flammability or toxicity;
 - (3) Ability to meet technical performance requirements; and
 - (4) Commercial availability at a reasonable cost.

(c) The Contractor shall refer to EPA's SNAP program to identify alternatives. The SNAP list of alternatives is found at 40 CFR part 82 subpart G with supplemental tables available at <https://www.epa.gov/snap/>.

(End of clause)

52.223-21 FOAMS (MAY 2024)

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

Global warming potential means how much a given mass of a chemical contributes to global warming over a given time period compared to the same mass of carbon dioxide. Carbon dioxide's global warming potential is defined as 1.0.

High global warming potential hydrofluorocarbons means any hydrofluorocarbons in a particular end use for which EPA's Significant New Alternatives Policy (SNAP) program has identified other acceptable alternatives that have lower global warming potential. The SNAP list of alternatives is found at 40 CFR part 82, subpart G, with supplemental tables of alternatives available at <https://www.epa.gov/snap/>.

Hydrofluorocarbons means compounds that contain only hydrogen, fluorine, and carbon.

(b) Unless otherwise specified in the contract, the Contractor shall reduce its use, release, and emissions of high global warming potential hydrofluorocarbons and refrigerant blends containing hydrofluorocarbons, when feasible, from foam blowing agents, under this contract. When determining feasibility of using a particular alternative, the Contractor shall consider environmental, technical, and economic factors such as--

(1) In-use emission rates, energy efficiency, and safety;

(2) Ability to meet performance requirements; and

(3) Commercial availability at a reasonable cost.

(c) The Contractor shall refer to EPA's SNAP program to identify alternatives. The SNAP list of alternatives is found at 40 CFR part 82, subpart G, with supplemental tables available at <https://www.epa.gov/snap/>.

(End of clause)

52.223-23 SUSTAINABLE PRODUCTS AND SERVICES (MAY 2024)

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

Biobased product means a product determined by the U.S. Department of Agriculture (USDA) to be a commercial product or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products, including renewable domestic agricultural materials and forestry materials, or that is an intermediate ingredient or feedstock. The term includes, with respect to forestry materials, forest products that meet biobased content requirements, notwithstanding the market share the product holds, the age of the product, or whether the market for the product is new or emerging. (7 U.S.C. 8101) (7 CFR 3201.2).

Recovered material means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process. (42 U.S.C. 6903).

Sustainable products and services means products and services that are subject to and meet the following applicable statutory mandates and directives for purchasing:

(1) Statutory purchasing programs.

(i) Products containing recovered material designated by the U.S. Environmental Protection Agency (EPA) under the Comprehensive Procurement Guidelines (42 U.S.C. 6962) (40 CFR part 247) (<https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program#products>).

(ii) Energy- and water-efficient products that are ENERGY STAR® certified or Federal Energy Management Program (FEMP)-designated products (42 U.S.C. 8259b) (10 CFR part 436, subpart C) (<https://www.energy.gov/eere/femp/search-energy-efficient-products> and <https://www.energystar.gov/products?s=mega>).

(iii) Biobased products meeting the content requirement of the USDA under the BioPreferred® program (7 U.S.C. 8102) (7 CFR part 3201) (<https://www.biopreferred.gov>).

(iv) Acceptable chemicals, products, and manufacturing processes listed under EPA's Significant New Alternatives Policy (SNAP) program, which ensures a safe and smooth transition away from substances that contribute to the depletion of stratospheric ozone (42 U.S.C. 76711) (40 CFR part 82, subpart G) (<https://www.epa.gov/snap>).

(2) Required EPA purchasing programs.

(i) WaterSense® labeled (water efficient) products and services (<https://www.epa.gov/watersense/watersense-products>).

(ii) Safer Choice-certified products (products that contain safer chemical ingredients) (<https://www.epa.gov/saferchoice/products>).

(iii) Product and services that meet EPA Recommendations of Specifications, Standards, and Ecolabels in effect as of October 2023 (<https://www.epa.gov/greenerproducts/recommendations-specifications-standards-and-ecolabels-federal-purchasing>).

(b) Requirements.

(1) The sustainable products and services, including the purchasing program and type of product or service, that are applicable to this contract, and any products or services that are not subject to this clause, will be set forth in the statement of work or elsewhere in the contract.

(2) The Contractor shall ensure that the sustainable products and services required by this contract are--

(i) Delivered to the Government;

(ii) Furnished for use by the Government;

(iii) Incorporated into the construction of a public building or public work; and

(iv) Furnished for use in performing services under this contract, where the cost of the products is a direct cost to this contract (versus costs which are normally applied to the Contractor's general and administrative expenses or indirect costs). This includes services performed by contractors performing management and operation of Government-owned facilities to the same extent that, at the time of award, an agency would be required to comply if an agency operated or supported the facility.

(3)(i) Except as provided in paragraph (b)(3)(ii) of this clause, sustainable products and services must meet the applicable standards, specifications, or other program requirements at time of quote or offer submission; and

(ii) Sustainable products and services must meet the EPA Recommendations of Specifications, Standards, and Ecolabels in effect as of October 2023.

(c) Resource. The Green Procurement Compilation (GPC) available at <https://sftool.gov/greenprocurement> provides a comprehensive list of sustainable products and services and sustainable acquisition guidance. The Contractor should review the GPC when determining which purchasing programs apply to a specific product or service.

(End of clause)

52.225-11 BUY AMERICAN--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (NOV 2023)

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

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

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

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

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

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

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

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

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

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

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

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

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

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

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

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

Designated country means any of the following countries:

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

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

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

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

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

Domestic construction material means--

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

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

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

(A) The cost of its components mined, produced, or manufactured in the United States exceeds 60 percent of the cost of all its components, except that the percentage will be 65 percent for items delivered in calendar years 2024 through 2028 and 75 percent for items delivered starting in calendar year 2029. Components of foreign origin of the

same class or kind for which nonavailability determinations have been made are treated as domestic. Components of unknown origin are treated as foreign; or

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

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

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

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

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

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

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

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

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

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

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

Least developed country construction material means a construction material that—

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

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

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

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

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

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

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

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

(b) Construction materials.

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

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

(3) The requirement in paragraph (b)(2) of this clause does not apply to information technology that is a commercial product or to the construction materials or components listed by the Government as follows:

NONE

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

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

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

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

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

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

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

(1) The cost of a particular domestic construction material that is a critical item or contains critical components, subject to the requirements of the Buy American statute, is unreasonable when the cost of such material exceeds the

cost of foreign material by more than 20 percent plus the additional preference factor identified for the critical item or construction material containing critical components listed at FAR 25.105.

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

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

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

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

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

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

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

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

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

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

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

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

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

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the

unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

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

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

Foreign and Domestic Construction Materials Price Comparison

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

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued)].

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

(End of clause)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (FEB 2021)

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services if any proclamation, Executive order, or statute administered by OFAC, or if OFAC's implementing regulations at 31 CFR ChapterV, would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, and Sudan are prohibited, as are most imports from Burma or North Korea, into the United States or its outlying areas. Lists of entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons at <https://home.treasury.gov/policy-issues/financial-sanctions/specially-designated-nationals-and-blocked-persons-list-sdn-human-readable-lists>. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR ChapterV and/or on OFAC's website at <https://home.treasury.gov/policy-issues/office-of-foreign-assets-control-sanctions-programs-and-information>.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.226-7 DRUG-FREE WORKPLACE (MAY 2024)

(a) Definitions. As used in this clause-

Controlled substance means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C.812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

Conviction means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

Criminal drug statute means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

Drug-free workplace means the site(s) for the performance of work done by the Contractor in connection with a specific contract where employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

Employee means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

Individual means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration-

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about-

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by paragraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by paragraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will-

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction;

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the

position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of paragraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 26.505, render the Contractor subject to suspension of contract payments, termination of the contract or default, and suspension or debarment.

(End of clause)

52.226-8 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING (MAY 2024)

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

Driving—

(1) Means operating a motor vehicle on an active roadway with the motor running, including while temporarily stationary because of traffic, a traffic light, stop sign, or otherwise.

(2) Does not include operating a motor vehicle with or without the motor running when one has pulled over to the side of, or off, an active roadway and has halted in a location where one can safely remain stationary.

Text messaging means reading from or entering data into any handheld or other electronic device, including for the purpose of short message service texting, e-mailing, instant messaging, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication. The term does not include glancing at or listening to a navigational device that is secured in a commercially designed holder affixed to the vehicle, provided that the destination and route are programmed into the device either before driving or while stopped in a location off the roadway where it is safe and legal to park.

(b) This clause implements Executive Order 13513, Federal Leadership on Reducing Text Messaging while Driving, dated October 1, 2009.

(c) The Contractor is encouraged to--

(1) Adopt and enforce policies that ban text messaging while driving--

(i) Company-owned or -rented vehicles or Government-owned vehicles; or

(ii) Privately-owned vehicles when on official Government business or when performing any work for or on behalf of the Government.

(2) Conduct initiatives in a manner commensurate with the size of the business, such as--

(i) Establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving; and

(ii) Education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

(d) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts that exceed the micro-purchase threshold, as defined in Federal Acquisition Regulation 2.101 on the date of subcontract award.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUN 2020)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent--

(1) Embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract; or

(2) Used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a United States patent shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor shall include the substance of this clause, including this paragraph (b), in all subcontracts that are expected to exceed the simplified acquisition threshold, as defined in Federal Acquisition Regulation (FAR) 2.101 on the date of subcontract award. However, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, as defined in FAR 2.101 on the date of subcontract award, does not affect this authorization and consent.

(End of clause)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (JUN 2020)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the

Contracting Officer, all evidence and information in the Contractor's possession pertaining to such claim or suit. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) The Contractor shall include the substance of this clause, including this paragraph (c), in all subcontracts that are expected to exceed the simplified acquisition threshold, as defined in Federal Acquisition Regulation (FAR) 2.101 on the date of subcontract award.

(End of clause)

52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (DEC 2007)

Except as otherwise provided, the Contractor shall indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement of any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

(End of clause)

52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

(End of clause)

52.228-5 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (JAN 1997)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.

(b) Before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(End of clause)

52.228-11 INDIVIDUAL SURETY--PLEDGE OF ASSETS (FEB 2021) (DEVIATION 2020-00016)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond –

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety, except that the words “being duly sworn, depose and say” on the Standard Form 28 are replaced with the word “affirm” and the Standard Form 28 is not required to be sworn and notarized in block 12.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of—

(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form); and/or

(2) A recorded lien on real estate. The offeror will be required to provide—

(i) A mortgagee title insurance policy, in an insurance amount equal to the amount of the lien, or other evidence of title that is consistent with the requirements of Section 2 of the United States Department of Justice Title Standards at <https://www.justice.gov/enrd/page/file/922431/download>. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS (DEC 2022)

In accordance with section 806(a)(3) of Pub. L. 102-190, as amended by sections 2091 and 8105 of Pub. L. 103-355 (10 U.S.C. 4601 note prec.), upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government

pursuant to 40 U.S.C. chapter 31, subchapter III, Bonds, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

52.228-14 IRREVOCABLE LETTER OF CREDIT (NOV 2014)

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

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

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

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

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

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

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

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

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

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

(A) 90 days following final payment; or

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

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

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

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

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

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

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

Issue Date ____

IRREVOCABLE LETTER OF CREDIT NO. ____

Account party's name ____

Account party's address ____

For Solicitation No. ____ (for reference only)

TO: [____ U.S. Government agency]

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

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

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

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

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

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

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

Sincerely,

[____ Issuing financial institution]

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

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

(Date) ____

Our Letter of Credit Advice Number ____

Beneficiary: ____ [U.S. Government agency]

Issuing Financial Institution: ____

Issuing Financial Institution's LC No.: ____

Gentlemen:

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

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at ____ .

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

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

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

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

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

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

Sincerely,

—

[Confirming financial institution]

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

SIGHT DRAFT

[City, State]

(Date) ____

[Name and address of financial institution]

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

____ [Beneficiary Agency]

By: ____

(End of clause)

52.228-15 PERFORMANCE AND PAYMENT BONDS--CONSTRUCTION (JUN 2020) (DEVIATION 2020-O0016)

(a) *Definitions.* As used in this clause—

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) *Amount of required bonds.* Unless the resulting contract price is valued at or below the threshold specified in Federal Acquisition Regulation 28.102-1(a) on the date of award of this contract, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) *Performance bonds* (Standard Form 25, except that no seal is required). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) *Payment bonds* (Standard Form 25A, except that no seal is required). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) *Additional bond protection.*

(i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) *Furnishing executed bonds.* The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) *Surety or other security for bonds.* The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the *Federal Register* or may be obtained from the U.S. Department of the Treasury, Financial Management Service, Surety Bond Branch, 3700 East West Highway, Room 6F01, Hyattsville, MD 20782. Or via the internet at <http://www.fms.treas.gov/c570/>.

(e) *Notice of subcontractor waiver of protection (40 U.S.C. 3133(c)).* Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (FEB 2013)

(a) As used in this clause—

“After-imposed Federal tax” means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

“After-relieved Federal tax” means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

“All applicable Federal, State, and local taxes and duties” means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

“Contract date” means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

“Local taxes” includes taxes imposed by a possession or territory of the United States, Puerto Rico, or the Northern Mariana Islands, if the contract is performed wholly or partly in any of those areas.

(b)(1) The contract price includes all applicable Federal, State, and local taxes and duties, except as provided in subparagraph (b)(2)(i) of this clause.

(2) Taxes imposed under 26 U.S.C. 5000C may not be—

(i) Included in the contract price; nor

(ii) Reimbursed.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds \$250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (MAY 2014)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

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

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

(2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

(Name)

(Title)

(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--

(i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or

(ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 6305).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR 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.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

(End of clause)

52.232-17 INTEREST (MAY 2014)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Certified Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in 41 U.S.C. 7109, which is applicable to the period in which the amount becomes due, as provided in paragraph (e) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid.

(b) The Government may issue a demand for payment to the Contractor upon finding a debt is due under the contract.

(c) Final Decisions. The Contracting Officer will issue a final decision as required by 33.211 if--

(1) The Contracting Officer and the Contractor are unable to reach agreement on the existence or amount of a debt in a timely manner;

(2) The Contractor fails to liquidate a debt previously demanded by the Contracting Officer within the timeline specified in the demand for payment unless the amounts were not repaid because the Contractor has requested an installment payment agreement; or

(3) The Contractor requests a deferment of collection on a debt previously demanded by the Contracting Officer (see 32.607-2).

(d) If a demand for payment was previously issued for the debt, the demand for payment included in the final decision shall identify the same due date as the original demand for payment.

(e) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment, including any demand for payment resulting from a default termination.

(f) The interest charge shall be computed for the actual number of calendar days involved beginning on the due date and ending on--

(1) The date on which the designated office receives payment from the Contractor;

(2) The date of issuance of a Government check to the Contractor from which an amount otherwise payable has been withheld as a credit against the contract debt; or

(3) The date on which an amount withheld and applied to the contract debt would otherwise have become payable to the Contractor.

(g) The interest charge made under this clause may be reduced under the procedures prescribed in 32.608-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

52.232-23 ASSIGNMENT OF CLAIMS (MAY 2-14) - ALTERNATE I (APR 1984)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 6305 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence. Unless otherwise stated in this contract, payments to an assignee of any amounts due or to become due under this contract shall not, to the extent specified in the Act, be subject to reduction or setoff.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be

made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (JAN 2017)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project.

(A) The due date for making such payments is 14 days after the designated billing office receives a proper payment request. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date is the 14th day after the date of the Contractor's payment request, provided the designated billing office receives a proper payment request and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, is as specified in the contract or, if not specified, 30 days after approval by the Contracting Officer for release to the Contractor.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract).

(A) The due date for making such payments is the later of the following two events:

(1) The 30th day after the designated billing office receives a proper invoice from the Contractor.

(2) The 30th day after Government acceptance of the work or services completed by the Contractor. For a final invoice when the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance is deemed to occur on the effective date of the contract settlement.

(B) If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through (a)(2)(xi) of this clause. If the invoice does not comply with these requirements, the designated billing office must return it within 7 days after receipt, with the reasons why it is not a proper invoice. When computing any interest penalty owed the Contractor, the Government will take into account if the Government notifies the Contractor of an improper invoice in an untimely manner.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., discount for prompt payment terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--System for Award Management, or 52.232-34, Payment by Electronic Funds Transfer--Other Than System for Award Management), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(xi) Any other information or documentation required by the contract.

(3) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval is deemed to occur constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. If actual acceptance or approval occurs within the constructive acceptance or approval period, the Government will base the determination of an interest penalty on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes, and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(5) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(6) Additional interest penalty. (i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of \$1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(b) Contract financing payments. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under 41 U.S.C. 7109 in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to use:

(i) Include a payment clause and an interest penalty clause conforming to the standards set forth in paragraphs (c)(1) and (c)(2) of this clause in each of its subcontracts; and

(ii) Require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) The Contractor furnishes to the Contracting Officer a copy of any notice issued by a Contractor pursuant to paragraph (d)(3)(i) of this clause.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to paragraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph (e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under 41 U.S.C. 7109 in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under paragraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under paragraph (e)(5)(i) of this clause.

(f) Third-party deficiency reports—

(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a “second-tier subcontractor”)

a written notice in accordance with 40 U.S.C. 3133, asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under paragraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of 41 U.S.C. 7109 in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. The Contractor shall issue a written notice of any withholding to a subcontractor (with a copy furnished to the Contracting Officer), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the Government is a party. The Government may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the Government for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

(l) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall--

(1) Remit the overpayment amount to the payment office cited in the contract along with a description of the overpayment including the--

(i) Circumstances of the overpayment (e.g., duplicate payment, erroneous payment, liquidation errors, date(s) of overpayment);

(ii) Affected contract number and delivery order number if applicable;

(iii) Affected line item or subline item, if applicable; and

(iv) Contractor point of contact.

(2) Provide a copy of the remittance and supporting documentation to the Contracting Officer.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—SYSTEM FOR AWARD MANAGEMENT (OCT 2018)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the System for Award Management (SAM). In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to SAM.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in SAM is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into SAM; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in SAM and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in SAM.

(End of Clause)

52.232-39 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS (JUN 2013)

(a) Except as stated in paragraph (b) of this clause, when any supply or service acquired under this contract is subject to any End User License Agreement (EULA), Terms of Service (TOS), or similar legal instrument or agreement, that includes any clause requiring the Government to indemnify the Contractor or any person or entity for damages, costs, fees, or any other loss or liability that would create an Anti-Deficiency Act violation (31 U.S.C. 1341), the following shall govern:

(1) Any such clause is unenforceable against the Government.

(2) Neither the Government nor any Government authorized end user shall be deemed to have agreed to such clause by virtue of it appearing in the EULA, TOS, or similar legal instrument or agreement. If the EULA, TOS, or similar

legal instrument or agreement is invoked through an "I agree" click box or other comparable mechanism (e.g., "click-wrap" or "browse-wrap" agreements), execution does not bind the Government or any Government authorized end user to such clause.

(3) Any such clause is deemed to be stricken from the EULA, TOS, or similar legal instrument or agreement.

(b) Paragraph (a) of this clause does not apply to indemnification by the Government that is expressly authorized by statute and specifically authorized under applicable agency regulations and procedures.

(End of clause)

52.232-40 PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS (MAR 2023)

(a)(1) In accordance with 31 U.S.C. 3903 and 10 U.S.C. 3801, within 15 days after receipt of accelerated payments from the Government, the Contractor shall make accelerated payments to its small business subcontractors under this contract, to the maximum extent practicable and prior to when such payment is otherwise required under the applicable contract or subcontract, after receipt of a proper invoice and all other required documentation from the small business subcontractor.

(2) The Contractor agrees to make such payments to its small business subcontractors without any further consideration from or fees charged to the subcontractor.

(b) The acceleration of payments under this clause does not provide any new rights under the Prompt Payment Act.

(c) Include the substance of this clause, including this paragraph (c), in all subcontracts with small business concerns, including subcontracts with small business concerns for the acquisition of commercial products or commercial services.

(End of clause)

52.233-1 DISPUTES. (MAY 2014)

(a) This contract is subject to 41 U.S.C. chapter 71, Contract Disputes.

(b) Except as provided in 41 U.S.C. chapter 71, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under 41 U.S.C. chapter 71. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The Contractor shall provide the certification specified in paragraph (d)(2)(iii) of this clause when submitting any claim exceeding \$100,000.

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am authorized to certify the claim on behalf of the Contractor."

(3) The certification may be executed by any person authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in 41 U.S.C. chapter 71.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative dispute resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the offer.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date that the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in FAR [33.201](#), interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (OCT 2004)

United States law will apply to resolve any claim of breach of this contract.

(End of clause)

52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed,

unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(End of clause)

52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

52.236-4 PHYSICAL DATA (APR 1984)

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and subsurface exploration. The subsurface exploration included soil borings and soils testing (both in the field and in the laboratory) noted on the boring logs. Graphic logs of borings located within the area of work under this contract are shown on the drawings. The borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches. Variations in the stratigraphy and characteristics of the soil are known to occur between borings. Normal variations in site geology will not be considered as differing materially within the purview of Contract Clause FAR 52.236-2, Differing Site Conditions. Ground water elevations measured in borings are not constant and will fluctuate.

(b) Weather conditions. Offerors should satisfy themselves before submitting offers as to the hazards from weather conditions. Complete weather records and reports may be obtained from the local U.S. Weather Service.

(c) Transportation facilities. Before submitting an offer, interested vendors should obtain necessary data as to

highway, railroad, and marine facilities. The unavailability of transportation facilities shall not become a basis for claims for damages or time for completion of the work.

(End of clause)

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation.

When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

(End of clause)

52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

(End of clause)

52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

(End of clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991) – ALTERNATE I (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the

purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(f) Before commencing the work, the Contractor shall-

(1) Submit a written proposed plan for implementing this clause. The plan shall include an analysis of the significant hazards to life, limb, and property inherent in contract work performance and a plan for controlling these hazards; and

(2) Meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

(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)

52.236-16 QUANTITY SURVEYS (APR 1984) - ALTERNATE I (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 Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

(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)

52.236-17 LAYOUT OF WORK (APR 1984)

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(End of clause)

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997) - ALTERNATE I (APR 1984)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time

such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor. Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

(End of clause)

52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

(End of clause)

52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

(c) A claim under this clause shall not be allowed—

(1) For any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and

(2) Unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

52.243-4 CHANGES (JUN 2007)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the Government-furnished property or services; or

(4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

(1) the date, circumstances, and source of the order and

(2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(End of clause)

52.244-6 SUBCONTRACTS FOR COMMERCIAL PRODUCTS AND COMMERCIAL SERVICES (FEB 2024)

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

Commercial product, commercial service, and commercially available off-the-shelf item have the meanings contained in Federal Acquisition Regulation (FAR) 2.101.

Subcontract includes a transfer of commercial products or commercial services between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial products, commercial services, or non-developmental items as components of items to be supplied under this contract.

(c)(1) The Contractor shall insert the following clauses in subcontracts for commercial products or commercial services:

(i) 52.203-13, Contractor Code of Business Ethics and Conduct (NOV 2021) (41 U.S.C. 3509), if the subcontract exceeds the threshold specified in FAR 3.1004(a) on the date of subcontract award, and has a performance period of

more than 120 days. 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.

(ii) [52.203-15](#), Whistleblower Protections Under the American Recovery and Reinvestment Act of 2009 (JUN 2010) (Section 1553 of Pub. L. 111-5), if the subcontract is funded under the Recovery Act.

(iii) 52.203-17, Contractor Employee Whistleblower Rights (NOV 2023) (41 U.S.C. 4712); this clause does not apply to contracts of DoD, NASA, the Coast Guard, or applicable elements of the intelligence community--see FAR 3.900(a).

(iv) [52.203-19](#), Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements (JAN 2017).

(v) 52.204-21, Basic Safeguarding of Covered Contractor Information Systems (NOV 2021), other than subcontracts for commercially available off-the-shelf items, if flow down is required in accordance with paragraph (c) of FAR clause 52.204-21.

(vi) 52.204-23, Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab Covered Entities (DEC 2023) (Section 1634 of Pub. L. 115-91).

(vii) 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment. (NOV 2021) (Section 889(a)(1)(A) of Pub. L. 115-232)

(viii) 52.204-27, Prohibition on a ByteDance Covered Application (JUN 2023) (Section 102 of Division R of Pub. L. 117-328).

(ix)(A) 52.204-30, Federal Acquisition Supply Chain Security Act Orders--Prohibition. (DEC 2023) (Pub. L. 115-390, title II).

(B) Alternate I (DEC 2023) of 52.204-30.

(x) 52.219-8, Utilization of Small Business Concerns (FEB 2024) (15 U.S.C. 637(d)(2) and (3)), if the subcontract offers further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds the applicable threshold specified in FAR 19.702(a) on the date of subcontract award, the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(xi) [52.222-21](#), Prohibition of Segregated Facilities (APR 2015).

(xii) [52.222-26](#), Equal Opportunity (SEP 2016) (E.O. 11246).

(xiii) 52.222-35, Equal Opportunity for Veterans (JUN 2020) (38 U.S.C. 4212(a)).

(xiv) 52.222-36, Equal Opportunity for Workers with Disabilities (JUN 2020) (29 U.S.C. 793).

(xv) 52.222-37, Employment Reports on Veterans (JUN 2020) (38 U.S.C. 4212).

(xvi) [52.222-40](#), Notification of Employee Rights Under the National Labor Relations Act (Dec 2010) (E.O. 13496), if flow down is required in accordance with paragraph (f) of FAR clause [52.222-40](#).

(xvii)(A) 52.222-50, Combating Trafficking in Persons (NOV 2021) (22 U.S.C. chapter 78 and E.O. 13627).

(B) Alternate I (MAR 2015) of [52.222-50](#) ([22 U.S.C. chapter 78](#) and E.O. 13627).

(xviii) [52.222-55](#), Minimum Wages for Contractor Workers under Executive Order 14026 (JAN 2022), if flowdown is required in accordance with paragraph (k) of FAR clause [52.222-55](#).

(xix) 52.222-62, Paid Sick Leave Under Executive Order 13706 (JAN 2022) (E.O. 13706), if flow down is required in accordance with paragraph (m) of FAR clause 52.222-62.

(xx)(A) 52.224-3, Privacy Training (JAN 2017) (5 U.S.C. 552a) if flow down is required in accordance with 52.224-3(f).

(B) Alternate I (JAN 2017) of 52.224-3, if flow down is required in accordance with 52.224-3(f) and the agency specifies that only its agency-provided training is acceptable).

(xxi) [52.225-26](#), Contractors Performing Private Security Functions Outside the United States (OCT 2016) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; [10 U.S.C. Subtitle A, Part V, Subpart G Note](#)).

(xxii) [52.232-40](#), Providing Accelerated Payments to Small Business Subcontractors (MAR 2023), if flow down is required in accordance with paragraph (c) of FAR clause [52.232-40](#).

(xxiii) [52.247-64](#), Preference for Privately Owned U.S.-Flag Commercial Vessels (NOV 2021) ([46 U.S.C. 55305](#) and [10 U.S.C. 2631](#)), if flow down is required in accordance with paragraph (d) of FAR clause [52.247-64](#).

(2) While not required, the Contractor may flow down to subcontracts for commercial products or commercial services a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

(End of clause)

52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

52.248-3 VALUE ENGINEERING--CONSTRUCTION (OCT 2020)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs(c) (1) through (7) below. If the proposed change is affected by contractually required configuration

management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

- (1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.
- (2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.
- (3) A separate, detailed cost estimate for
 - (i) the affected portions of the existing contract requirement and
 - (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.
- (4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.
- (5) A prediction of any effects the proposed change would have on collateral costs to the agency.
- (6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.
- (7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.
- (d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.
- (e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(i) 45 percent for fixed-price contracts or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(i) Accept the VECP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or \$100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of \$75,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (APR 2012) - ALTERNATE I (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 49.001 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer

may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and Contracting Officer fail to agree on the whole amount to be paid the Contractor because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under paragraph (f) of this clause:

(1) For contract work performed before the effective date of termination, the total (without duplication of any items) of--

(i) The cost of this work;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(1)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(1)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(2) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value as determined by the Contracting Officer, for the loss of the Government property.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if—

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include—

(i) Acts of God or of the public enemy,

(ii) Acts of the Government in either its sovereign or contractual capacity,

(iii) Acts of another Contractor in the performance of a contract with the Government,

(iv) Fires,

(v) Floods,

(vi) Epidemics,

(vii) Quarantine restrictions,

(viii) Strikes,

(ix) Freight embargoes,

(x) Unusually severe weather, or

(xi) Delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

(d) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

FAR: <https://www.acquisition.gov/browse/index/far>

DFARS: <https://www.acquisition.gov/dfars>

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (NOV 2020)

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

(b) The use in this solicitation or contract of any Defense Federal Acquisition Regulation Supplement (48 CFR 2) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(i) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7000 REQUIREMENTS RELATING TO COMPENSATION OF FORMER DOD OFFICIALS (SEP 2011)

(a) Definition. Covered DoD official, as used in this clause, means an individual that--

(1) Leaves or left DoD service on or after January 28, 2008; and

(2)(i) Participated personally and substantially in an acquisition as defined in 41 U.S.C. 131 with a value in excess of \$10 million, and serves or served--

(A) In an Executive Schedule position under subchapter II of chapter 53 of Title 5, United States Code;

(B) In a position in the Senior Executive Service under subchapter VIII of chapter 53 of Title 5, United States Code; or

(C) In a general or flag officer position compensated at a rate of pay for grade O-7 or above under section 201 of Title 37, United States Code; or

(ii) Serves or served in DoD in one of the following positions: Program manager, deputy program manager, procuring contracting officer, administrative contracting officer, source selection authority, member of the source selection evaluation board, or chief of a financial or technical evaluation team for a contract in an amount in excess of \$10 million.

(b) The Contractor shall not knowingly provide compensation to a covered DoD official within 2 years after the official leaves DoD service, without first determining that the official has sought and received, or has not received after 30 days of seeking, a written opinion from the appropriate DoD ethics counselor regarding the applicability of post-employment restrictions to the activities that the official is expected to undertake on behalf of the Contractor.

(c) Failure by the Contractor to comply with paragraph (b) of this clause may subject the Contractor to rescission of this contract, suspension, or debarment in accordance with 41 U.S.C. 2105(c).

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (JAN 2023)

(a) Definitions. As used in this clause—

(1) “Arising out of a contract with the DoD” means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) “Conviction of fraud or any other felony” means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of nolo contendere, for which sentence has been imposed.

(3) “Date of conviction” means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on this contract;

(2) On the board of directors of the Contractor;

(3) As a consultant, agent, or representative for the Contractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of the Contractor with regard to this contract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 4656 provides that the Contractor shall be subject to a criminal penalty of not more than \$500,000 if convicted of knowingly--

- (1) Employing a person under a prohibition specified in paragraph (b) of this clause; or
- (2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 4656, the Government may consider other available remedies, such as—

- (1) Suspension or debarment;
- (2) Cancellation of the contract at no cost to the Government; or
- (3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

- (1) The person involved;
- (2) The nature of the conviction and resultant sentence or punishment imposed;
- (3) The reasons for the requested waiver; and
- (4) An explanation of why a waiver is in the interest of national security.

(g) Subcontracts. The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial products, commercial services, or commercial components.

(h) Pursuant to 10 U.S.C. 4656(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone 301-937-1542; www.ojp.usdoj.gov/BJA/grant/DPFC.html".

(End of clause)

252.203-7002 REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS (DEC 2022)

(a) The Contractor shall inform its employees in writing, in the predominant native language of the workforce, of contractor employee whistleblower rights and protections under 10 U.S.C. 4701, as described in subpart 203.9 of the Defense Federal Acquisition Regulation Supplement.

(b) The Contractor shall include the substance of this clause, including this paragraph (b), in all subcontracts.

(End of clause)

252.203-7003 AGENCY OFFICE OF THE INSPECTOR GENERAL (AUG 2019)

The agency office of the Inspector General referenced in paragraphs (c) and (d) of FAR clause 52.203-13, Contractor Code of Business Ethics and Conduct, is the DoD Office of Inspector General at the following address:

Department of Defense Office of Inspector General, Administrative Investigations, Contractor Disclosure Program, 4800 Mark Center Drive, Suite 14L25, Alexandria, VA 22350-1500.

Toll Free Telephone: 866-429-8011. Website: <https://www.dodig.mil/Programs/Contractor-Disclosure-Program/>.

(End of clause)

252.203-7004 DISPLAY OF HOTLINE POSTERS (JAN 2023)

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

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

(b) Display of hotline poster(s).

(1)(i) The Contractor shall display prominently the DoD fraud, waste, and abuse hotline poster prepared by the DoD Office of the Inspector General, in effect at time of contract award, in common work areas within business segments performing work under Department of Defense (DoD) contracts.

(ii) For contracts performed outside the United States, when security concerns can be appropriately demonstrated, the contracting officer may provide the contractor the option to publicize the program to contractor personnel in a manner other than public display of the poster, such as private employee written instructions and briefings.

(2) If the contract is funded, in whole or in part, by Department of Homeland Security (DHS) disaster relief funds and the work is to be performed in the United States, the DHS fraud hotline poster shall be displayed in addition to the DoD hotline poster. If a display of a DHS fraud hotline poster is required, the Contractor may obtain such poster from—

(i) DHS Office of Inspector General/MAIL STOP 0305, Attn: Office of Investigations – Hotline, 245 Murray Lane SW, Washington, DC 20528-0305; or

(ii) Via the internet at https://www.oig.dhs.gov/assets/Hotline/DHS_OIG_Hotline-optimized.jpg.

(c)(1) The DoD hotline poster may be obtained from: Defense Hotline, The Pentagon, Washington, D.C. 20301-1900, or is also available via the internet at <https://www.dodig.mil/Resources/Posters-and-Brochures/>.

(2) If a significant portion of the employee workforce does not speak English, then the poster is to be displayed in the foreign languages that a significant portion of the employees speak.

(3) Additionally, if the Contractor maintains a company website as a method of providing information to employees, the Contractor shall display an electronic version of the required poster at the website.

(d) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (d), in all subcontracts that exceed the threshold specified in Defense Federal Acquisition Regulation Supplement 203.1004(b)(2)(ii) on the date of subcontract award, except when the subcontract is for the acquisition of a commercial product or commercial service.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

252.204-7015 NOTICE OF AUTHORIZED DISCLOSURE OF INFORMATION FOR LITIGATION SUPPORT (JAN 2023)

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

Computer software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae, and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer data bases or computer software documentation.

Litigation support means administrative, technical, or professional services provided in support of the Government during or in anticipation of litigation.

Litigation support contractor means a contractor (including its experts, technical consultants, subcontractors, and suppliers) providing litigation support under a contract that contains the clause at 252.204-7014, Limitations on the Use or Disclosure of Information by Litigation Support Contractors.

Sensitive information means controlled unclassified information of a commercial, financial, proprietary, or privileged nature. The term includes technical data and computer software, but does not include information that is lawfully, publicly available without restriction.

Technical data means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information.

(b) Notice of authorized disclosures. Notwithstanding any other provision of this solicitation or contract, the Government may disclose to a litigation support contractor, for the sole purpose of litigation support activities, any information, including sensitive information, received—

(1) Within or in connection with a quotation or offer; or

(2) In the performance of or in connection with a contract.

(c) Subcontracts. Include the substance of this clause, including this paragraph (c), in all subcontracts, including subcontracts for commercial products or commercial services.

(End of clause)

252.204-7018 PROHIBITION ON THE ACQUISITION OF COVERED DEFENSE TELECOMMUNICATIONS EQUIPMENT OR SERVICES (JAN 2023)

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

Covered defense telecommunications equipment or services means--

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation, or any subsidiary or affiliate of such entities;
- (2) Telecommunications services provided by such entities or using such equipment; or
- (3) Telecommunications equipment or services produced or provided by an entity that the Secretary of Defense reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Covered foreign country means--

- (1) The People's Republic of China; or
- (2) The Russian Federation.

Covered missions means--

- (1) The nuclear deterrence mission of DoD, including with respect to nuclear command, control, and communications, integrated tactical warning and attack assessment, and continuity of Government; or
- (2) The homeland defense mission of DoD, including with respect to ballistic missile defense.

Critical technology means--

- (1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;
- (2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled--
 - (i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or
 - (ii) For reasons relating to regional stability or surreptitious listening;
- (3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);
- (4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);
- (5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. In accordance with section 1656 of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91), the contractor shall not provide to the Government any equipment, system, or service to carry out covered missions that uses covered defense telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless the covered defense telecommunication equipment or services are covered by a waiver described in Defense Federal Acquisition Regulation Supplement 204.2104.

(c) Procedures. The Contractor shall review the list of excluded parties in the System for Award Management (SAM) at <https://www.sam.gov> for entities that are excluded when providing any equipment, system, or service, to carry out covered missions, that uses covered defense telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless a waiver is granted.

(d) Reporting.

(1) In the event the Contractor identifies covered defense telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, the Contractor shall report at <https://dibnet.dod.mil> the information in paragraph (d)(2) of this clause.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within 3 business days from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 30 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of a covered defense telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial products or commercial services.

(End of clause)

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (JUN 2023)

(a) Definition. Cooperative agreement holder means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304(l)); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Under Secretary of Defense for Acquisition and Sustainment to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

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)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of the threshold specified in Federal Acquisition Regulation 9.405-2(b) on the date of subcontract award with a firm, or a subsidiary of a firm, that is identified in the Exclusions section of the System for Award Management System (SAM Exclusions) as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a country that is a state sponsor of terrorism.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, in SAM Exclusions, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a country that is a state sponsor of terrorism. The notice must include the name of the proposed subcontractor and the compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion in SAM Exclusions.

(End of clause)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employee has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2.1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

252.223-7008 PROHIBITION OF HEXAVALENT CHROMIUM (JAN 2023)

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

Homogeneous material means a material that cannot be mechanically disjointed into different materials and is of uniform composition throughout.

(1) Examples of homogeneous materials include individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins, and surface coatings.

(2) Homogeneous material does not include conversion coatings that chemically modify the substrate.

Mechanically disjointed means that the materials can, in principle, be separated by mechanical actions such as unscrewing, cutting, crushing, grinding, and abrasive processes.

(b) Prohibition.

(1) Unless otherwise specified by the Contracting Officer, the Contractor shall not provide any deliverable or construction material under this contract that--

(i) Contains hexavalent chromium in a concentration greater than 0.1 percent by weight in any homogenous material; or

(ii) Requires the removal or reapplication of hexavalent chromium materials during subsequent sustainment phases of the deliverable or construction material.

(2) This prohibition does not apply to hexavalent chromium produced as a by-product of manufacturing processes.

(c) If authorization for incorporation of hexavalent chromium in a deliverable or construction material is required, the Contractor shall submit a request to the Contracting Officer.

(d) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (d), in all subcontracts, including subcontracts for commercial products or commercial services, that are for supplies, maintenance and repair services, or construction materials.

(End of clause)

252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (APR 2022)

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

Component means any item supplied to the Government as part of an end product or of another component.

End product means supplies delivered under a line item of this contract.

Qualifying country means a country with a reciprocal defense procurement memorandum of understanding or international agreement with the United States in which both countries agree to remove barriers to purchases of supplies produced in the other country or services performed by sources of the other country, and the memorandum or agreement complies, where applicable, with the requirements of section 36 of the Arms Export Control Act (22 U.S.C. 2776) and with 10 U.S.C. 2457. Accordingly, the following are qualifying countries:

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Egypt
Estonia
Finland
France
Germany
Greece
Israel
Italy

Japan
 Latvia
 Lithuania
 Luxembourg
 Netherlands
 Norway
 Poland
 Portugal
 Slovenia
 Spain
 Sweden
 Switzerland
 Turkey
 United Kingdom of Great Britain and Northern Ireland.

Structural component of a tent--

(i) Means a component that contributes to the form and stability of the tent (e.g., poles, frames, flooring, guy ropes, pegs);

(ii) Does not include equipment such as heating, cooling, or lighting.

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

U.S.-flag vessel means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b) The Contractor shall deliver under this contract only such of the following items, either as end products or components, that have been grown, reprocessed, reused, or produced in the United States:

(1) Food.

(2) Clothing and the materials and components thereof, other than sensors, electronics, or other items added to, and not normally associated with, clothing and the materials and components thereof. Clothing includes items such as outerwear, headwear, underwear, nightwear, footwear, hosiery, handwear, belts, badges, and insignia.

(3) (i) Tents and structural components of tents;

(ii) Tarpaulins; or

(iii) Covers.

(4) Cotton and other natural fiber products.

(5) Woven silk or woven silk blends.

(6) Spun silk yarn for cartridge cloth.

(7) Synthetic fabric, and coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics.

(8) Canvas products.

(9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles).

(10) Any item of individual equipment (Federal Supply Class 8465) manufactured from or containing fibers, yarns, fabrics, or materials listed in this paragraph (b).

(c) This clause does not apply--

(1) To items listed in section 25.104(a) of the Federal Acquisition Regulation (FAR), or other items for which the Government has determined that a satisfactory quality and sufficient quantity cannot be acquired as and when needed at U.S. market prices;

(2) To incidental amounts of cotton, other natural fibers, or wool incorporated in an end product, for which the estimated value of the cotton, other natural fibers, or wool--

(i) Is not more than 10 percent of the total price of the end product; and (ii) Does not exceed the simplified acquisition threshold in FAR part 2;

(3) To waste and byproducts of cotton or wool fiber for use in the production of propellants and explosives;

(4) To foods, other than fish, shellfish, or seafood, that have been manufactured or processed in the United States, regardless of where the foods (and any component if applicable) were grown or produced. Fish, shellfish, or seafood manufactured or processed in the United States and fish, shellfish, or seafood contained in foods manufactured or processed in the United States shall be provided in accordance with paragraph (d) of this clause;

(5) To chemical warfare protective clothing produced in a qualifying country; or

(6) To fibers and yarns that are for use in synthetic fabric or coated synthetic fabric (but does apply to the synthetic or coated synthetic fabric itself), if--

(i) The fabric is to be used as a component of an end product that is not a textile product. Examples of textile products, made in whole or in part of fabric, include--

(A) Draperies, floor coverings, furnishings, and bedding (Federal Supply Group 72, Household and Commercial Furnishings and Appliances);

(B) Items made in whole or in part of fabric in Federal Supply Group 83, Textile/leather/furs/apparel/findings/tents/flags, or Federal Supply Group 84, Clothing, Individual Equipment and Insignia;

(C) Upholstered seats (whether for household, office, or other use); and

(D) Parachutes (Federal Supply Class 1670); or

(ii) The fibers and yarns are para-aramid fibers and continuous filament para-aramid yarns manufactured in a qualifying country.

(d)(1) Fish, shellfish, and seafood delivered under this contract, or contained in foods delivered under this contract--

(i) Shall be taken from the sea by U.S.-flag vessels; or

(ii) If not taken from the sea, shall be obtained from fishing within the United States; and

(2) Any processing or manufacturing of the fish, shellfish, or seafood shall be performed on a U.S.-flag vessel or in the United States.

(End of clause)

252.225-7048 EXPORT-CONTROLLED ITEMS (JUNE 2013)

(a) Definition. ``Export-controlled items," as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130). The term includes--

(1) ``Defense items," defined in the Arms Export Control Act, 22 U.S.C. 2778(j)(4)(A), as defense articles, defense services, and related technical data, and further defined in the ITAR, 22 CFR Part 120; and

(2) ``Items," defined in the EAR as ``commodities", ``software", and ``technology," terms that are also defined in the EAR, 15 CFR 772.1.

(b) The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR.

(c) The Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.

(d) Nothing in the terms of this contract adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, Executive orders, and regulations, including but not limited to—

(1) The Export Administration Act of 1979, as amended (50 U.S.C. App. 2401, et seq.);

(2) The Arms Export Control Act (22 U.S.C. 2751, et seq.);

(3) The International Emergency Economic Powers Act (50 U.S.C. 1701, et seq.);

(4) The Export Administration Regulations (15 CFR Parts 730-774);

(5) The International Traffic in Arms Regulations (22 CFR Parts 120-130); and

(6) Executive Order 13222, as extended.

(e) The Contractor shall include the substance of this clause, including this paragraph (e), in all subcontracts.

(End of clause)

252.225-7052 RESTRICTION ON THE ACQUISITION OF CERTAIN MAGNETS, TANTALUM, AND TUNGSTEN (MAY 2024)

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

Assembly means an item forming a portion of a system or subsystem that--

(1) Can be provisioned and replaced as an entity; and

(2) Incorporates multiple, replaceable parts.

Commercially available off-the-shelf item--

(1) Means any item of supply that is--

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

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

(iii) Offered to the Government, under this contract or a 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 any item supplied to the Government as part of an end item or of another component.

Covered country means--

(1) The Democratic People's Republic of North Korea;

(2) The People's Republic of China;

(3) The Russian Federation; or

(4) The Islamic Republic of Iran.

Covered material means--

(1) Samarium-cobalt magnets;

(2) Neodymium-iron-boron magnets;

(3) Tantalum metals and alloys;

(4) Tungsten metal powder; and

(5) Tungsten heavy alloy or any finished or semi-finished component containing tungsten heavy alloy.

Electronic device means an item that operates by controlling the flow of electrons or other electrically charged particles in circuits, using interconnections such as resistors, inductors, capacitors, diodes, switches, transistors, or integrated circuits.

End item means the final production product when assembled or completed and ready for delivery under a line item of this contract.

Subsystem means a functional grouping of items that combine to perform a major function within an end item, such as electrical power, attitude control, and propulsion.

Tungsten heavy alloy means a tungsten base pseudo alloy that--

(1) Meets the specifications of ASTM B777 or SAE-AMS-T-21014 for a particular class of tungsten heavy alloy; or

(2) Contains at least 90 percent tungsten in a matrix of other metals (such as nickel-iron or nickel-copper) and has density of at least 16.5 g/cm³).

(b) Restriction.

(1) Except as provided in paragraph (c) of this clause--

(i) Effective through December 31, 2026, the Contractor shall not deliver under this contract any covered material melted or produced in any covered country, or any end item, manufactured in any covered country, that contains a covered material; and

(ii) Effective January 1, 2027, the Contractor shall not deliver under this contract any covered material mined, refined, separated, melted, or produced in any covered country, or any end item, manufactured in any covered country, that contains a covered material (section 854, Pub. L. 118-31; 10 U.S.C. 4872).

(2)(i)(A) Effective through December 31, 2026, for samarium-cobalt magnets and neodymium-iron-boron magnets, this restriction includes--

(1) Melting samarium with cobalt to produce the samarium-cobalt alloy or melting neodymium with iron and boron to produce the neodymium-iron-boron alloy; and

(2) All subsequent phases of production of the magnets, such as powder formation, pressing, sintering or bonding, and magnetization.

(B) Effective January 1, 2027, for samarium-cobalt magnets this restriction includes the entire supply chain from mining or production of a cobalt and samarium ore or feedstock, including recycled material, through production of finished magnets.

(ii) The restriction on melting and producing of samarium-cobalt magnets is in addition to any applicable restrictions on melting of specialty metals if the clause at 252.225-7009, Restriction on Acquisition of Certain Articles Containing Specialty Metals, is included in the contract.

(3) Effective January 1, 2027, for neodymium-iron-boron magnets, this restriction includes entire supply chain from mining of neodymium, iron, and boron through production of finished magnets.

(4)(i) Effective through December 31, 2026, for production of tantalum metals of any kind and alloys, this restriction includes the reduction or melting of any form of tantalum to create tantalum metal including unwrought, powder, mill products, and alloys. The restriction also covers all subsequent phases of production of tantalum metals and alloys.

(ii) Effective January 1, 2027, for production of tantalum metals of any kind and alloys, this restriction includes mining or production of a tantalum ore or feedstock, including recycled material, through production of metals of any kind and alloys.

(5)(i) Effective through December 31, 2026, for production of tungsten metal powder and tungsten heavy alloy, this restriction includes--

(A) Atomization;

(B) Calcination and reduction into powder;

(C) Final consolidation of non-melt derived metal powders; and

(D) All subsequent phases of production of tungsten metal powder, tungsten heavy alloy, or any finished or semi-finished component containing tungsten heavy alloy.

(ii) Effective January 1, 2027, for production of tungsten metal powder, tungsten heavy alloy, or any finished or semi-finished component containing tungsten heavy alloy, this restriction includes mining or production of a

tungsten ore or feedstock, including recycled material, through production of tungsten metal powders, tungsten heavy alloy, or any finished or semi-finished component containing tungsten heavy alloy.

(c) Exceptions. This clause does not apply--

(1) To an end item containing a covered material that is--

(i) A commercially available off-the-shelf item, other than--

(A) A commercially available off-the-shelf item that is--

(1) 50 percent or more tungsten by weight effective through December 31, 2026; or

(2) 50 percent or more covered material by weight effective January 1, 2027;

(B) Effective through December 31, 2026, a tantalum metal, tantalum alloy, or tungsten heavy alloy mill product, such as bar, billet, slab, wire, cube, sphere, block, blank, plate, or sheet, that has not been incorporated into an end item, subsystem, assembly, or component;

(ii) Effective January 1, 2027, a covered material that is a mill product such as bar, billet, slab, wire, cube, sphere, block, blank, plate, or sheet, that has not been incorporated into an end item, subsystem, assembly, or component;

(iii) An electronic device, unless otherwise specified in the contract; or

(iv) A neodymium-iron-boron magnet manufactured from recycled material if the milling of the recycled material and sintering of the final magnet takes place in the United States.

(2) If the authorized agency official concerned has made a nonavailability determination, in accordance with section 225.7018-4 of the Defense Federal Acquisition Regulation Supplement, that compliant covered materials of satisfactory quality and quantity, in the required form, cannot be procured as and when needed at a reasonable price.

(i) For tantalum metal, tantalum alloy, or tungsten heavy alloy, the term "required form" refers to the form of the mill product, such as bar, billet, wire, slab, plate, or sheet, in the grade appropriate for the production of a finished end item to be delivered to the Government under this contract; or a finished component assembled into an end item to be delivered to the Government under the contract.

(ii) For samarium-cobalt magnets or neodymium-iron-boron magnets, the term "required form" refers to the form and properties of the magnets.

(d) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (d), in subcontracts and other contractual instruments that are for items containing a covered material, including subcontracts and other contractual instruments for commercial products, unless an exception in paragraph (c) of this clause applies. The Contractor shall not alter this clause other than to identify the appropriate parties.

(End of clause)

252.225-7056 PROHIBITION REGARDING BUSINESS OPERATIONS WITH THE MADURO REGIME (JAN 2023)

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

Agency or instrumentality of the government of Venezuela means an agency or instrumentality of a foreign state as defined in 28 U.S.C. 1603(b), with each reference in section 1603(b) to a foreign state deemed to be a reference to Venezuela.

Business operations means engaging in commerce in any form, including acquiring, developing, maintaining, owning, selling, possessing, leasing, or operating equipment, facilities, personnel, products, services, personal property, real property, or any other apparatus of business or commerce.

Government of Venezuela means the government of any political subdivision of Venezuela, and any agency or instrumentality of the government of Venezuela.

Person means--

- (1) A natural person, corporation, company, business association, partnership, society, trust, or any other nongovernmental entity, organization, or group;
 - (2) Any governmental entity or instrumentality of a government, including a multilateral development institution (as defined in section 1701(c)(3) of the International Financial Institutions Act (22 U.S.C. 262r(c)(3)); and
 - (3) Any successor, subunit, parent entity, or subsidiary of, or any entity under common ownership or control with, any entity described in paragraph (1) or (2) of this definition.
- (b) Prohibition. In accordance with section 890 of the National Defense Authorization Act for Fiscal Year 2020 (Pub. L. 116-92), DoD is prohibited from entering into a contract for the procurement of products or services with any person that has business operations with an authority of the government of Venezuela that is not recognized as the legitimate government of Venezuela by the U.S. Government, unless the person has a valid license to operate in Venezuela issued by the Office of Foreign Assets Control of the Department of the Treasury.

(c) The Contractor shall--

- (1) Not have any business operations with an authority of the Maduro regime or the government of Venezuela that is not recognized as the legitimate government of Venezuela by the U.S. Government; or
 - (2) Have a valid license to operate in Venezuela issued by the Office of Foreign Assets Control of the Department of the Treasury.
- (d) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts, including subcontracts for the acquisition of commercial products.

(End of clause)

252.225-7058 POSTAWARD DISCLOSURE OF EMPLOYMENT OF INDIVIDUALS WHO WORK IN THE PEOPLE'S REPUBLIC OF CHINA (JAN 2023)

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

Covered contract means any DoD contract or subcontract with a value in excess of \$5 million, not including contracts for commercial products and commercial services.

Covered entity means any corporation, company, limited liability company, limited partnership, business trust, business association, or other similar entity, including any subsidiary thereof, performing work on a covered contract in the People's Republic of China, including by leasing or owning real property used in the performance of the covered contract in the People's Republic of China.

(b) Disclosure requirement.

(1) In accordance with section 855 of the National Defense Authorization Act for Fiscal Year 2022 (Pub. L. 117-81, 10 U.S.C. 4651 note prec.), DoD may not award, extend, or exercise an option on a covered contract with a covered entity unless such covered entity submits each required disclosure of its use of workforce and facilities in the People's Republic of China, if it employs one or more individuals who perform work in the People's Republic of China on a covered contract.

(2) If the Contractor is a covered entity, the Contractor shall disclose for the Government's fiscal years 2023 and 2024, the Contractor's employment of one or more individuals who perform work in the People's Republic of China on any covered contract. The disclosures shall include--

(i) The total number of such individuals who perform work in the People's Republic of China on the covered contracts funded by DoD; and

(ii) A description of the physical presence, including street address or addresses in the People's Republic of China, where work on the covered contract is performed.

(c) Subcontracts. The Contractor shall insert this clause, including this paragraph (c), without alteration other than to identify the appropriate parties, in all subcontracts that meet the definition of a covered contract.

(End of clause)

252.225-7060 PROHIBITION ON CERTAIN PROCUREMENTS FROM THE XINJIANG UYGHUR AUTONOMOUS REGION (JUN 2023)

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

Forced labor means any work or service that is exacted from any person under the menace of any penalty for nonperformance and that the worker does not offer to perform (10 U.S.C. 2496).

XUAR means the Xinjiang Uyghur Autonomous Region of the People's Republic of China (10 U.S.C. 2496).

(b) Prohibition. In accordance with 10 U.S.C. 4661, none of the funds appropriated or otherwise made available for DoD may be used to knowingly procure any products mined, produced, or manufactured wholly or in part by forced labor from XUAR or from an entity that has used labor from within or transferred from XUAR. The Contractor shall make a good faith effort to determine that forced labor from XUAR will not be used in the performance of this contract (section 855, Pub. L. 117-263).

(c) Subcontracts. The Contractor shall insert this clause, including this paragraph (c), without alteration other than to identify the appropriate parties, in subcontracts including subcontracts for commercial products, commercial services, and commercially available off-the-shelf items.

(End of clause)

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of

materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

(End of clause)

252.232-7003 ELECTRONIC SUBMISSION OF PAYMENT REQUESTS AND RECEIVING REPORTS (DEC 2018)

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

Contract financing payment means an authorized Government disbursement of monies to a contractor prior to acceptance of supplies or services by the Government.

(1) Contract financing payments include--

(i) Advance payments;

(ii) Performance-based payments;

(iii) Commercial advance and interim payments;

(iv) Progress payments based on cost under the clause at Federal Acquisition Regulation (FAR) 52.232-16, Progress Payments;

(v) Progress payments based on a percentage or stage of completion (see FAR 32.102(e)), except those made under the clause at FAR 52.232-5, Payments Under Fixed-Price Construction Contracts, or the clause at FAR 52.232-10, Payments Under Fixed-Price Architect-Engineer Contracts; and

(vi) Interim payments under a cost reimbursement contract, except for a cost reimbursement contract for services when Alternate I of the clause at FAR 52.232-25, Prompt Payment, is used.

(2) Contract financing payments do not include--

(i) Invoice payments;

(ii) Payments for partial deliveries; or

(iii) Lease and rental payments.

Electronic form means any automated system that transmits information electronically from the initiating system to affected systems.

Invoice payment means a Government disbursement of monies to a contractor under a contract or other authorization for supplies or services accepted by the Government.

(1) Invoice payments include--

(i) Payments for partial deliveries that have been accepted by the Government;

(ii) Final cost or fee payments where amounts owed have been settled between the Government and the contractor;

(iii) For purposes of subpart 32.9 only, all payments made under the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, and the clause at 52.232-10, Payments Under Fixed-Price Architect-Engineer Contracts; and

(iv) Interim payments under a cost-reimbursement contract for services when Alternate I of the clause at 52.232-25, Prompt Payment, is used.

(2) Invoice payments do not include contract financing payments.

Payment request means any request for contract financing payment or invoice payment submitted by the Contractor under this contract or task or delivery order.

Receiving report means the data prepared in the manner and to the extent required by Appendix F, Material Inspection and Receiving Report, of the Defense Federal Acquisition Regulation Supplement.

(b) Except as provided in paragraph (d) of this clause, the Contractor shall submit payment requests and receiving reports in electronic form using Wide Area WorkFlow (WAWF). The Contractor shall prepare and furnish to the Government a receiving report at the time of each delivery of supplies or services under this contract or task or delivery order.

(c) Submit payment requests and receiving reports to WAWF in one of the following electronic formats:

(1) Electronic Data Interchange.

(2) Secure File Transfer Protocol.

(3) Direct input through the WAWF website.

(d) The Contractor may submit a payment request and receiving report using methods other than WAWF only when-

(1) The Contractor has requested permission in writing to do so, and the Contracting Officer has provided instructions for a temporary alternative method of submission of payment requests and receiving reports in the contract administration data section of this contract or task or delivery order;

(2) DoD makes payment for commercial transportation services provided under a Government rate tender or a contract for transportation services using a DoD-approved electronic third party payment system or other exempted vendor payment/invoicing system (e.g., PowerTrack, Transportation Financial Management System, and Cargo and Billing System);

(3) DoD makes payment on a contract or task or delivery order for rendered health care services using the TRICARE Encounter Data System; or

(4) The Governmentwide commercial purchase card is used as the method of payment, in which case submission of only the receiving report in WAWF is required.

(e) Information regarding WAWF is available at <https://wawf.cb.mil/>.

(f) In addition to the requirements of this clause, the Contractor shall meet the requirements of the appropriate payment clauses in this contract when submitting payment requests.

(End of clause)

252.232-7010 LEVIES ON CONTRACT PAYMENTS (DEC 2006)

(a) 26 U.S.C. 6331(h) authorizes the Internal Revenue Service (IRS) to continuously levy up to 100 percent of contract payments, up to the amount of tax debt.

(b) When a levy is imposed on a payment under this contract and the Contractor believes that the levy may result in an inability to perform the contract, the Contractor shall promptly notify the Procuring Contracting Officer in writing, with a copy to the Administrative Contracting Officer, and shall provide--

(1) The total dollar amount of the levy;

(2) A statement that the Contractor believes that the levy may result in an inability to perform the contract, including rationale and adequate supporting documentation; and

(3) Advice as to whether the inability to perform may adversely affect national security, including rationale and adequate supporting documentation.

(c) DoD shall promptly review the Contractor's assessment, and the Procuring Contracting Officer shall provide a written notification to the Contractor including--

(1) A statement as to whether DoD agrees that the levy may result in an inability to perform the contract; and

(2)(i) If the levy may result in an inability to perform the contract and the lack of performance will adversely affect national security, the total amount of the monies collected that should be returned to the Contractor; or

(ii) If the levy may result in an inability to perform the contract but will not impact national security, a recommendation that the Contractor promptly notify the IRS to attempt to resolve the tax situation.

(d) Any DoD determination under this clause is not subject to appeal under the Contract Disputes Act.

(End of clause)

252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

- (c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.
- (d) The Contractor's proposal shall include a justification for any time extension proposed.

(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:

Volume One - G-003 INDEX

Volume Two – ND Section No. 2, Sheet 1 (page 2 of Volume Two set)

(End of clause)

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

(End of clause)

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (DEC 2022)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 3862(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Certified cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Data other than certified cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if certified cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

(End of clause)

252.244-7000 SUBCONTRACTS FOR COMMERCIAL PRODUCTS OR COMMERCIAL SERVICES (NOV 2023)

(a) The Contractor shall not include the terms of any Federal Acquisition Regulation (FAR) clause or Defense Federal Acquisition Regulation Supplement (DFARS) clause in subcontracts for commercial products or commercial services at any tier under this contract, unless--

(1) For DFARS clauses, it is so specified in the particular clause; or

(2) For FAR clauses, the clause is listed at FAR 12.301(d) or it is so specified in paragraph (c)(1) of the clause at FAR 52.212-5 or paragraph (b)(1) of the clause at FAR 52.244-6, as applicable. (Section 847(b)(1)(B), Pub. L. 114-328)

(b)(1) In accordance with 10 U.S.C. 3457(c), the Contractor shall treat as commercial products any items valued at less than \$10,000 per item that were purchased by the Contractor for use in the performance of multiple contracts with the Department of Defense and other parties and are not identifiable to any particular contract when purchased.

(2) The Contractor shall ensure that any items to be used in performance of this contract, that are treated as commercial products pursuant to paragraph (b)(1) of this clause, meet all terms and conditions of this contract that are applicable to commercial products or commercial services in accordance with the clause at FAR 52.244-6 and paragraph (a) of this clause.

(c) Subcontracts. The Contractor shall include the terms of this clause, including this paragraph (c), in subcontracts awarded under this contract, including subcontracts for the acquisition of commercial products or commercial services.

(End of clause)

252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (JAN 2023)

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

"Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

"Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

"Foreign-flag vessel" means any vessel that is not a U.S.-flag vessel.

"Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

"Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

"Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

"U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Other than commercial products; or

(B) Commercial products that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of foreign-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Maritime Administration, Office of Cargo Preference, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information:

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

- (4) Date of loading;
- (5) Port of loading;
- (6) Port of final discharge;
- (7) Description of commodity;
- (8) Gross weight in pounds and cubic feet if available;
- (9) Total ocean freight in U.S. dollars; and
- (10) Name of the steamship company.

(f) If this contract exceeds the simplified acquisition threshold, the Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

- (1) No ocean transportation was used in the performance of this contract;
- (2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;
- (3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all foreign-flag ocean transportation; or
- (4) Ocean transportation was used and some or all of the shipments were made on foreign-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY
_____	_____	_____
_____	_____	_____
_____	_____	_____
TOTAL	_____	_____

(g) If this contract exceeds the simplified acquisition threshold and the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of foreign-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) If the Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies; however, after the award of this contract, the Contractor learns that supplies will be transported by sea, the Contractor--

- (1) Shall notify the Contracting Officer of that fact; and
- (2) Hereby agrees to comply with all the terms and conditions of this clause.

(i) Subcontracts. In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, including subcontracts for commercial products, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (i), in subcontracts that exceed the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (i), in subcontracts that are at or below the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(End of clause)

5152.211-9001 VARIATIONS IN ESTIMATED QUANTITIES — SUBLINE ITEMS (DEC 2019)

This variation in estimated quantities clause is applicable only to item Nos. 0013, 0014, 0017, 0031, 1010, 1011, 1012, and 1015.

(a) Variation from the estimated quantity in the actual work performed under any second or subsequent subline item or elimination of all work under such a second or subsequent subline item will not be the basis for an adjustment in contract unit price.

(b) Where the actual quantity of work performed for item Nos. 0013, 0014, 0017, 0031, 1010, 1011, 1012, and 1015 is less than 85% of the quantity of the first subline item listed under such item, the contractor will be paid at the contract unit price for that subline item for the actual quantity of work performed and, in addition, an equitable adjustment shall be made in accordance with the clause at Federal Acquisition Regulation (FAR) 52.211-18, Variation in Estimated Quantities.

(c) If the actual quantity of work performed under item Nos. 0013, 0014, 0017, 0031, 1010, 1011, 1012, and 1015 exceeds 115% or is less than 85% of the total estimated quantity of the subline item under that item and/or if the quantity of the work performed under the second subline item or any subsequent subline item under item Nos. 0013, 0014, 0017, 0031, 1010, 1011, 1012, and 1015 exceeds 115% or is less than 85% of the estimated quantity of any such subline item, and if such variation causes an increase or a decrease in the time required for performance of this contract the contract completion time will be adjusted in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

(End of clause)

SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS

CONTRACTOR SUPPLY AND USE OF ELECTRONIC SOFTWARE FOR PROCESSING DAVIS-BACON ACT CERTIFIED PAYROLLS

The contractor will use a commercially available electronic system to process and submit certified payrolls electronically to the Government. The Davis-Bacon Act establishes the requirements for preparing, processing, and providing certified labor payrolls.

The contractor shall be responsible for obtaining and providing access for all licenses and other services required to provide for receipt, processing, certifying, electronically transmitting to the Government, and storing weekly payrolls and other data required for the contractor to comply with Davis-Bacon Act and related statutes. When the contractor uses an electronic Davis-Bacon Act payroll service, it shall be used to prepare, process, and maintain the relevant payrolls and basic records for all work under the construction contract. The electronic payroll service shall be capable of preserving the payroll and related basic records for the required three years after contract completion. The contractor shall obtain and provide electronic system access including electronic review to the Government, as required to comply with the Davis-Bacon Act and related statutes through the duration of the construction contract.

The contractor's provision and use of an electronic payroll processing system shall meet the following basic functional criteria:

- (1) commercially available;
- (2) compliant with appropriate Davis-Bacon Act payroll provisions in the FAR;
- (3) able to accommodate the required number of employees and subcontractors that will be employed under the contract;
- (4) capable of producing an Excel spreadsheet-compatible electronic output of weekly payroll records for export into an Excel spreadsheet to be imported into the contractor's mode of Resident Management System 3.0;
- (5) demonstrated security of data and data entry rights;
- (6) able to produce contractor-certified electronic versions of weekly payroll data;
- (7) able to identify erroneous entries and track the date/time of all versions of the certified Davis-Bacon Act payrolls submitted to the government over the life of the contract; and
- (8) capable of generating a durable record copy in a Compact Disc (CD) or Digital Versatile Disc (DVD) and Portable Document Format (PDF) file record of data from the system database at the end of the contract closeout. This durable record copy of data from the electronic payroll processing system shall be provided to the Government during contract closeout.

All contractor-incurred costs related to the contractor's provision and use of an electronic payroll processing service shall be included in the contractor's price for the overall work under the contract. The costs for Davis-Bacon Act compliance using electronic payroll processing services shall not be a separately bid or reimbursed item under this contract.

AT/OPSEC SECURITY REQUIREMENTS

General security requirements and guidance:

The security requirements described below apply to all contract personnel (including employees of the prime Contractor ("Contractor") and all subcontractor employees) supporting the performance requirements of this contract. The Contractor is responsible for compliance with these security requirements. Questions regarding security matters shall be addressed to the designated Government representative (e.g., Contracting Officer Representative (COR), Requiring Activity (RA) representative, or Contracting Officer (if a COR or other RA representative is not appointed)). Contract personnel are critical to the overall security and safety of US Army Corps of Engineers (USACE) installations, facilities and activities, and security awareness training contributes to those efforts. The Department of Defense (DoD) and Army security training requirements specified below, if applicable,

are performance requirements; all applicable contract personnel shall complete initial training within 30 days of contract award or the date new contract personnel begin performance on the contract. Within five business days from the completion of training, the Contractor shall provide written documentation (e.g., email or memorandum) to the Government representative. The documentation shall include the names of contract personnel trained and which training they completed; the Contractor shall maintain training records as part of their contract files and be prepared to provide copies of training certificates to the Government representative. Contractor personnel and vehicles are subject to search when entering federal installations. Additionally, all contract personnel shall comply with Force Protection Condition (FPCON) measures, Random Antiterrorism Measures (commonly referred to as "RAMs"), and Health Protection Condition (HPCON) measures. The Contractor is responsible for meeting performance requirements during elevated FPCON and/or HPCON levels in accordance with applicable RA plans and procedures --this includes identifying mission essential and non-mission essential personnel. In addition to the changes otherwise authorized by the changes clause of this contract, should the FPCON or HPCON levels at any individual facility or installation change, the Government may implement security changes that affect contract personnel. The Contractor shall ensure all contract personnel are aware of their security responsibilities, including any site-specific requirements identified in local policies or procedures.

Physical Security and Access Control Requirements:

All contract personnel requiring physical access to a federal installation or facility shall comply with the access control procedures of that location. Contract personnel requiring unescorted access to meet contract performance requirements on a DoD installation in the US shall be vetted by the installation/facility Provost Marshal/Directorate of Emergency Services/Security Office using the National Crime Information Center-Interstate Identification Index (commonly referred to as "NCIC-III") and Terrorist Screening Database (commonly referred to as "TSDB"). Contract personnel shall comply with all personal identity verification requirements specified in installation/facility policies and procedures. Contract personnel who do not meet requirements for unescorted access to USACE facilities shall coordinate escorted access with the Government representative, as needed. Contract personnel who receive keys, access cards, or lock combinations that provide access to government-owned property shall comply with key and lock control procedures of the RA.

Suspicious Activity Reporting training (e.g. iWATCH, CorpsWatch, or See Something, Say Something):

All contract personnel shall receive initial and annual refresher training from the RA representative on the local suspicious activity reporting program. This locally developed training provides contract personnel with general information on suspicious behavior, and guidance on reporting suspicious activity to the project manager, security representative or law enforcement entity.

Escorting in classified and/or sensitive areas:

In accordance with applicable regulations, all contract personnel who do not possess the appropriate security clearance or access privileges will be escorted in areas where they may be exposed to classified information or operations, sensitive information or activities, or restricted areas.

Pre-screen candidates using E-Verify Program:

Contractors shall comply with the requirements set forth in FAR clause 52.222-54 Employment Eligibility Verification and FAR Subpart 22.18 in using the E-Verify Program at (<https://www.e-verify.gov/>) (website subject to change) to meet the contract employment eligibility requirements. Contractors are encouraged to cooperate with Federal and State agencies responsible for enforcing labor requirements to include eligibility for employment under United States immigration laws in accordance with FAR 22.102-1(i). An initial list of verified/ eligible candidates shall be provided to the COR no later than three business days after the initial contract award. When contracts are with individuals, the individuals will be required to complete a Form I-9, Employment Eligibility Verification, and submit it to the Contracting Officer to become part of the official contract file.

PARTNERING

The Government proposes to form a partnering relationship with the contractor. This partnering relationship will strive to facilitate communication and draw on the strengths of each organization in an effort to achieve a quality

project, within budget, and on schedule. Participation will be totally voluntary. Partnering will not alter or supersede any provision of this contract nor will it provide either party with any additional contractual rights or obligations. Participation in partnering will not affect award of this contract. Any cost associated with this partnering will be agreed to by both parties and will be shared equally, with no change in contract price.

TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSES: DEFAULT (FIXED-PRICE CONSTRUCTION). 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) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The weather station selected for this analysis was Fargo Hector International Airport, ND. The last 10 years of temperature and precipitation data were used. Data shown is for precipitation of 0.1 inch or more and maximum daily temperatures less than 32 degrees Fahrenheit. The actual numbers have been multiplied by 5/7 to account for the workweek. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORKDAYS BASED ON (5) DAY WORKWEEK.

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Days	18	15	7	4	4	5	4	3	3	3	5	15

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the daily 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 workday. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and 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 CONTRACT CLAUSES: DEFAULT (FIXED-PRICE CONSTRUCTION).

ALL OR NONE QUALIFICATIONS

A vendor must provide a price on all items in this solicitation to be eligible for award. The Government will award on an "All or None" basis. Evaluation of bids/offers will be based upon only the total price included on the pricing schedule for all items. If options are included in the pricing schedule the evaluation will be conducted in accordance with the applicable option clause in the solicitation.

OPTION FOR ADDITIONAL WORK (Construction)

The Government may require the Contractor to perform the work identified as option item(s) (CLIN(s) 1001 through 1020 at the price stated in the Schedule. The Contracting Officer may exercise the Option by written notice to the Contractor at any time after contract award , but no later than January 30, 2026.

APPARENT CLERICAL MISTAKES

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:

- (1) Obviously misplaced decimal points will be corrected;
- (2) Discrepancy between unit price and extended price, the unit price will govern;
- (3) Apparent errors in extension of unit prices will be corrected;
- (4) Apparent errors in addition of lump sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends it's bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

WORK PERFORMED BY THE CONTRACTOR

The successful bidder must furnish the Contracting Officer within 10 days after the award, the items of work which he will perform with their own forces, the percentage of the total work this represents, and the estimated cost thereof.

INSURANCE

As referenced in Contract Clause: INSURANCE--WORK ON A GOVERNMENT INSTALLATION, the following types and amounts of insurance are required under this contract.

Type	Amount
Worker's Compensation and Employer's Liability Insurance:	
Coverage A Worker's Compensation	Compliance with State of North Dakota Worker's Compensation Law
Coverage B Employer's Liability	\$ 100,000
General Liability Insurance:	
Bodily Injury	\$1,000,000 per occurrence
Property Damage	Not Required
Automobile Liability Insurance (Comprehensive Policy Form):	
Bodily Injury	\$ 500,000 per person and \$1,000,000 per occurrence
Property Damage	\$ 100,000 per occurrence

EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

- (a) This clause does not apply to terminations. See FAR 49.206-2, Basis for Settlement of Proposals.
- (b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region IV. 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. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.
- (d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

INVOICE PROCEDURES

In accordance with CONTRACT CLAUSE titled "PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS", the contractor shall submit invoices as follows:

- a. In order to qualify for a periodic payment, the Contractor must submit a proper invoice (request for payment) to the Contracting Officer's Representative (COR) and a determination must be made that supplies or services conform to the contract requirements. This determination will be made for the sole purpose of processing progress payments and will not constitute formal acceptance. The due date for making progress payments shall be as stated in the contract clause: PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS.
- b. The submitted request for payment must be accompanied with documentation adequate to substantiate the amount requested. Substantiation shall be consistent with the clauses in the solicitation titled Quantity Surveys, Purchase Orders, Invoices, etc. satisfactory to the COR.
- c. The Contractor must also include with the payment request a certification as described in the Clause "PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS".
- d. Payment requests will be reviewed for propriety by the COR. Defective invoices will be returned to the Contractor for resolution with defects identified. Along with the returned invoice, the COR may include, at its option, an ENG FORM 93-PAYMENT ESTIMATE reflecting the substantiated and uncontested payment amount. The Contractor will then be given the option of signing and returning the FORM 93 for payment along with the

original invoice and certification or resubmitting a revised invoice and certification. To expedite payment, the Contractor may request in writing that the COR retain the defective invoice and immediately process the payment request at the amount determined to be acceptable to the Government.

UNAVAILABILITY OF UTILITY SERVICES

The responsibility shall be upon the Contractor to provide and maintain at its expense, adequate utilities for its use for construction and domestic consumption, and to install and maintain necessary connections and lines for same, but only at such locations and in such manner as may be approved by the Contracting Officer. Before final acceptance, temporary connections and lines installed by the Contractor shall be removed in a manner satisfactory to the Contracting Officer.

SAFETY AND HEALTH REQUIREMENTS MANUAL INTERIM CHANGES, EM 385-1-1

This paragraph applies to contracts and purchase orders that require the contractor to comply with EM 385-1-1 (e.g., contracts that include the Accident Prevention clause at FAR 52.236-13 and/or other safety provisions). EM 385-1-1 and its changes are available at <https://www.publications.usace.army.mil/Portals/76/EM%20385-1-1%20EFFECTIVE%2015%20March%202024.pdf>. The Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

BASIS FOR SETTLEMENT OF PROPOSALS

“Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

- (1) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.
- (2) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.
- (3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.
- (4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).
- (5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.”

VETERANS EMPLOYMENT EMPHASIS FOR U.S. ARMY CORPS OF ENGINEERS CONTRACTS

In addition to complying with the requirements outlined in FAR Part 22.13, FAR Provision 52.222-38, FAR Clause 52.222-35, FAR Clause 52.222-37, DFARS 222.13 and Department of Labor regulations, U.S. Army Corps of Engineers (USACE) contractors and subcontractors at all tiers are encouraged to promote the training and employment of U.S. veterans while performing under a USACE contract. While no set-aside, evaluation preference, or incentive applies to the solicitation or performance under the resultant contract, USACE contractors are

encouraged to seek out highly qualified veterans to perform services under this contract. The following resources are available to assist USACE contractors in their outreach efforts:

- U.S. Department of Labor Veterans' Employment and Training Service (VETS): <https://www.dol.gov/vets/>
- Federal Veteran Employment Information: <https://www.fedshirevets.gov/>
- Veterans Opportunity to Work (VOW) Program: <https://www.benefits.va.gov/vow/>
- U.S. Army Warrior Transition Command Employment Index:
<https://wct.army.mil/modules/employers/index.html>
- Hiring Our Heroes: <https://www.uschamberfoundation.org/hiring-our-heroes>

DBA WAGE DETERMINATION

"General Decision Number: ND20240050 08/30/2024

Superseded General Decision Number: ND20230050

State: North Dakota

Construction Type: Heavy
HEAVY CONSTRUCTION PROJECTS

County: Cass County in North Dakota.

HEAVY CONSTRUCTION PROJECTS

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)(1).

<p>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:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 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 2024.
<p>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:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 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 2024.

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	01/05/2024
1	08/30/2024

* ELEC0714-014 07/01/2024

	Rates	Fringes
ELECTRICIAN.....	\$ 38.94	13.21+11.5%

ENGI0049-022 10/01/2023		

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Bulldozer).....	\$ 32.40	20.65

ENGI0049-026 05/01/2022		

	Rates	Fringes
POWER EQUIPMENT OPERATOR Crane.....	\$ 38.30	21.60
Forklift.....	\$ 35.05	21.60

ENGI0049-027 10/01/2023		

	Rates	Fringes
POWER EQUIPMENT OPERATOR Mechanic.....	\$ 32.40	20.65
Scraper.....	\$ 32.40	20.65

IRON0512-033 04/30/2023		

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 37.95	21.75
IRONWORKER, STRUCTURAL.....	\$ 37.95	21.75

TEAM0638-003 10/01/2023		

	Rates	Fringes
TRUCK DRIVER (Dump Truck).....	\$ 32.40	16.90

SUND2017-013 07/31/2020

	Rates	Fringes
CARPENTER.....	\$ 26.68	5.60
CEMENT MASON/CONCRETE FINISHER...	\$ 24.00	0.00
LABORER: Common or General.....	\$ 18.79	0.00
LABORER: Pipelayer.....	\$ 23.14	0.00
OPERATOR:		
Backhoe/Excavator/Trackhoe.....	\$ 24.91	14.85
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 20.01	0.00
OPERATOR: Grader/Blade.....	\$ 24.29	0.00
OPERATOR: Loader.....	\$ 26.10	14.85
OPERATOR: Roller.....	\$ 28.00	0.00

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

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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) (iii)).

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.

State Adopted Rate Identifiers

Classifications listed under the "SA" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

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 DECISION"

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SECTION 01 00 00.00 13

GENERAL

PART 1 GENERAL

The Fargo Moorhead Metropolitan Area Flood Risk Management Project, Southern Embankment Reach SE-3, is located in Cass County, North Dakota. Work to be completed as part of this project includes the following:

1. Reach SE-3 Embankment: Construct a 1.6-mile long embankment section between I-29 and the Red River Structure. This includes County Road 81 (CR 81) crossing construction.
2. Reach SE-2 Gap: Close a 0.2-mile long gap between Reaches SE-2A and SE-2B. Work will include terminating 57th St S and connecting the borrow ditches.
3. Drain 27 Access Road and Stockpile: Grade existing access road and surface with aggregate. Remove the existing borrow material stockpile, including removal of 57th St. S south of the borrow ditch and placement of a barricade on 112th Ave. S.
4. SE-2B Temporary Closure Removal: Remove 2 temporary closures within Reach SE-2B. The northern closure, located at the County Road 16 (CR16) crossing, consists of Flapgates placed in the four, 10-foot by 10-foot reinforced box culverts. The southern closure, located near 173rd Ave. S, consists of an earthen levee with two box culverts. The top of the embankment will be removed and a drainage layer, articulated concrete block and turf reinforcement mat will be placed on the weir.
5. Temporary Levee Removal: Remove a temporary levee within the borrow ditch on the east side of I-29; total length is approximately 1,000 feet.
6. Utility Relocation: Relocate sanitary sewer force main, water main, and electrical and communication conduits.

1.1 ORGANIZATION OF SPECIFICATIONS

The specifications which govern the materials and equipment to be furnished and the work to be performed under this contract are listed in the Table of Contents. No attempt has been made in the specifications to segregate work to be performed by any trade, craft, or subcontractor. Any segregation between the trades or crafts shall be solely a matter for agreement between the Contractor, Contractor's employees, and subcontractors.

1.2 USE OF REFERENCES

Reference to the standards, specifications, or codes of any technical society, organization, or association, or local, State, or Federal authority shall mean the specific edition or revision listed.

Various publications are referenced in other sections of the specifications to establish requirements for the work. Any referenced publication is to be used solely for technical requirements. Measurement

and payment and any other matters respecting the administration of this contract shall be governed by the terms of this contract without considering any referenced publication. These references are identified in each section by document number, date and title. The addresses, phone numbers, and Internet addresses (if available) for references cited in these specifications are listed in the Unified Facilities Guide Specification: UFGS 01 42 00 SOURCES FOR REFERENCE PUBLICATIONS. The UFGS 01 42 00 is available on the TECHINFO page of the Corps of Engineers Huntsville District Internet site:
<http://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/>

PART 2 PRODUCTS

2.1 RECYCLED/RECOVERED MATERIALS

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work.

PART 3 EXECUTION

3.1 DISPOSAL OF DEBRIS AND WASTE

Excess topsoil and unsuitable excavation material shall be transported to the I-29 Disposal Site, as shown on the plans. All other waste material, including asphalt, concrete, and aggregate shall be disposed of in accordance with the following paragraphs.

The Contractor's attention is directed to Section 01 57 20.00 13 ENVIRONMENTAL PROTECTION and to the following Contract Clauses: 52.236-7 PERMITS AND RESPONSIBILITIES; 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS; 52.236-10 OPERATIONS AND STORAGE AREAS; and 52.236-12 CLEANING UP. Burning will not be permitted at the project site and debris or waste shall not be left on the site. Disposal of debris and waste shall be by one of the following methods:

3.1.1 Disposal Offsite for Useful Purposes

In the interest of conservation, it is required that the Contractor make a reasonable effort to dispose of the material offsite for some useful purpose. For example, timber may be cut into convenient lengths and utilized for making saw logs, posts, cordwood, wood chips for paper making or other uses, or other similar use.

3.1.2 Disposal in a Locally Operated Sanitary Landfill

Select the disposal site with the approval of the Contracting Officer. Secure the required permits for disposal and provide copies of the permit to the Contracting Officer.

3.1.3 Disposal of Solid Construction Debris and Waste

Disposal of Solid Construction Debris and Waste shall consist of removal from the construction site and disposal in compliance with Federal, State, and local requirements for solid waste disposal. Select the disposal site with the approval of the Contracting Officer.

3.2 SCHEDULING

3.2.1 General

It shall be the responsibility of the Contractor to schedule and execute the work, incorporating the necessary requirements set forth in these specifications. The Contractor shall develop and submit a schedule in accordance with Section 01 32 01.00 13 PROJECT SCHEDULE and Contract Clause: 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS.

3.2.2 Notification

The Contractor shall inform the Government in writing, at the pre-construction conference, as to which hours of the day and days of the week for which work will be performed. The Contractor shall notify the Government at least 24 hours before work is to be conducted on overtime, in multiple shifts, on weekends, or on Federal Government holidays.

3.3 OTHER CONTRACTS

The Government may undertake, award, or have other on-going contracts and work in the area of this project. Coordinate work with the other Contractors to prevent delays to this project and interferences with those contracts. The Contractor shall expect minor delays and rescheduling due to these other contracts and work. Coordination shall be through the Contracting Officer. Other contracts and work in the area of this project are listed below. These contracts will be considered in accordance to Contract Clause: 52.236-8 OTHER CONTRACTS.

3.3.1 List Other Contracts

The following contracts have been awarded:

I-29 Grade Raise & Borrow Ditch Crossing, contract number:
W912ES21C0004, awarded to: Industrial Builders, Inc.

FMM Southern Embankment Reach 2A (SE-2A), contract number:
W912ES22C0009, awarded to: H.B. Construction, Inc.

FMM Southern Embankment Reach 1B (SE-1B), contract number:
W912ES24C0008, awarded to: HSG Park Joint Venture 2, LLC.

FMM Southern Embankment Reach 2B (SE-2B), contract number:
W912ES24C0009, awarded to: R.J.Zavoral & Sons, Inc.

FMM Southern Embankment Reach 4 (SE-4), contract number:
W912ES24C0011, awarded to: PWS, Inc.

FMM Red River Structure, contract number: W912ES22C0003, awarded to:
Ames Construction, INC.

Drain 27 Native Planting, contract number: W912ES23C0005, awarded to:
Red Bison Services

The following contracts are planned for award in the near future and are
in the general vicinity of the Southern Embankment Reach SE-3:

FMM Southern Embankment Reach 5 (SE-5)

3.4 OTHER WORK

Contact other local units of government for work they may have going on in
the area and coordinate work and schedules to prevent any delays in this
contract.

-- End of Section --

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SECTION 01 14 00.00 13

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-- End of Section Table of Contents --

SECTION 01 14 00.00 13

WORK RESTRICTIONS

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. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD (2009; Rev 2012) Manual on Uniform Traffic Control Devices

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Traffic Control Layout Plan; G

Haul Routes; G

1.3 GROUNDS AND ROADWAYS

1.3.1 Haul Routes

Submit a map showing proposed haul routes. The map shall include anticipate routes between the project and off-site borrow or disposal locations, or any other location where repeated hauling is anticipated. The plan shall be updated and resubmitted if haul routes change for periods exceeding 2 work days.

1.3.2 Parking

Parking is permitted only in the area(s) shown, including the Contractor's staging area. No parking will be allowed on the grass. Contractor parking shall be coordinated with the Government.

1.3.3 Snow Removal

The Contractor shall be responsible for snow removal in the Contractor's access, work, and parking areas. The snow removal on 49th St SE and 174th Ave SE shall be conducted as typical by Pleasant Township.

1.4 BLASTING

Blasting will not be permitted.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 PROJECT RESTRICTIONS

The following project features have an associated interim completion date and shall be completed as described in Contract Clause 52.211-10 Commencement, Prosecution, and Completion of Work, ALT 1:

Utility crossings including installation of water and sewer mains, dry utility conduits, CLSM encasement, SE-3 embankment from station 80+00 to 85+00, and the utility corridor from station 1+02 to 9+80 shown in Section 199 of Volume 2.

The CR 81 road raise and associated work including but not limited to, SE-3 embankment from station 86+80 to 92+00, salvaged aggregate base, paving, CMP culverts, and RCB culverts cannot begin until May 1, 2026 and until the water and sewer mains are tested, operational and approved by the utility owners. No disruption of traffic shall be allowed on CR 81 until May 1, 2026.

The temporary earthen levee removal and associated work including excavation, demolition, and removal of the culvert and flapgates shall only occur after the completion of the SE-3 embankment from station 0+00 to 28+00 including the SE-3H weir to avoid potential flooding impacts during construction.

If Option 1 is awarded, OPTION 1 items may be completed independently of other items at the discretion of the Contractor, with the exceptions described below:

Work on these features shall only commence after May 1, 2026 to avoid potential flooding impacts during construction.

3.2 EXISTING UTILITIES

3.2.1 General

See specific notes on plans. The Contractor shall be responsible for all costs related to protecting existing utilities.

3.2.2 Buried Utilities

The approximate locations of known existing buried utilities are shown on the drawings to the extent of available information at the time the drawings were prepared. Prior to commencing excavation, the Contractor shall accurately locate all such installations. The Contracting Officer shall immediately be notified if the Contractor damages any existing utility lines not intended to be removed. Repair of damaged utilities shall be in accordance with Contract Clause 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.

3.2.3 North Dakota One Call Excavation Notice System

For contract work performed within the State of North Dakota, the Contractor shall meet the requirements of North Dakota Statutes, Chapter 42-23 "One Call Excavation Notice System." The North Dakota One Call

notification center telephone numbers are:

Hotline	800-795-0555
Questions	701-475-2942

3.2.4 Interruption of Services

Utility services shall not be interrupted except for brief periods to facilitate cut-ins. The Contractor shall provide temporary service and shall relocate existing utilities as required to construct the work shown and insure uninterrupted service. If interruption of services is unavoidable, the Contractor shall request approval in writing at least ten (10) calendar days prior to the proposed interruption. This submittal shall fully describe all details of proposed interruption and the reasons why alternatives are not feasible. Information contained in the submittal shall include, but not be limited to, utilities being affected, duration of outage, and any sketches required to support the submittal. The Contractor shall further coordinate with the owner of the utility and notify affected consumers at least ten (10) calendar days in advance of interruption of services. The Contracting Officer will not, in general, approve proposals which require interruption of services for more than four (4) continuous hours.

3.3 COORDINATION

3.3.1 City of Fargo

Name: James Hausauer
Wayne Offerdahl
Title: James Hausauer - Water Reclamation Utility Director
Wayne Offerdahl - Water Reclamation Utility Supervisor
Address: 200 N. 3rd Street, Fargo, ND 58102
E-mail: James Hausauer (JHausauer@FargoND.gov)
Wayne Offerdahl (WOfferdahl@FargoND.gov)
Telephone: James Hausauer (701)-476-6692
Wayne Offerdahl (701)-476-6691

3.3.2 COORDINATION WITH CASS COUNTY ELECTRIC CO

Company: Cass County Electric Co.
Name: Daryl Brandt
Troy Knutson
Title: Daryl Brandt - Senior Design Project Manager
Troy Knutson - Manager of Engineering
Address: 4100 32nd Avenue, Fargo, ND 58104
E-mail: Daryl Brandt (dbrandt@kwh.com)
Troy Knutson (tknutson@kwh.com)
Telephone: Daryl Brandt (701)-356-4476
Troy Knutson (701)-356-4542

3.3.3 COORDINATION WITH CASS RURAL WATER DISTRICT

Company: Cass Rural Water District
Name: Brent Brinkman
Title: Chief System Operator
Address: 131 Maple Street, Kindred, ND 58051
E-mail: Brent.Brinkman@cassruralwaterdistrict.com

Telephone: 701) 428-3139

3.3.4 COORDINATION WITH MIDCONTINENT COMMUNICATIONS

Company: Midcontinent Communications
Name: Tony Geffre
Corey Wixo
Title: Tony Geffre - Regional Construction Project Manager
Corey Wixo - Construction Manager
E-mail: Tony Geffre (Tony.Geffre@Midco.com)
Corey Wixo (Corey.Wixo@Midco.com)
Telephone: Tony Geffre (701)-532-2006
Corey Wixo (701)-212-5682

3.3.5 COORDINATION WITH CENTURYLINK

Company: CenturyLink/Lumen
Name: Judd Syverson
Title: Judd Syverson - Senior Network Implementation Program Manager
Address: 804 10th Avenue SE, Detroit Lakes, MN 56501
E-mail: Judd Syverson
Telephone: Judd Syverson (218)-847-4435

3.3.6 COORDINATION WITH MLGC

Company: MLGC
Name: Bradley Bunn
Dion Brown
Title: Bradley Bunn - Plant Manager
Dion Brown - Vice President/Combination Technician
Address: 301 Dewey Street, Enderlin, ND 58027
E-mail: Bradley Bunn (bbunn@mlgc.email)
Dion Brown (dbrown@mlgc.email)
Telephone: Bradley Bunn (701)-437-9207
Dion Brown (701)-789-9653

3.3.7 COORDINATION WITH SPRINT

Company: Sprint Wireless/Cogent Communications
Name: Mike Chebul
Title: Engineer, Outside Plant Engineering - North Central-1
E-mail: mchebul@cogentco.com
Telephone: (402)-316-8218 or (402)-522-2607

3.4 CLEARING AND GRUBBING

Tree removal and branch cutting is only permitted during the northern long-eared bat inactive season, which is October 1 to April 15.

3.5 PROTECTION OF TREES

Trees outside of the clearing and grubbing limits or trees designated to remain shall be protected as indicated below. The location of the tree protection fence shall be staked by the Contractor and approved by the Contracting Officer.

The following measures shall be implemented for tree protection and shall

be addressed in the Environmental Protection Plan required under Section 01 57 20.00 13 ENVIRONMENTAL PROTECTION:

- a. The trees shall be protected from wounds to the bark and foliage.
- b. The critical root zone shall be protected from compaction and grading.
- c. Changes in temporary site drainage and ponding that affect the protected trees shall be minimized to the extent possible.

The critical root zone of trees designated to be protected shall be surrounded by a high visibility fence 4 feet in height, supplied and erected by the Contractor. The critical root zone shall be defined by an area extending 1.5 feet radius from each tree for each inch of DBH. The fence shall be securely erected and installed prior to any movement through the project site by construction vehicles or equipment, and remain in place until construction and clean-up are completed. The critical root zone shall remain free of all construction activities including trenching, staging, stockpiling and storage of materials. Vehicles and equipment shall not drive or park within the critical root zone. Variation to the critical root zone size or configuration will only be permitted where it is absolutely necessary for construction of the project, and requires approval of the Contracting Officer. Short duration alterations of the critical root zone involving wood chips and limited equipment travel shall be submitted in writing for approval.

The Contractor shall not operate equipment in vegetated areas outside the work limits.

3.5.1 Restoration of Damaged Trees

Any existing tree designated to be protected that is damaged by the Contractor's operations shall be replaced. Trees will be considered damaged if the critical root zone in cohesive soils is compacted, if there are significant wounds that could contribute to rot, or if distress (evident by reduced growth or other observations of distress documented by a forester) is observed prior to closing the contract. Trees shall be replaced in kind on a caliper inch per caliper inch basis (DBH) (e.g. one 6-inch red oak shall be replaced with two 3-inch red oaks, three 2-inch red oaks, or six 1-inch red oaks). Replacement tree size and location will be determined and staked by the Contracting Officer. Repair by pruning, aeration, soil conditioning, or other recommendation from a qualified forester will be considered by the Contracting Officer for substitution for replacement.

3.6 BORROW AND DISPOSAL AREAS

Excess topsoil, muck, and other unsuitable excavated material shall be hauled to the I-29 Disposal Site, as shown on the plans. All other waste material, including asphalt, concrete, and aggregate shall be disposed in accordance with the following paragraph and Section 01 00 00.00 13 GENERAL.

Any borrow and/or disposal sites proposed by the Contractor that are not already identified by the Government as approved for this project are subject to approval by the Contracting Officer. Proposed sites considered to be culturally or environmentally sensitive areas will not be approved. Obtaining the necessary permits for Contractor proposed borrow and/or disposal would be the responsibility of the Contractor. Mitigation

necessary for environmental impacts at a Contractor proposed site would be at the cost of the Contractor. Cultural resource review determined necessary may require additional coordination (not to exceed 45 days). No contract completion dates will be extended by the Government and the Government will pay no additional costs to the contractor regarding the approval or disapproval by the Government of any contractor proposed borrow and/or disposal sites.

3.7 TRAFFIC CONTROL AND ROAD CLOSURES

The traffic control information depicted in the plan set is a potential plan to assist with bidding. Submit a Traffic Control Layout Plan to the Contracting Officer for approval a minimum of 30 days prior to installing traffic control devices. Complete the plan in accordance with the Manual on Uniform Traffic Control Devices MUTCD and specified in Section 01 55 26 TEMPORARY TRAFFIC CONTROL. Reflect any project phasing in the traffic control plan. Any changes to the approved plan shall be approved by the Contracting Officer prior to implementation.

Detouring of County Road 81 (CR81) must be completed on a county or state highway. County Road 81 and 174th Ave SE shall not be closed concurrently.

3.8 EAGLE NEST EXCLUSION ZONE RESTRICTIONS

Active eagle nests have been identified in the project area. The nests are located as shown on the contract plans. Prior to start of the construction each spring, the Government will conduct eagle nest surveys for the project area. If the identified nests are determined to be active, or if additional active nests are identified within the project area, the Contracting Officer will notify the Contractor. Protection of all eagle nests, both known and newly identified, shall be completed at no additional cost to the Government.

3.8.1 Required Bald and Golden Eagle Protection Act Avoidance Measures

All construction activities near any active eagle nest shall comply with the avoidance measures of the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) as follows:

a. The Contractor shall follow the U.S. Fish and Wildlife Service's National Bald Eagle Management Guidelines to minimize the likelihood that activities will adversely affect bald eagles.

b. Maintain a buffer, identified as the eagle nest exclusion zone, of at least 660 feet (200 meters) between any project construction activities and any active nest during the nesting season. The nesting season is considered December through August for the project area.

c. The Contractor shall clearly mark the limits of all eagle nest exclusion zones that overlay project features, including embankments, ditches, roadways, etc.

d. Work within the eagle nest exclusion zone may also resume prior to the conclusion of the nesting season if eaglets have permanently fledged (left the nest). At the request of the contractor, the Government will evaluate fledgling status. The Government will provide written permission to resume work within the exclusion zone if permanent fledging has occurred.

-- End of Section --

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SECTION 01 22 00.00 13

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST HB 44	(2018) Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices
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1.2 COMPENSATION

The payment provided for in the contract must constitute full compensation for furnishing all materials and for performing all work under the contract in a complete and acceptable manner. The contract work must include providing bonds (performance and payment), plant, equipment, tools, supplies, labor, supervision, incidental materials, quality control, environmental protection, meeting safety requirements, and performing all work required for which separate payment is not otherwise provided. Compensation for all work shown, specified, or essential to completion of the project (whether or not the specific material or operation is indicated) must be included in the bid price. The payment provided for in the contract includes compensation for all risk, loss, damage, and expense arising out of the nature of the work or its prosecution, subject to conditions of the contract. Payment for each contract line item will constitute full compensation for furnishing the materials and constructing the work complete in place as specified.

All costs for items of work, which are not specifically mentioned to be included in a particular job or unit price payment item, shall be included in the item most closely associated with the work involved. It is the responsibility of the contractor to ensure that its pricing is not materially unbalanced and that the prices presented for each line item or subline item accurately reflect the work effort associated with those items, inclusive of overhead costs.

1.3 APPROVAL OF MATERIALS OR ALTERNATES

Requests for approval of materials and products, or substitutes thereof, will not be considered prior to award of the contract.

1.4 QUANTITY SURVEYS

The Contractor shall provide quantity surveys for bulk materials measured

by volume or weight, unless an alternate method of measurement is specified. Quantity surveys are specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS.

1.5 MEASUREMENT BY WEIGHT

Bulk materials paid for by weight will be measured by weighing each truck load on an approved scale before being placed in the work. Scales shall be of sufficient length to permit simultaneous weighing of all axle loads and shall be sensitive to a change in load of 0.2 percent throughout the range of the scale. The scale's accuracy shall conform to the applicable requirements of NIST HB 44 and shall be certified by a scale servicing company or by an inspector of the State Inspection Bureau. Each load shall be accompanied by a delivery ticket certified by the weighmaster. Delivery tickets shall be collected by the Contractor, and copies thereof shall be furnished to the Contracting Officer. As a minimum, each ticket shall contain the following information:

- (1) Date and time.
- (2) Vehicle number.
- (3) Gross weight.
- (4) Vehicle tare weight.
- (5) Net weight.
- (6) Signature of weighmaster.
- (7) Signature of Contractor's receiver.

1.6 MEASUREMENT UNITS

When materials are measured in units other than the measurement units specified as the basis of payment, the measured quantities shall be converted to the specified unit of measure. Factors for conversions from one basis or unit of measurement to another shall be approved by the Contracting Officer.

1.7 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-03 Product Data

Delivery Ticket

Submit certified delivery tickets.

1.8 JOB PAYMENT ITEMS

Payment items for the work of this contract for which contract job payments will be made are listed in the Pricing Schedule and described below. The job price and payment made for each item listed shall constitute full compensation for performing all work required for which separate payment is not otherwise provided.

1.8.1 Performance and Payment Bonds

1.8.1.1 Payment

Payment will be made for Performance and Payment Bonds required by this contract in accordance with FAR 52.232-5 paragraph (g).

1.8.1.2 Unit of Measurement

Unit of measure: job.

1.8.2 Demolition

1.8.2.1 Payment

Payment will be made in the Base Bid for furnishing all materials, equipment, and labor and performing all operations necessary for demolition as indicated. Work includes, but is not limited to, the removal and disposal of existing utilities to be relocated, culverts, aggregate surface removal, and bituminous pavement.

If awarded, payment will be made in Option 1 for furnishing all materials, equipment, and labor and performing all operations necessary for demolition as indicated. Work includes, but is not limited to, the removal and disposal of flapgates, bulkheads, and culverts.

Offsite disposal fees are incidental to the work.

1.8.2.2 Unit of Measurement

Unit of measure: job.

1.8.3 Temporary Traffic Control

1.8.3.1 Payment

Payment will be made for furnishing all materials, equipment, and labor, and performing all operations necessary for temporary traffic control as indicated. Work includes, but is not limited to, installation, maintenance, and removal of signs and barricades, and flaggers.

1.8.3.2 Unit of Measurement

Unit of measure: job.

1.8.4 Temporary Erosion Control

1.8.4.1 Payment

Payment will be made for furnishing all materials, equipment, and labor, and performing all operations necessary for temporary erosion control as indicated. Work includes, but is not limited to, development of an erosion control plan, installation and maintenance of erosion control blankets and fiber rolls, and dust suppression.

1.8.4.2 Unit of Measurement

Unit of measure: job.

1.8.5 Water and Sewer

1.8.5.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for water and sewer work as indicated. Work includes, but is not limited to, all water and sewer utility mains, valves, fittings, structures, thrust blocks, pipe bedding, excavation, backfill, CLSM, tracer wire, trenching, dewatering, shoring, connection to existing utilities, testing installations, and markers for the utility installations.

1.8.5.2 Unit of Measurement

Unit of measure: job.

1.8.6 Communication and Electrical

1.8.6.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for communication and electrical work as indicated. Work includes, but is not limited to, all electrical and communication conduits, bedding, excavation, backfill, CLSM, tracer wire, trenching, dewatering, connection to existing utilities, testing conduit installations, and markers for the utility installations.

1.8.6.2 Unit of Measurement

Unit of measure: job.

1.8.7 Topsoil Stripping

1.8.7.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for topsoil stripping to the lines and grades as indicated. Work includes, but is not limited to, stripping, hauling and stockpiling topsoil.

Materials stripped outside the lines and grades shown, without specific direction or approval from the Contracting Officer will be incidental to the work.

1.8.7.2 Unit of Measurement

Unit of measure: job.

1.8.8 Pavement Marking

1.8.8.1 Payment

Payment will be made for furnishing all materials, equipment, and labor, and performing all operations necessary for pavement marking as indicated. Work includes, but is not limited to, layout, surface preparation; application of marking paint, material, or both; grooving of pavement, removal of existing pavement marking, and cleanup.

1.8.8.2 Unit of Measure

Unit of measure: job.

1.8.9 Permanent Highway Signs

1.8.9.1 Payment

Payment will be made for furnishing all materials, equipment and labor and performing all operations necessary for permanent traffic control signage as indicated. Work includes, but is not limited to, post holes, concrete, and sign posts. Ancillary installation hardware and miscellaneous metals are incidental to the work.

1.8.9.2 Unit of Measure

Unit of measure: job.

1.8.10 Temporary Irrigation System

1.8.10.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and for performing all operations necessary for temporary irrigation system as indicated. Work includes, but is not limited to, design of complete irrigation system, installation, maintenance components, system maintenance, removal, and off site disposal.

1.8.10.2 Unit of Measure

Unit of measure: job.

1.8.11 Watering

1.8.11.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for watering for turf establishment as indicated.

1.8.11.2 Unit of Measure

Unit of measure: job.

1.9 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this Contract on which the Contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

1.9.1 Inspection Trench

1.9.1.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary to excavate the Inspection Trench as indicated. Work includes, but is not limited to, trenching excavation, hauling, and stockpiling of excavated materials; loading backfill materials from stockpile, hauling, spreading, backfilling, sprinkling, and compacting.

1.9.1.2 Measurement

Inspection Trench shall be measured for payment by the linear foot of excavation to the nearest whole foot. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Excavation outside the lines and grades shown will not be measured for payment.

1.9.1.3 Unit of Measure

Unit of measure: linear foot.

1.9.2 Excavation

1.9.2.1 Payment

Payment will be made for furnishing all materials, equipment, labor, and performing all operations necessary for construction of all excavation features as indicated. Work includes, but is not limited to, permanent ditching and field grading. Dewatering of excavated areas covered by this bid item is incidental to this bid item. This bid item does not include excavation for: steel pipes; inspection trench; bedding; riprap; and ditching excavation where the impervious fill material is to be incorporated into dam and roadway embankments.

1.9.2.2 Measurement

Excavation shall be measured for payment by the cubic yard of excavation. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Excavation outside the lines and grades shown will not be measured for payment.

1.9.2.3 Unit of Measure

Unit of measure: cubic yard.

1.9.3 Muck Excavation

1.9.3.1 Payment

Payment will be made for furnishing all materials, equipment, labor, and performing all operations necessary for excavation specifically designated as Muck Excavation by the Plans or the Contracting Officer. Work includes, but is not limited to, permanent ditching, field grading, dewatering, unstable material removal, and the excavation of other material that will not be used in embankments. Hauling and disposal of unsuitable or Muck material is incidental to the Muck Excavation CLIN.

1.9.3.2 Measurement

Muck Excavation shall be measured for payment by the cubic yard of excavation. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Excavation outside the lines and grades shown will not be measured for payment.

1.9.3.3 Unit of Measure

Unit of measure: cubic yard.

1.9.4 Embankment

1.9.4.1 Payment

Payment will be made for furnishing all materials, equipment, labor, and performing all operations necessary for construction of the dam embankment and roadway embankment as indicated. Work includes, but is not limited to, subgrade preparation, subgrade correction, excavation and transportation of impervious fill from borrow sources, and embankment construction. Dewatering of excavated areas covered by this bid item is incidental to this bid item.

1.9.4.2 Measurement

Embankment shall be measured for payment by the cubic yard of placed material. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Embankment constructed outside the lines and grades indicated will not be measured for payment

1.9.4.3 Unit of Measure

Unit of measure: cubic yard.

1.9.5 Turf Reinforcement Mat (TRM)

1.9.5.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for the installation of Turf Reinforcement Mat (TRM) as indicated. Work includes, but is not limited to, soil preparation, anchor pins, anchor trenches, 1-inch topsoil respread atop the TRM, and overlay with seed and hydraulic mulch.

1.9.5.2 Measurement

Turf Reinforcement Mat shall be measured for payment by the square foot. The area measured for payment will be limited to the areas designated for TRM as indicated. The final measurement shall only include finished area at grade. Anchor trenches and area of overlaps below aggregate base surface shall be incidental to work. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS.

1.9.5.3 Unit of Measure

Unit of measure: square foot.

1.9.6 Aggregate Surface

1.9.6.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for placing Aggregate Surface as indicated. Work includes, but is not limited to, subgrade preparation and correction, placing, sprinkling, spreading, compacting, proof-rolling, and maintenance of aggregate surface materials. Work also includes, geotextile, protection, keying, placement, overlapping, and removal of construction debris. No additional payment will be made for geotextiles replaced because of waste, contamination, damage, repair, or geotextile used for the convenience of the Contractor.

1.9.6.2 Measurement

Aggregate Surface shall be measured for payment by the ton (2,000 pounds avoirdupois) in accordance with paragraph MEASUREMENT BY WEIGHT. A Survey for Verification of Design Section is required to determine if placement is within the neat lines and tolerances. The survey shall be in accordance to the Survey for Verification of Design Section specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Payment will be made only for aggregate placed within the specified tolerances. All aggregate permitted by the Contracting Officer to remain outside the tolerances specified shall be deducted from the payment quantity. The excess volume shall be deducted from the payment quantity at the rate of 1.60 tons per cubic yard, regardless of actual weight per cubic yard.

1.9.6.3 Unit of Measure

Unit of measure: ton.

1.9.7 Salvaged Base Course

1.9.7.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and for performing all operations necessary for placing Salvaged Base Course as indicated. Work includes, but not be limited to, salvaging and stockpiling base course, subgrade preparation, subgrade correction, placing geotextile, placing aggregate, sprinkling for dust control, and compaction.

1.9.7.2 Measurement

Salvaged Base Course shall be measured for payment by the cubic yard. A Quantity Survey is required to determine if placement is within the neat lines and tolerances. The survey shall be in accordance with the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Payment will be made only for Salvaged Base Course placed within the specified tolerances. All material permitted by the Contracting Officer to remain outside the tolerances specified shall be deducted from the payment quantity.

1.9.7.3 Unit of Measure

Unit of measure: cubic yard.

1.9.8 Permanent CR81 Asphalt Pavement

1.9.8.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for the construction of the Permanent CR81 Asphalt Pavement as indicated. Work includes, but not be limited to, the installation of all tack coat, prime coat, superpave FAA 43 PG 58S-28 asphalt cement; testing of core sampling; and placement of rumble strips. Payment will not be made for any material wasted, used for the convenience of the Contractor, unused, or rejected.

1.9.8.2 Measurement

Permanent CR81 Asphalt Pavement will be measured by the number of square yards of asphalt pavement placed, as measured in the field by the Contractor and approved by the Contracting Officer after the work is complete. The measurement will be based on the top width of the full depth pavement. Slough width will not be included in the measurement for payment.

1.9.8.3 Unit of Measure

Unit of measure: square yard.

1.9.9 Pipe Corrugated Steel

1.9.9.1 Payment

Payment will be made for furnishing all materials, equipment and labor and performing all operations necessary for installation of corrugated steel pipe per size as indicated. Work includes, but is not limited to, trench excavation, backfill, pipe bedding, all fittings, connections, and appurtenances.

1.9.9.2 Measurement

Pipes shall be measured for payment by the linear foot and shall be measured along the centerline of the pipe not including the flared end section or headwall.

1.9.9.3 Unit Of Measure

Unit of measure: linear foot.

1.9.10 End Section Corrugated Steel

Payment will be made for furnishing all materials, equipment, and labor and for performing all operations necessary for the installation of the flared corrugated end section per size as indicated. Work includes, but is not limited to, excavation, backfill, toe wall, all fittings, connections, and appurtenances.

1.9.10.1 Measurement

Corrugated End Sections shall be measured for payment by each.

1.9.10.2 Unit of Measure

Unit of measure: each.

1.9.11 Precast Reinforced Concrete Box (RCB) Culvert

1.9.11.1 Payment

Payment will be made for furnishing all materials, equipment and labor and performing all operations necessary for installation of precast reinforced concrete box culverts per size as indicated. Work includes, but is not limited to, trench excavation, backfill, all fittings, connections, and appurtenances.

1.9.11.2 Measurement

Precast reinforced concrete box culverts shall be measured for payment by the linear foot and shall be measured along the centerline of the pipe not including the flared end section or headwall.

1.9.11.3 Unit Of Measure

Unit of measure: linear foot.

1.9.12 Precast Concrete End Section

Payment will be made for furnishing all materials, equipment, and labor and for performing all operations necessary for the installation of the precast concrete end sections per size as indicated. Work includes, but is not limited to, excavation, backfill, toe wall, all fittings, connections, and appurtenances.

1.9.12.1 Measurement

Precast Concrete End Sections shall be measured for payment by each.

1.9.12.2 Unit of Measure

Unit of measure: each.

1.9.13 Topsoil Respread

1.9.13.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for resspreading topsoil (excluding 1" topsoil re-spread on top of TRM) as indicated.

1.9.13.2 Measurement

Topsoil shall be measured for payment by the cubic yard (CY) in place. The survey shall be in accordance to the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Payment will be made only for topsoil placed within the specified tolerances. All topsoil permitted by the Contracting Officer to remain outside the

tolerances specified shall be deducted from the payment quantity.

1.9.13.3 Unit of Measure

Unit of measure: cubic yard.

1.9.14 Articulated Concrete Block

1.9.14.1 Payment

Payment will be made for furnishing all materials, equipment, labor and performing all operations necessary for articulated concrete block. Work includes, but is not limited to, excavating termination trenches, installing the combination of ACBs specified, installing all geotextile and geogrid material, filling the voids/open cells with aggregate, securing cable fasteners, installing soil anchors, embedding blocks in trenches, backfilling excavated trenches with mortar; engineering services and product testing; cutting blocks and filling the voids with aggregate and/or mortar.

1.9.14.2 Measurement

Articulated Concrete Block shall be measured for payment by the square foot. The area measured for payment will be limited to the areas designated for Articulated Concrete Block as indicated. The final measurement shall only include finished area at grade. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. No allowance will be made for waste, repairs or materials used for the convenience of the Contractor.

1.9.14.3 Unit of Measure

Unit of measure: square foot.

1.9.15 Seeding

1.9.15.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and performing all operations necessary for seeding (excluding seed and mulch placement on top of TRM) as indicated. Work includes, but is not limited to, soil preparation, placement of seed, mulch, and maintenance.

1.9.15.2 Measurement

Seeding shall be measured for payment by the acre (AC). The area measured for payment will be limited to the areas designated for seeding as indicated on the drawings. The quantity will be determined by the Quantity Surveys for Measurement and Payment specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Temporary seeding and temporary cover crops are not measured for payment.

1.9.15.3 Unit of Measure

Unit of measure: acre.

1.9.16 Riprap

1.9.16.1 Payment

Payment will be made for all materials, equipment, and labor and performing all operations necessary for placing riprap of each type as indicated. Work includes, but is not limited to, subgrade preparation, subgrade correction, aggregate base course bedding, geotextile, and stone placement.

1.9.16.2 Measurement

Riprap shall be measured for payment by the ton (2,000 pounds avoirdupois) in accordance with paragraph MEASUREMENT BY WEIGHT. A Survey for Verification of Design Section is required to determine if placement is within the neat lines and tolerances. The survey shall be in accordance to the Survey for Verification of Design Section specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Payment will be made only for riprap placed within the specified tolerances. All riprap permitted by the Contracting Officer to remain outside the tolerances specified shall be deducted from the payment quantity. The excess volume shall be deducted from the payment quantity at the rate of 1.50 tons per cubic yard, regardless of actual weight per cubic yard.

1.9.16.3 Unit of Measure

Unit of measure: ton.

1.9.17 Access Gate

1.9.17.1 Payment

Payment will be made for furnishing all materials, equipment, and labor and for performing all operations necessary for construction access gates as indicated.

1.9.17.2 Measurement

Access gates shall be measured for payment by each.

1.9.17.3 Unit of Measure

Unit of measure: each.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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PROJECT SCHEDULE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AACE INTERNATIONAL (AACE)

AACE 29R-03 (2011) Forensic Schedule Analysis

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11 (2017) Administration -- Project Schedules

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Project Scheduler Qualifications; G, RO

Preliminary Project Schedule; G, RO

Initial Project Schedule; G, RO

SD-02 Shop Drawings

Periodic Schedule Update; G, RO

Time Impact Analysis; G

1.3 PROJECT SCHEDULER QUALIFICATIONS

Designate an authorized representative to be responsible for the preparation of the schedule and all required updating and production of reports. The authorized representative must have a minimum of 2 years experience scheduling construction projects similar in size and nature to this project with scheduling software that meets the requirements of this specification. Representative must have a comprehensive knowledge of Critical Path Method (CPM) scheduling principles and application.

PART 2 PRODUCTS

2.1 SOFTWARE

The scheduling software utilized to produce and update the schedules required herein must be capable of meeting all requirements of this specification.

2.1.1 Government Default Software

The Government intends to use Primavera P6.

2.1.2 Contractor Software

Scheduling software used by the Contractor must be commercially available from the software vendor for purchase with vendor software support agreements available. The software routine used to create the required SDEF file must be created and supported by the software manufacturer.

2.1.2.1 Primavera

If Primavera P6 is selected for use, provide the "xer" export file in a version of P6 importable by the Government system.

2.1.2.2 Other Than Primavera

If the Contractor chooses software other than Primavera P6 that is compliant with this specification, provide for the Government's use two licenses, two computers, and training for two Government employees in the use of the software. These computers will be stand-alone and not connected to Government network. Computers and licenses will be returned at project completion.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Prepare for approval a Project Schedule, as specified herein, pursuant to FAR Clause 52.236-15, SCHEDULE FOR CONSTRUCTION CONTRACTS. Show in the schedule the proposed sequence to perform the work and dates contemplated for starting and completing all schedule activities. The scheduling of the entire project is required. The scheduling of construction is the responsibility of the Contractor. Contractor management personnel must actively participate in its development. Subcontractors and suppliers working on the project must also contribute in developing and maintaining an accurate Project Schedule. Provide a schedule that is a forward planning as well as a project monitoring tool. Use the Critical Path Method (CPM) of network calculation to generate all Project Schedules. Prepare each Project Schedule using the Precedence Diagram Method (PDM).

3.2 BASIS FOR PAYMENT AND COST LOADING

The schedule is the basis for determining contract earnings during each update period and therefore the amount of each progress payment. The aggregate value of all activities coded to a contract CLIN must equal the value of the CLIN.

3.2.1 Activity Cost Loading

Activity cost loading must be reasonable and without front-end loading. Provide additional documentation to demonstrate reasonableness if requested by the Contracting Officer.

3.2.2 Withholdings / Payment Rejection

Failure to meet the requirements of this specification may result in the disapproval of the preliminary, initial or periodic schedule updates and subsequent rejection of payment requests until compliance is met.

In the event that the Contracting Officer directs schedule revisions and those revisions have not been included in subsequent Project Schedule revisions or updates, the Contracting Officer may withhold 10 percent of pay request amount from each payment period until such revisions to the project schedule have been made.

3.3 PROJECT SCHEDULE DETAILED REQUIREMENTS

3.3.1 Level of Detail Required

Develop the Project Schedule to the appropriate level of detail to address major milestones and to allow for satisfactory project planning and execution. Failure to develop the Project Schedule to an appropriate level of detail will result in its disapproval. The Contracting Officer will consider, but is not limited to, the following characteristics and requirements to determine appropriate level of detail:

3.3.2 Activity Durations

Reasonable activity durations are those that allow the progress of ongoing activities to be accurately determined between update periods. Less than 2 percent of all non-procurement activities may have Original Durations (OD) greater than 20 work days or 30 calendar days.

3.3.3 Procurement Activities

Include activities associated with the critical submittals and their approvals, procurement, fabrication, and delivery of long lead materials, equipment, fabricated assemblies, and supplies. Long lead procurement activities are those with an anticipated procurement sequence of over 90 calendar days.

3.3.4 Mandatory Tasks

Include the following activities/tasks in the initial project schedule and all updates.

- a. Submission, review and acceptance of SD-01 Preconstruction Submittals (individual activity for each).
- b. Submission and approval of DD1354 data and installed equipment lists. Submission, review and acceptance of features require design completion
- c. Submission of mechanical/electrical/information systems layout drawings.

- d. Long procurement activities
- e. Submission and approval of O & M manuals.
- f. Submission and approval of as-built drawings.
- g. Submission and approval of fire protection specialist.
- h. Submission and approval of testing and air balance (TAB).
- i. Submission of TAB specialist design review report.
- j. Submission and approval of Building Commissioning Plan, test data, and reports: Develop the schedule logic associated with testing and commissioning of mechanical systems to a level of detail consistent with the contract commissioning requirements. All tasks associated with all building testing and commissioning will be completed prior to submission of building commissioning report and subsequent contract completion.
- k. Air and water balancing.
- l. Building commissioning - Functional Performance Testing.
- m. Controls testing plan submission.
- n. Controls testing.
- o. Performance Verification testing.
- p. Other systems testing, if required.
- q. Contractor's pre-final inspection.
- r. Correction of punch list from Contractor's pre-final inspection.
- s. Government's pre-final inspection.
- t. Correction of punch list from Government's pre-final inspection.
- u. Final inspection.

3.3.5 Government Activities

Show Government and other agency activities that could impact progress. These activities may include, but are not limited to: environmental permit approvals by State regulators, inspections, utility tie-in.

3.3.6 Standard Activity Coding Dictionary

Use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11. This exact structure is mandatory. Develop and assign all Activity Codes to activities as detailed herein.

The SDEF format is as follows:

Field	Activity Code	Length	Description
1	WRKP	3	Workers per day
2	RESP	4	Responsible party
3	AREA	4	Area of work
4	MODF	6	Modification Number
5	BIDI	6	Bid Item (CLIN)
6	PHAS	2	Phase of work
7	CATW	1	Category of work
8	FOW	20	Feature of work*
*Some systems require that FEATURE OF WORK values be placed in several activity code fields. The notation shown is for Primavera P6. Refer to the specific software guidelines with respect to the FEATURE OF WORK field requirements.			

3.3.6.1 Workers Per Day (WRKP)

Assign Workers per Day for all field construction or direct work activities. Workers per day is based on the average number of workers expected each day to perform a task for the duration of that activity.

3.3.6.2 Responsible Party Coding (RESP)

Assign responsibility code for all activities to the Prime Contractor, Subcontractor(s) or Government agency(ies) responsible for performing the activity.

- a. Activities coded with a Government Responsibility code include, but are not limited to: Government approvals, Government design reviews, environmental permit approvals by State regulators, .
- b. Activities cannot have more than one Responsibility Code. Examples of acceptable activity code values are: DOR (for the designer of record); ELEC (for the electrical subcontractor); MECH (for the mechanical subcontractor); and GOVT (for USACE).

3.3.6.3 Area of Work Coding (AREA)

Assign Work Area code to activities based upon the work area in which the activity occurs. Define work areas based on resource constraints or space constraints that would preclude a resource, such as a particular trade or craft work crew from working in more than one work area at a time due to restraints on resources or space. Examples of Work Area Coding include different areas within a floor of a building, different floors within a building, and different buildings within a complex of buildings. Activities cannot have more than one Work Area Code.

Not all activities are required to be Work Area coded. A lack of Work

Area coding indicates the activity is not resource or space constrained.

3.3.6.4 Modification Number (MODF)

Assign a Modification Number Code to any activity or sequence of activities added to the schedule as a result of a Contract Modification, when approved by Contracting Officer. Key all Code values to the Government's modification numbering system. An activity can have only one Modification Number Code.

3.3.6.5 Bid Item Coding (BIDI)

Assign a Bid Item Code to all activities using the Contract Line Item Schedule (CLIN) to which the activity belongs, even when an activity is not cost loaded. An activity can have only one BIDI Code.

3.3.6.6 Phase of Work Coding (PHAS)

Assign Phase of Work Code to all activities. Examples of phase of work are procurement phase and construction phase. Each activity can have only one Phase of Work code.

- a. Code proposed fast track design and construction phases proposed to allow filtering and organizing the schedule by fast track design and construction packages.
- b. If the contract specifies phasing with separately defined performance periods, identify a Phase Code to allow filtering and organizing the schedule accordingly.

3.3.6.7 Category of Work Coding (CATW)

Assign a Category of Work Code to all activities. Category of Work Codes include, but are not limited to procurement, fabrication, weather sensitive installation, non-weather sensitive installation, start-up, and testing activities. Each activity can have no more than one Category of Work Code.

3.3.6.8 Feature of Work Coding (FOW)

Assign a Feature of Work Code to appropriate activities based on the Definable Feature of Work to which the activity belongs based on the approved QC plan.

Definable Feature of Work is defined in Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM). An activity can have only one Feature of Work Code.

3.3.7 Contract Milestones and Constraints

Milestone activities are to be used for significant project events including, but not limited to, project phasing, project start and end activities, or interim completion dates. The use of artificial float constraints such as "zero free float" or "zero total float" are prohibited.

Mandatory constraints that ignore or effect network logic are prohibited. No constrained dates are allowed in the schedule other than those specified herein. Submit additional constraints to the Contracting

Officer for approval on a case by case basis.

3.3.7.1 Project Start Date Milestone and Constraint

The first activity in the project schedule must be a start milestone titled "NTP Acknowledged," which must have a "Start On" constraint date equal to the date that the NTP is acknowledged.

3.3.7.2 End Project Finish Milestone and Constraint

The last activity in the schedule must be a finish milestone titled "End Project."

Constrain the project schedule to the Contract Completion Date in such a way that if the schedule calculates an early finish, then the float calculation for "End Project" milestone reflects positive float on the longest path. If the project schedule calculates a late finish, then the "End Project" milestone float calculation reflects negative float on the longest path. The Government is under no obligation to accelerate Government activities to support a Contractor's early completion.

3.3.7.3 Interim Completion Dates and Constraints

Constrain contractually specified interim completion dates to show negative float when the calculated late finish date of the last activity in that phase is later than the specified interim completion date.

3.3.7.3.1 Start Phase

Use a start milestone as the first activity for a project phase. Call the start milestone "Start Phase X" where "X" refers to the phase of work.

3.3.7.3.2 End Phase

Use a finish milestone as the last activity for a project phase. Call the finish milestone "End Phase X" where "X" refers to the phase of work.

3.3.8 Calendars

Schedule activities on a Calendar to which the activity logically belongs. Develop calendars to accommodate any contract defined work period such as a 7-day calendar for Government Acceptance activities, concrete cure times, etc. Develop the default Calendar to match the physical work plan with non-work periods identified including weekends and holidays. Develop seasonal Calendar(s) and assign to seasonally affected activities as applicable.

If an activity is weather sensitive it should be assigned to a calendar showing non-work days on a monthly basis, with the non-work days selected at random across the weeks of the calendar, using the anticipated days provided in 00 73 00 Special Contract Requirements - TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER. Assign non-work days over a seven-day week as weather records are compiled on seven-day weeks, which may cause some of the weather related non-work days to fall on weekends.

3.3.9 Open Ended Logic

Only two open ended activities are allowed: the first activity "NTP Acknowledged" may have no predecessor logic, and the last activity -"End

Project" may have no successor logic.

Predecessor open ended logic may be allowed in a time impact analyses upon the Contracting Officer's approval.

3.3.10 Default Progress Data Disallowed

Actual Start and Finish dates must not automatically update with default mechanisms included in the scheduling software. Updating of the percent complete and the remaining duration of any activity must be independent functions. Disable program features that calculate one of these parameters from the other. Activity Actual Start (AS) and Actual Finish (AF) dates assigned during the updating process must match those dates provided in the Contractor Quality Control Reports. Failure to document the AS and AF dates in the Daily Quality Control report will result in disapproval of the Contractor's schedule.

3.3.11 Out-of-Sequence Progress

Activities that have progressed before all preceding logic has been satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case basis subject to approval by the Contracting Officer. Propose logic corrections to eliminate out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated project schedule. Address out of sequence progress or logic changes in the Narrative Report and in the periodic schedule update meetings.

3.3.12 Added and Deleted Activities

Do not delete activities from the project schedule or add new activities to the schedule without approval from the Contracting Officer. Activity ID and description changes are considered new activities and cannot be changed without Contracting Officer approval.

3.3.13 Original Durations

Activity Original Durations (OD) must be reasonable to perform the work item. OD changes are prohibited unless justification is provided and approved by the Contracting Officer.

3.3.14 Leads, Lags, and Start to Finish Relationships

Lags must be reasonable as determined by the Government and not used in place of realistic original durations, must not be in place to artificially absorb float, or to replace proper schedule logic.

- a. Leads (negative lags) are prohibited.
- b. Start to Finish (SF) relationships are prohibited.

3.3.15 Retained Logic

Schedule calculations must retain the logic between predecessors and successors ("retained logic" mode) even when the successor activity(s) starts and the predecessor activity(s) has not finished (out-of-sequence progress). Software features that in effect sever the tie between predecessor and successor activities when the successor has started and the predecessor logic is not satisfied ("progress override") are not allowed.

3.3.16 Percent Complete

Update the percent complete for each activity started, based on the realistic assessment of earned value. Activities which are complete but for remaining minor punch list work and which do not restrain the initiation of successor activities may be declared 100 percent complete to allow for proper schedule management.

3.3.17 Remaining Duration

Update the remaining duration for each activity based on the number of estimated work days it will take to complete the activity. Remaining duration may not mathematically correlate with percentage found under paragraph entitled Percent Complete.

3.3.18 Cost Loading of Closeout Activities

Cost load the "Correction of punch list from Government pre-final inspection" activity(ies) not less than 1 percent of the present contract value. Activity(ies) may be declared 100 percent complete upon the Government's verification of completion and correction of all punch list work identified during Government pre-final inspection(s).

3.3.18.1 As-Built Drawings

If there is no separate contract line item (CLIN) for as-built drawings, cost load the "Submission and approval of as-built drawings" activity not less than \$35,000 or 1 percent of the present contract value, which ever is greater, up to \$200,000. Activity will be declared 100 percent complete upon the Government's approval.

3.3.18.2 O & M Manuals

Cost load the "Submission and approval of O & M manuals" activity not less than \$20,000. Activity will be declared 100 percent complete upon the Government's approval of all O & M manuals.

3.3.19 Anticipated Adverse Weather

Reflect the number of anticipated adverse weather delays allocated to a weather sensitive activity in the activity's calendar.

3.3.20 Early Completion Schedule and the Right to Finish Early

An Early Completion Schedule is an Initial Project Schedule (IPS) that indicates all scope of the required contract work will be completed before the contractually required completion date.

- a. No IPS indicating an Early Completion will be accepted without being fully resource-loaded (including crew sizes and manhours) and the Government agreeing that the schedule is reasonable and achievable.
- b. The Government is under no obligation to accelerate work items it is responsible for to ensure that the early completion is met nor is it responsible to modify incremental funding (if applicable) for the project to meet the Contractor's accelerated work.

3.4 PROJECT SCHEDULE SUBMISSIONS

Provide the submissions as described below. The data CD/DVD, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS. If the Contractor fails or refuses to furnish the information and schedule updates as set forth herein, then the Contractor will be deemed not to have provided an estimate upon which a progress payment can be made.

Review comments made by the Government on the schedule(s) do not relieve the Contractor from compliance with requirements of the Contract Documents.

3.4.1 Preliminary Project Schedule Submission

Within 15 calendar days after the NTP is acknowledged submit the Preliminary Project Schedule defining the planned operations detailed for the first 90 calendar days for approval. The approved Preliminary Project Schedule will be used for payment purposes not to exceed 90 calendar days after NTP. Completely cost load the Preliminary Project Schedule to balance the contract award CLINS shown on the Price Schedule. The Preliminary Project Schedule may be summary in nature for the remaining performance period. It must be early start and late finish constrained and logically tied as specified. The Preliminary Project Schedule forms the basis for the Initial Project Schedule specified herein and must include all of the required plan and program preparations, submissions and approvals identified in the contract (for example, Quality Control Plan, Safety Plan, and Environmental Protection Plan) as well as design activities, planned submissions of all early design packages, permitting activities, design review conference activities, and other non-construction activities intended to occur within the first 90 calendar days. Government acceptance of the associated design package(s) and all other specified Program and Plan approvals must occur prior to any planned construction activities. Activity code any activities that are summary in nature after the first 90 calendar days with Bid Item (CLIN) code (BIDI), Responsibility Code (RESP) and Feature of Work code (FOW).

3.4.2 Initial Project Schedule Submission

Submit the Initial Project Schedule for approval within 42 calendar days after notice to proceed is issued. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. No payment will be made for work items not fully detailed in the Project Schedule.

3.4.2.1 Design Package Schedule Submission

With each design package submitted to the Government, submit a fragnet schedule extracted from the then current Preliminary, Initial or Updated schedule which covers the activities associated with that Design Package including construction, procurement and permitting activities.

3.4.3 Periodic Schedule Updates

Update the Project Schedule on a regular basis, monthly at a minimum. Provide a draft Periodic Schedule Update for review at the schedule update meetings as prescribed in the paragraph PERIODIC SCHEDULE UPDATE MEETINGS. These updates will enable the Government to assess Contractor's progress.

- a. Update information including Actual Start Dates (AS), Actual Finish Dates (AF), Remaining Durations (RD), and Percent Complete is subject to the approval of the Government at the meeting.
- b. AS and AF dates must match the date(s) reported on the Contractor's Quality Control Report for an activity start or finish.

3.5 SUBMISSION REQUIREMENTS

Submit the following items for the Preliminary Schedule, Initial Schedule, and every Periodic Schedule Update throughout the life of the project:

3.5.1 Data CD/DVDs

Provide two sets of data CD/DVDs containing the current project schedule and all previously submitted schedules in the format of the scheduling software (e.g. .xer). Also include on the data CD/DVDs the Narrative Report and all required Schedule Reports. Label each CD/DVD indicating the type of schedule (Preliminary, Initial, Update), full contract number, Data Date and file name. Each schedule must have a unique file name and use project specific settings.

3.5.2 Narrative Report

Provide a Narrative Report with each schedule submission. The Narrative Report is expected to communicate to the Government the thorough analysis of the schedule output and the plans to compensate for any problems, either current or potential, which are revealed through that analysis. Include the following information as minimum in the Narrative Report:

- a. Identify and discuss the work scheduled to start in the next update period.
- b. A description of activities along the critical path and the next most time sensitive path where the total float is less than or equal to 20 work days.
- c. A description of current and anticipated problem areas or delaying factors and their impact and an explanation of corrective actions taken or required to be taken.
- d. Identify and explain why activities based on their calculated late dates should have either started or finished during the update period but did not.
- e. Identify and discuss all schedule changes by activity ID and activity name including what specifically was changed and why the change was needed. Include at a minimum new and deleted activities, logic changes, duration changes, calendar changes, lag changes, resource changes, and actual start and finish date changes.
- f. Identify and discuss out-of-sequence work.

3.5.3 Schedule Reports

Typically, reports contain Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float, Actual Start Date, Actual Finish Date, and Percent Complete. Provide the reports

electronically in .pdf format. The following lists typical reports that will be requested:

3.5.3.1 Activity Report

List of all activities sorted according to activity number.

3.5.3.2 Logic Report

List of detailed predecessor and successor activities for every activity in ascending order by activity number.

3.5.3.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. List activities which have the same amount of total float in ascending order of Early Start Dates. Do not show completed activities on this report.

3.5.3.4 Earnings Report by CLIN

A compilation of the Total Earnings on the project from the NTP to the data date, which reflects the earnings of activities based on the agreements made in the schedule update meeting defined herein. Provided a complete schedule update has been furnished, this report serves as the basis of determining progress payments. Group activities by CLIN number and sort by activity number. Provide a total CLIN percent earned value, CLIN percent complete, and project percent complete. The printed report must contain the following for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Earnings to Date, Earnings this period, Total Quantity, Quantity to Date, and Percent Complete (based on cost).

3.5.3.5 Schedule Log

Provide a Scheduling/Leveling Report generated from the current project schedule being submitted.

3.5.4 Network Diagram

The Network Diagram is required for the Preliminary, Initial and Periodic Updates. Depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.4.1 Continuous Flow

Show a continuous flow from left to right with no arrows from right to left. Show the activity number, description, duration, and estimated earned value on the diagram.

3.5.4.2 Project Milestone Dates

Show dates on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.5.4.3 Critical Path

Show all activities on the critical path. The critical path is defined as the longest path.

3.5.4.4 Banding

Organize activities using the Work Breakdown Structure (WBS) or as otherwise directed to assist in the understanding of the activity sequence. Typically, this flow will group activities by major elements of work, category of work, work area and/or responsibility.

3.5.4.5 Cash Flow / Schedule Variance Control (SVC) Diagram

With each schedule submission, provide a SVC diagram showing 1) Cash Flow S-Curves indicating planned project cost based on projected early and late activity finish dates, and 2) Earned Value to-date.

3.5.5 Periodic Progress Update Meetings

Conduct a weekly meeting with the Government (or as otherwise mutually agreed to) between the meetings described in paragraph entitled PERIODIC SCHEDULE UPDATE MEETINGS for the purpose of jointly reviewing the actual progress of the project as compared to the two-week lookahead planned progress and to review planned activities for the upcoming two weeks. Use the current approved schedule update for the purposes of this meeting and for the production and review of reports. At the weekly progress meeting, address the status of RFIs, RFPs and Submittals. The Contractor will take the meeting minutes. Within one day of the meeting, the Contractor will provide a draft copy of the meeting minutes to the Contracting Officer for review and comment. Final copies of the minutes containing the comments provided by the Contracting Officer will be issued within 3 days of the meeting.

3.6 PERIODIC SCHEDULE UPDATE

3.6.1 Periodic Schedule Update Meetings

Conduct periodic schedule update meetings for the purpose of reviewing the proposed Periodic Schedule Update, Narrative Report, Schedule Reports, and progress payment. Conduct meetings at least monthly within five days of the proposed schedule data date. Provide a computer with the scheduling software loaded and a projector which allows all meeting participants to view the proposed schedule during the meeting. The Contractor's authorized scheduler must organize, group, sort, filter, perform schedule revisions as needed and review functions as requested by the Contractor and/or Government. The meeting is a working interactive exchange which allows the Government and Contractor the opportunity to review the updated schedule on a real time and interactive basis. The meeting will last no longer than 8 hours. Provide a draft of the proposed narrative report and schedule data file to the Government a minimum of two workdays in advance of the meeting. The Contractor's Project Manager and scheduler must attend the meeting with the authorized representative of the Contracting Officer. Superintendents, foremen and major subcontractors must attend the meeting as required to discuss the project schedule and work. Following the periodic schedule update meeting, make corrections to the draft submission. Include only those changes approved by the Government in the submission and invoice for payment.

3.6.2 Update Submission Following Progress Meeting

Submit the complete Periodic Schedule Update of the Project Schedule containing all approved progress, revisions, and adjustments, pursuant to paragraph SUBMISSION REQUIREMENTS not later than 4 work days after the periodic schedule update meeting.

3.7 WEEKLY PROGRESS MEETINGS

Conduct a weekly meeting with the Government (or as otherwise mutually agreed to) between the meetings described in paragraph entitled PERIODIC SCHEDULE UPDATE MEETINGS for the purpose of jointly reviewing the actual progress of the project as compared to the as planned progress and to review planned activities for the upcoming two weeks. Use the current approved schedule update for the purposes of this meeting and for the production and review of reports. At the weekly progress meeting, address the status of RFIs, RFPs and Submittals.

3.8 REQUESTS FOR TIME EXTENSIONS

Provide a justification of delay to the Contracting Officer in accordance with the contract clauses for approval within 10 days of a delay occurring. Also prepare a time impact analysis for each Government request for proposal (RFP) to justify time extensions.

3.8.1 Justification of Delay

Provide a description of the event(s) that caused the delay and/or impact to the work. As part of the description, identify all schedule activities impacted. Show that the event that caused the delay/impact was the responsibility of the Government. Provide a time impact analysis that demonstrates the effects of the delay or impact on the project completion date or interim completion date(s). Evaluate multiple impacts chronologically; each with its own justification of delay. With multiple impacts consider any concurrency of delay. A time extension and the schedule fragnet becomes part of the project schedule and all future schedule updates upon approval by the Contracting Officer.

3.8.2 Time Impact Analysis (Prospective Analysis)

Submit a Time Impact Analysis with each cost and time proposal for a proposed change. TIA must illustrate the influence of each change or delay on the Contract Completion Date or milestones. No time extensions will be granted nor delay damages paid unless a delay occurs which consumes all available Project Float, and extends the Projected Completion beyond the Contract Completion Date.

a. Each TIA must be in both narrative and schedule form. The narrative must define the scope and conditions of the change; provide start and finish dates of impact, successor and predecessor activity to impact period, responsible party; describe how it originated, and how it impacts the schedule. The schedule submission must consist of three native files:

- (1) Fragnet used to define the scope of the changed condition
- (2) Most recent accepted schedule update as of the time of the proposal or claim submission that has been updated to show all activity progress as of the time of the impact start date.

(3) The impacted schedule that has the fragnet inserted in the updated schedule and the schedule "run" so that the new completion date is determined.

a. For claimed as-built project delay, the inserted fragnet TIA method must be modified to account for as-built events known to occur after the data date of schedule update used.

b. All TIAs must include any mitigation, and must determine the apportionment of the overall delay assignable to each individual delay. Apportionment must provide identification of delay type and classification of delay by compensable and non-compensable events. The associated narrative must clearly describe analysis methodology used, and the findings in a chronological listing beginning with the earliest delay event.

(1) Identify and classify types of delay defined as follows:

(a) Force majeure delay (e.g. weather delay): Any delay event caused by something or someone other than the Government or the Contractor, or the risk of which has not been assigned solely to the Government or the Contractor. If the force majeure delay is on the longest path, in absence of other types of concurrent delays, the Contractor may be granted an extension of contract time, classified as a non-compensable event.

(b) A Contractor-delay: Any delay event caused by the Contractor, or the risk of which has been assigned solely to the Contractor. If the contractor-delay is on the longest path, in absence of other types of concurrent delays, Contractor is not granted extension of contract time, and classified as a non-compensable event. Where absent other types of delays, and having impact to project completion, Contractor must provide to Contracting Officer a Corrective Action Plan identifying plan to mitigate delay.

(c) A Government-delay: Any delay event caused by the Government, or the risk of which has been assigned solely to the Government. If the Government-delay is on the longest path, in absence of other types of concurrent delays, the Contractor is granted an extension of contract time, and classified as a compensable event.

(2) Functional theory must be used to analyze concurrent delays, where: separate delay issues delay project completion, do not necessarily occur at same time, rather occur within same monthly schedule update period at minimum, or within same as-built period under review. If a combination of functionally concurrent delay types occurs, it is considered Concurrent Delay, which is defined in the following combinations:

(a) Government-delay concurrent with Contractor-delay: excusable time extension, classified non-compensable event.

(b) Government-delay concurrent with force majeure delay: excusable time extension, classified non-compensable event.

(c) Contractor-delay concurrent with force majeure delay: excusable time extension, classified non-compensable event.

(3) Pacing delay reacting to another delay (parent delay) equally or more critical than paced activity must be identified prior to pacing.

Contracting Officer will notify Contractor prior to pacing. Contractor must notify Contracting Officer prior to pacing. Notification must include identification of parent delay issue, estimated parent delay time period, paced activity(s) identity, and pacing reason(s). Pacing Concurrency is defined as follows:

- (a) Government-delay concurrent with Contractor-pacing: excusable time extension, classified compensable event.
- (b) Contractor-delay concurrent with Government-pacing: inexcusable time extension, classified non-compensable event
- (c) Submit Data disks containing the narrative and the source schedule files used in the time impact analysis.
- (d) All as-built and known planned activity must be included in NAS. Add cost loading or change Contract Completion Date to NAS in accordance to conformed contract modifications issued prior to Data Date of NAS update.

3.8.2.1 No Reservation of Rights

All direct costs, indirect cost, and time extensions will be negotiated and made full, equitable and final at the time of modification issuance.

3.8.3 Forensic Schedule Analysis (Retrospective Analysis)

Prepare an analysis for approval by the Contracting Officer based on industry standard AACE 29R-03.

3.8.4 Fragmentary Network (Fragnet)

Prepare a proposed fragnet for time impact analysis consisting of a sequence of new activities that are proposed to be added to the project schedule to demonstrate the influence of the delay or impact to the project's contractual dates. Clearly show how the proposed fragnet is to be tied into the project schedule including all predecessors and successors to the fragnet activities. The proposed fragnet must be approved by the Contracting Officer prior to incorporation into the project schedule.

3.8.5 Time Extension

The Contracting Officer must approve the Justification of Delay including the time impact analysis before a time extension will be granted. No time extension will be granted unless the delay consumes all available Project Float and extends the projected finish date ("End Project" milestone) beyond the Contract Completion Date. The time extension will be in calendar days.

Actual delays that are found to be caused by the Contractor's own actions, which result in a calculated schedule delay will not be a cause for an extension to the performance period, completion date, or any interim milestone date.

3.8.6 Impact to Early Completion Schedule

No extended overhead will be paid for delay prior to the original Contract Completion Date for an Early Completion IPS unless the Contractor actually

performed work in accordance with that Early Completion Schedule. The Contractor must show that an early completion was achievable had it not been for the impact.

3.9 FAILURE TO ACHIEVE PROGRESS

Should the progress fall behind the approved project schedule for reasons other than those that are excusable within the terms of the contract, the Contracting Officer may require provision of a written recovery plan for approval. The plan must detail how progress will be made-up to include which activities will be accelerated by adding additional crews, longer work hours, extra work days, etc.

3.9.1 Artificially Improving Progress

Artificially improving progress by means such as, but not limited to, revising the schedule logic, modifying or adding constraints, shortening activity durations, or changing calendars in the project schedule is prohibited. Indicate assumptions made and the basis for any logic, constraint, duration and calendar changes used in the creation of the recovery plan. Any additional resources, manpower, or daily and weekly work hour changes proposed in the recovery plan must be evident at the work site and documented in the daily report along with the Schedule Narrative Report.

3.9.2 Failure to Perform

Failure to perform work and maintain progress in accordance with the supplemental recovery plan may result in an interim and final unsatisfactory performance rating and/or may result in corrective action directed by the Contracting Officer pursuant to FAR 52.236-15 Schedules for Construction Contracts, FAR 52.249-10 Default (Fixed-Price Construction), and other contract provisions.

3.9.3 Recovery Schedule

Should the Contracting Officer find it necessary, submit a recovery schedule pursuant to FAR 52.236-15 Schedules for Construction Contracts.

3.10 OWNERSHIP OF FLOAT

Except for the provision given in the paragraph IMPACT TO EARLY COMPLETION SCHEDULE, float available in the schedule, at any time, may not be considered for the exclusive use of either the Government or the Contractor including activity and/or project float. Activity float is the number of work days that an activity can be delayed without causing a delay to the "End Project" finish milestone. Project float (if applicable) is the number of work days between the projected early finish and the contract completion date milestone.

3.11 TRANSFER OF SCHEDULE DATA INTO RMS

Import the schedule data into RMS and export the data to the Government. This data is considered to be additional supporting data in a form and detail required by the Contracting Officer pursuant to FAR 52.232-5 - Payments under Fixed-Price Construction Contracts. The receipt of a proper payment request pursuant to FAR 52.232-27 - Prompt Payment for Construction Contracts is contingent upon the Government receiving both acceptable and approvable hard copies and matching electronic export from

RMS of the application for progress payment.

3.12 PRIMAVERA P6 MANDATORY REQUIREMENTS

If Primavera P6 is being used, request a backup file template (.xer) from the Government, if one is available, prior to building the schedule. The following settings are mandatory and required in all schedule submissions to the Government:

- a. Activity Codes must be Project Level, not Global or EPS level.
- b. Calendars must be Project Level, not Global or Resource level.
- c. Activity Duration Types must be set to "Fixed Duration & Units".
- d. Percent Complete Types must be set to "Physical".
- e. Time Period Admin Preferences must remain the default "8.0 hr/day, 40 hr/week, 172 hr/month, 2000 hr/year". Set Calendar Work Hours/Day to 8.0 Hour days.
- f. Set Schedule Option for defining Critical Activities to "Longest Path".
- g. Set Schedule Option for defining progressed activities to "Retained Logic".
- h. Set up cost loading using a single lump sum labor resource. The Price/Unit must be \$1/hr, Default Units/Time must be "8h/d", and settings "Auto Compute Actuals" and "Calculate costs from units" selected.
- i. Activity ID's must not exceed 10 characters.
- j. Activity Names must have the most defining and detailed description within the first 30 characters.

-- End of Section --

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SECTION 01 33 00

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-- End of Section Table of Contents --

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers and titles as follows:

- SD-01 Preconstruction Submittals
- 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-10 Operation and Maintenance Data
- SD-11 Closeout Submittals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 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 contract clause 52.236-21 entitled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, Government approved submittals are considered to be "shop drawings."

1.2.2 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.

1.3 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.

Government approval does not relieve the Contractor of their obligation to all requirements of the Contract.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and 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 contract clause 52.243-4 CHANGES shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

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) System Manager and each item shall be stamped, signed, and dated by the CQC System Manager 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 in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER

At the end of this section is a sample Submittal Register, showing items of equipment and materials for which submittals are required by the specifications. This list may not be all inclusive and additional submittals may be required. The Contractor shall use RMS to produce the

Submittal Register and to track and transmit all submittals. 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).

3.3 TRANSMITTAL FORM (ENG FORM 4025)

A sample transmittal form (ENG Form 4025) is attached to this section, however the ENG Form 4025 shall be produced using RMS and shall be used for submitting both Government approved and information only submittals.

3.4 GOVERNMENT REVIEW TIME

Unless otherwise noted elsewhere, the Government is allowed 30 calendar days upon receipt to review a submittal. This applies to all submittals and resubmittals. Typically the actual review time is shorter.

3.5 SCHEDULING

Thirty (30) days (exclusive of mailing time) shall be allowed and shown on the register for review and approval. Additional time should be allowed for possible resubmittal. No delay damages or time extensions will be allowed for time lost in late submittals.

3.6 SUBMITTAL PROCEDURE

All submittals shall be made prior to commencement of applicable work.

Submit 1 hardcopy and 1 electronic copy of each submittal (both Government approved and for information only), unless otherwise indicated.

Each transmittal shall address submittal items from only one specification section. If identical submittals are required for multiple sections, the Contractor may submit a transmittal stating the submittal is identical to previously submitted items. References to other submittals shall be specific and easily cross-referenced.

Transmittals returned for resubmission shall be resubmitted in their entirety.

Coordinate and submit concurrently, submittals covering components of a system or interrelated items.

Submit certifications with the pertinent drawings.

Materials fabricated or delivered without Government approval of the shop drawing will be subject to rejection.

When approved by the Contracting Officer, routine test reports and delivery tickets may be submitted with daily quality control reports in place of following submittal procedures under this section.

3.7 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.

3.8 CONTROL OF SUBMITTALS

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

3.9 GOVERNMENT APPROVED SUBMITTALS

After review of submittals requiring Government approval is completed the Contractor will receive a signed and dated electronic version of the ENG Form 4025-R with submittal attached indicating approval or requirement for resubmittal. No hardcopy of the submittals will be returned to the Contractor unless indicated elsewhere.

3.10 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.

3.11 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 sheet(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

3.12 ATTACHMENTS

1. SUBMITTAL REGISTER 44 PAGES
2. ENG FORM 4025-R 2 PAGES

-- End of Section --

ATTACHMENTS: SECTION 01 33 00
SUBMITTAL PROCEDURES

SUBMITTAL REGISTER

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
FMMSE3

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)
		01 14 00.00 13	SD-01 Preconstruction Submittals														
			Traffic Control Layout Plan	3.7	G												
			Haul Routes	1.3.1	G												
		01 22 00.00 13	SD-03 Product Data														
			Delivery Ticket														
		01 32 01.00 10	SD-01 Preconstruction Submittals														
			Project Scheduler Qualifications	1.3	G RO												
			Preliminary Project Schedule	3.4.1	G RO												
			Initial Project Schedule	3.4.2	G RO												
			SD-02 Shop Drawings														
			Periodic Schedule Update	3.6.2	G RO												
			Time Impact Analysis	3.8.2	G												
		01 35 26	SD-01 Preconstruction Submittals														
			Accident Prevention Plan (APP)	1.8	G												
			SD-06 Test Reports														
			Accident Reports	1.12.2	G												
			LHE Inspection Reports	1.12.3													
			Monthly Exposure Reports	1.5	G												
			SD-07 Certificates														
			Crane Operators/Riggers														
			Activity Hazard Analysis (AHA)	1.9	G												
			Certificate of Compliance	1.12.4													
			License Certificates														
			Standard Lift Plan	1.12.4	G												
		01 41 26.00 13	SD-01 Preconstruction Submittals														

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ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO 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 41 26.00 13	Stormwater Pollution Prevention Plan (SWPPP)														
			Notice of Intent (NOI)														
			SD-11 Closeout Submittals														
			Notice of Termination (NOT)														
			Records														
		01 45 04.00 13	SD-01 Preconstruction Submittals														
			Quality Control Plan (QCP)	3.2.1	G												
			SD-07 Certificates														
			Testing Laboratories	3.6.2	G												
		01 50 02.00 13	SD-02 Shop Drawings														
			Site Plan														
			SD-06 Test Reports														
			Formaldehyde Emission Test														
			Results														
		01 55 26	SD-07 Certificates														
			Temporary Traffic Control Device		G CIV												
			Certificates														
			Flagger Qualifications And		G COR												
			Certificate Of Compliance														
			Temporary Traffic Control Device														
			Daily Inspection Report														
		01 57 13	SD-07 Certificates														
			Erosion Control Blanket		G CIV												
			Fiber Roll		G CIV												
		01 57 20.00 13	SD-01 Preconstruction Submittals														

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ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASS S I F I C A T I O N OR A / R E V I E W R	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO 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 57 20.00 13	Environmental Protection Plan	1.7	G ENV												
		01 71 23.05 13	SD-01 Preconstruction Submittals														
			Construction Surveying Work	3.1.3.2	G SURV												
			Plan and Schedule														
			Quality Control Plan	1.8.1	G SURV												
			Preliminary Survey	3.1.3.1	G SURV												
			Professional Certification and Work Experience	1.9.1	G SURV												
			SD-11 Closeout Submittals														
			As-Built Survey	3.1.3.3	GSURV												
			Geospatial Data	1.5													
		01 78 02.00 10	SD-11 Closeout Submittals														
			As-Built Drawings	1.3	G												
			NPDES Closeout Submittals and Records	1.2	G												
		03 22 70.01	SD-01 Preconstruction Submittals														
			On-Site Batching and Mixing	2.1.1.2	G STR												
			Water Reducing		G												
			Concrete Mixture Proportions		G STR												
			Placing		G STR												
			SD-05 Design Data														
			Concrete Mixture Proportions		G STR												
			SD-06 Test Reports														
			CLSM Moisture Proportions Tests		G												
			SD-07 Certificates														
			Cement	2.1.2													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
FMMSE3

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO 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)
		03 22 70.01	Aggregates														
		03 42 13.00 10	SD-01 Preconstruction Submittals														
			Quality Control Procedures	1.4.2.3													
			SD-02 Shop Drawings														
			Standard Precast Units	2.1.1	G												
			Custom-Made Precast Units	2.1.2	G												
			Special Finishes	3.2.4.3													
			SD-03 Product Data														
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			Proprietary Precast Units	2.1.3													
			Embedded Items	3.1.3													
			Accessories	2.2.4													
			SD-05 Design Data														
			Design Calculations	2.1.2	G												
			Concrete Mix Proportions	2.1.5.1	G												
			SD-06 Test Reports														
			Test Reports	1.4.2.6													
			SD-07 Certificates														
			Quality Control Procedures	1.4.2.3	G												
			Welding Qualifications	1.4.2.2													
			SD-11 Closeout Submittals														
			Recycled content for fly ash and pozzolan		S												
			Recycled content for Ground Iron Blast-Furnace Slag		S												
			Recycled content for Silica Fume		S												

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						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		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)
		03 42 13.00 10	Recycled content for steel		S												
		10 14 54	SD-07 Certificates														
			Permanent Sign Materials		G CIV												
			Galvanizing Certification		G CIV												
			Concrete		G CIV												
		27 05 33	SD-02 Shop Drawings														
			Piping Plans		G												
			SD-06 Test Reports														
			Fusion Logs														
			Air Test Results														
			SD-07 Certificates														
			Pipe Materials														
			Pipe Fittings and Accessories														
			Manufacturers Catalog														
			Information														
			Qualifications Of Installer		G												
			Qualification Of Fusion		G												
			Technicians														
			Pull Tape Material Strength		G												
			Certification														
			SD-08 Manufacturer's Instructions														
			Installation Instructions (Pipe,		G												
			Fittings, And Accessories)														
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						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	
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		27 05 33	As-Recorded Data Requested By Owner														
		31 00 00.00 13	SD-01 Preconstruction Submittals														
			Plan Of Operations		G GEO												
			SD-02 Shop Drawings														
			Foundation Preparation Checklist	2.1.12													
			Nuclear Density Calibration Curve														
			SD-06 Test Reports														
			Daily Earthwork Report Forms	2.5													
			Summary of Density Testing Results	2.7													
			Summary of Proctor Tests														
			Daily Standard Count Log														
			SD-07 Certificates														
			Operator Certifications														
			SD-11 Closeout Submittals														
			Earthwork Final Report	2.6	G GEO												
		31 05 19	SD-03 Product Data														
			Manufacturing Quality Control	2.2													
			Sampling and Testing														
			Thread	2.1.2													
			SD-07 Certificates														
			Geotextile	2.1.1													
		31 32 11	SD-01 Preconstruction Submittals														
			TRM Installation Plan; G														

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		31 32 11	SD-02 Shop Drawings														
			Maintenance Record		G												
			SD-03 Product Data														
			Turf Reinforcement Mat		G												
			SD-07 Certificates														
			Turf Reinforcement Mat		G												
			Warranty	1.5	G												
		31 32 19.13	SD-03 Product Data														
			Sampling and Testing	2.2													
			Penetrations	3.1.4													
			Construction Quality Control (QC)	1.3													
			Laboratory														
			SD-04 Samples														
			Geogrid Soil Stabilization	2.1													
			Seams and Overlaps	3.1.3													
			SD-06 Test Reports														
			Sampling and Testing	2.2													
			Geogrid Soil Stabilization	2.1													
		32 11 16.00 13	SD-01 Preconstruction Submittals														
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			SD-04 Samples														
			Aggregate Sample	2.2													
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			Asphalt Quality Control Plan		G												

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		32 12 17	SD-06 Test Reports														
			Asphalt Core Test Results														
			SD-07 Certificates														
			Asphalt Manifests														
			Permit For Water Usage And														
			Water Tank Calibration														
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			Prime Coat														
			Tack Coat														
			Scale Certificate														
		32 17 23	SD-03 Product Data														
			Pavement Marking Data Logging		G CIV												
			System Daily Report														
			SD-07 Certificates														
			Pavement Marking Data Logging		G CIV												
			System Certificate														
			Pavement Marking Paint														
			Glass Beads														
			Marking Film														
			Raised Pavement Markers														
		32 31 13	SD-02 Shop Drawings														
			Gate		G												
			Hardware and Accessories		G												
			SD-03 Product Data														
			Zinc Coating		G												
		32 92 19.01 13	SD-01 Preconstruction Submittals														

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		32 92 19.01 13	Seed Mix		G												
			SD-03 Product Data														
			Manufacturer's Literature														
			SD-06 Test Reports														
			Seed Test		G												
			Quantity Check														
			Maintenance Record														
			SD-07 Certificates														
			Certificates of Compliance														
		33 05 97	SD-01 Preconstruction Submittals														
			Testing Schedule	1.7	G												
			SD-03 Product Data														
			Trace Wire	2.1	G												
			Splice Connectors		G												
			Terminal Boxes	2.3	G												
			Ground Rod	2.4	G												
			Utility Markers	2.5	G												
			SD-07 Certificates														
			Manufacturer's Certificate														
			Manufacturer Qualification														
			SD-10 Operation and Maintenance														
			Data														
			Maintenance Materials														
			SD-11 Closeout Submittals														
			Project Record Documents														
		33 11 00	SD-01 Preconstruction Submittals														

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		33 11 00	Connections	3.1.1	G												
			Qualification Of Installer														
			Qualification Of Manufacturer														
			Disinfection Procedures	3.2.3	G												
			SD-03 Product Data														
			Pipe, Fittings, Joints and Couplings		G												
			Valves		G												
			Pipe Restraint		G												
			Precast Concrete Thrust Blocks		G												
			Disinfection Chemicals and Treatment		G												
			Fusion Joining														
			Restrained Joint Coupling														
			Curb Stops														
			Combination Air Release Valve														
			Markers, Tape, Trace Wire, Trace Wire Terminals		G												
			SD-06 Test Reports														
			Bacteriological Samples	3.3.1.4	G												
			Post-Construction Fusion Report	3.2.2.4.1	G												
			Leakage Test	3.3.1.3													
			Hydrostatic Test	3.3.1.2													
			Field Quality Control														
			SD-07 Certificates														

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		33 11 00	Pipe, Fittings, Joints and Couplings														
			Lining for Fittings														
			Lining for Ductile Iron Fittings														
			Valves														
			Fusion Technician Qualifications	1.6.3.1	G												
			Manufacturers Certificate														
			SD-08 Manufacturer's Instructions														
			Polyethylene (PE) Pipe														
			Polyethylene (PE) Piping And Tubing For Service Lines														
			Air Release Valve Enclosure		G												
			Combination Air Release Valves		G												
			SD-11 Closeout Submittals														
			Project Record Documents														
			Subsoil Conditions														
			Disinfection Report		G												
			Bacteriological Report		G												
		33 31 23.00 10	SD-01 Preconstruction Submittals														
			Connections Plan		G												
			SD-03 Product Data														
			Pipe, Fittings, Joints, Couplings		G												
			Valves		G												
			Pipe Restraints		G												
			Precast Concrete Thrust Blocks		G												
			Fusion Joining		G												

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		33 31 23.00 10	Restraint Joint Coupling		G												
			Combination Air Release Valve		G												
			Polymer Concrete Manholes		G												
			Manhole Hatches		G												
			SD-06 Test Reports														
			Final Test Report	3.3.1.2													
			Post Construction Fusion Report		G												
			Leakage Test	3.3.1.3	G												
			Hydrostatic Test		G												
			Field Quality Control		G												
			SD-07 Certificates														
			Pipe, Fittings, Joints And Couplings														
			Lining For Fittings														
			Lining For Ductile Iron Fittings														
			Valves														
			Fusion Technician Qualifications		G												
			Manufacturer's Certificate		G												
			SD-08 Manufacturer's Instructions														
			Polyethylene (Pe) Pipe														
			Combination Air Release Valves		G												
			Polymer Concrete Manholes		G												
			Manhole Hatches		G												
			SD-11 Closeout Submittals														
			Project Record Documents		G												
			Subsoil Conditions		G												

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		33 40 00.01 13	SD-02 Shop Drawings														
			Joints For Concrete Pipe		G												
			PRCB End Sections		G												
			SD-03 Product Data														
			Manufacturer's Storage And		G												
			Handling Instructions														
			SD-05 Design Data														
			Culvert Design Calculations		G												
			Concrete Mix Procedures		G												
			SD-06 Test Reports														
			Elastomer Tests		G												
			SD-07 Certificates														
			Certificates Of Compliance		G												
		33 40 00.02 13	SD-07 Certificates														
			Pipe														
		35 31 19.00 13	SD-01 Preconstruction Submittals														
			Material Sources		G GEO												
			SD-06 Test Reports														
			Gradation Test														
			SD-07 Certificates														
			Certified Weight Scale Tickets														
		35 31 19.20	SD-01 Preconstruction Submittals														
			ACB Design and Installation Plan														
			G, HYD, GEO														
			SD-02 Shop Drawings														
			Block Installation	3.5	G												

[illegible]

FORM 4025

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 SPEC. PARA. NO. DRAWING e. f. SHEET NO.		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.
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. B -- Approved, except as noted on drawings. Resubmission not required. C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required. D -- Will be returned by separate correspondence. E -- Disapproved. Refer to attached comments.	F -- Receipt acknowledged. X -- Receipt acknowledged, does not comply with contract requirements, as noted. G -- Other action required (<i>Specify</i>) K -- Government concurs with intermediate design. (<i>For D-B contracts</i>) 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 35 26

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- 1.7 SITE QUALIFICATIONS, DUTIES, AND MEETINGS
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GOVERNMENTAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ANSI/ASSP A10.34 (2021) Protection of the Public on or
Adjacent to Construction Sites

ANSI/ASSP A10.44 (2020) Control of Energy Sources
(Lockout/Tagout) for Construction and
Demolition Operations

ASTM INTERNATIONAL (ASTM)

ASTM F855 (2020) Standard Specifications for
Temporary Protective Grounds to Be Used on
De-energized Electric Power Lines and
Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048 (2016) Guide for Protective Grounding of
Power Lines

INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)

ANSI/ISEA Z89.1 (2014; R 2019) American National Standard
for Industrial Head Protection

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2023; ERTA 7 2023; TIA 23-15) National
Electrical Code

NFPA 70E (2024) Standard for Electrical Safety in
the Workplace

NFPA 241 (2022) Standard for Safeguarding
Construction, Alteration, and Demolition
Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2024) Safety -- Safety and Health
Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1926	Safety and Health Regulations for Construction
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

The following definitions are for the convenience of the reader. If there is a referenced document in the text of this specification section, that is the document that should define terms for that paragraph. If further clarification is needed, contact the Contracting Officer.

1.2.1 Site Safety and Health Officer (SSHO)

A Contractor Employee that is responsible for overseeing and ensuring implementation of the prime Contractor's Safety and Occupational Health (SOH) program according to the Contract, EM 385-1-1, applicable federal, state, and local requirements.

1.2.1.1 Level One SSHO

A designated employee with full-time SOH responsibility that meets and follows the requirements of EM 385-1-1.

1.2.1.2 Level Two SSHO

A designated employee with Level Two SSHO responsibility that meets and follows the requirements of EM 385-1-1. Level Two SSHOs cannot be assigned to projects that have a residual Risk Assessment Code (RAC) of high or extremely high.

1.2.1.3 Level Three SSHO

A designated Qualified Person or Competent Person with SOH responsibility that meets and follows the requirements of EM 385-1-1. Level 3 SSHOs cannot be assigned to projects that have a residual RAC of high or extremely high.

1.2.1.4 Alternate SSHO

An employee that meets the definition of the contract-required level SSHO, but is not the primary SSHO.

1.2.2 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are unsanitary, hazardous, or dangerous to personnel, and

who has authorization to take prompt corrective measures to eliminate them.

1.2.3 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.3 SUBMITTALS

Government Acceptance or Approval does not remove responsibility from the Contractors for their actions or liability.

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G

SD-06 Test Reports

Accident Reports; G

LHE Inspection Reports

Monthly Exposure Reports; G

SD-07 Certificates

Crane Operators/Riggers

Activity Hazard Analysis (AHA); G

Certificate of Compliance

License Certificates

Standard Lift Plan; G

1.4 PUBLIC HEALTH EMERGENCIES

In the event of a declared public health emergency, follow safety precautions as required by the Occupational Safety and Health Administration (OSHA) www.osha.gov, the Centers for Disease Control and Prevention (CDC) www.cdc.gov, and as required by federal, state and local requirements.

1.5 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report by the fifth of each month. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the progress payment.

1.6 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this Contract, comply with the most recent edition of USACE EM 385-1-1, and the following federal, state, and local laws, ordinances, criteria, rules and regulations at the date of the Solicitation for this Contract. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.7 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.7.1 Site Safety and Health Officer (SSHO)

1.7.1.1 Qualifications of SSHO

All SSHOs will have met the training, experience requirements identified in the EM 385-1-1 and this Contract.

1.7.1.2 Duties of SSHO

All SSHOs will carry out the roles and responsibilities as identified in this Contract and the EM 385-1-1. All SSHOs will be designated on an ENG Form 6282, provided by the Contracting Officer. Superintendent, QC Manager, and SSHO are subject to dismissal if their required duties are not being effectively carried out. If either the Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.7.1.3 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors at the project location. The SSHO, supervisors, or foremen must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.7.2 Roles and Responsibilities of Prime Contractor and SSHO

The Prime Contractor and SSHO must ensure that the requirements of all applicable OSHA and EM 385-1-1 are met for the project. The Prime Contractor must ensure an SSHO or an equally qualified Alternate SSHO(s) is at the worksite at all times to implement and administer the Contractor's safety program and Government accepted Accident Prevention Plan. If the required SSHO has to temporarily (that is, up to 24 hours / 1 day) leave the site of work due to unforeseen or emergency situations, a Level One, Two, or Three SSHO may be used in the interim and must be on the site of work at all times when work is being performed.

If the SSHO must be off-site for a period longer than 24 hours / 1 day, a qualified alternate that meets the contract requirements must be onsite.

a. Prime contractor must ensure all SSHOs will:

(1) Are designated on an ENG Form 6282.

(2) Meet minimum training and experience requirements identified in EM 385-1-1.

(3) Execute roles and responsibilities identified in EM 385-1-1.

1.7.3 Contract Site Safety And Health Officer(s)(SSHOs) Minimum Requirements

Provide a minimum of one Level One SSHO that meets the requirements of EM 385-1-1 for this project.

1.7.4 Competent Person for Confined Space Entry

Provide a CP for Confined Space Entry who meets the requirements of EM 385-1-1 and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1.

1.7.5 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health Officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays. The creation of the APP and Schedule will be created after being given Notice to Proceed.
- c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

1.8 ACCIDENT PREVENTION PLAN (APP)

1.8.1 Accident Prevention Plan (APP)

A competent person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, ENG Form 6293, and herein. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and

occupational health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling employer" for all worksite safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed in accordance with the APP and ENG Form 6293 Accident Prevention Plan Worksheet. The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer within 30 calendar days of the Notice to Proceed and not less than 10 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the Contract. Disregarding the provisions of this Contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the Contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e., imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ANSI/ASSP A10.34), and the environment.

1.8.2 Names and Qualifications

Provide plans in accordance with the requirements outlined in EM 385-1-1, including the following:

- a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.
- b. As a minimum, designate and submit qualifications of Competent Persons (CP) for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance. Designate and submit qualifications for additional CPs as applicable to the work performed

under this Contract.

1.9 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.9.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.9.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. The Government has no responsibility to provide emergency medical treatment.

1.12 NOTIFICATIONS AND REPORTS

1.12.1 Accident Notification

Notify the Contracting Officer in accordance with the EM 385-1-1 Accident

Reporting Timeline.

Table Accident Reporting Required Timeline		
Accident Type	Notify Contracting Officer	Complete Final Accident Report on ENG 3394 and provide to Contracting Officer
Fatality, in-patient hospitalization, amputation, eye loss, or property damage over \$600,000.	Immediately, no later than (NLT) 8 Hours	Within 7 Days
All other accidents and near misses	Immediately, no later than (NLT) 24 Hours	Within 7 Days

Within notification include Contractor name; Contract title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any accident or near miss.

1.12.2 Accident Reports

- a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. All accidents are reportable, regardless of whether or not it is recordable. Complete the applicable USACE Accident Report, ENG Form 3394, and provide the report to the Contracting Officer within 7 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms. All accidents are reportable, regardless of whether or not it is recordable.
- b. Near Misses: For Army projects, report all "Near Misses" to the Contracting Officer, using local accident reporting procedures, within 24 hours. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a Certificate of Compliance for LHE entering an activity under this Contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1 and using Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with EM 385-1-1, 29 CFR 1926, 29 CFR 1910, and Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.13.1 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

- a. Head Protection that meets ANSI/ISEA Z89.1
- b. Long Pants
- c. Appropriate Safety Footwear
- d. Appropriate Class Reflective Vests

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. Develop an employee check-in/check-out communication procedure to ensure employee safety.

3.1.2 Unforeseen Hazardous Material

Contract documents identify materials such as PCB, lead paint, and friable

and non-friable asbestos and other OSHA regulated chemicals (i.e., 29 CFR Part 1910.1000). If material(s) that may be hazardous to human health upon disturbance are encountered during demolition, repair, renovation, or construction operations. Stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages in compliance with local owners in sufficient time as to not result in impacts or delays to the project schedule. At a minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1. In accordance with EM 385-1-1, where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of Hazardous Energy Control Program (HECP) and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with EM 385-1-1 and NFPA 70E, work on energized electrical circuits must not be performed without prior Government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additional or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conduct a pre-outage coordination meeting in accordance with EM 385-1-1. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and a representative for the affected utility. All parties must fully coordinate HEC activities with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance with EM 385-1-1. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1, 29 CFR 1910, 29 CFR 1915, ANSI/ASSP A10.44, NFPA 70E.

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting

Officer's Representative, and required by EM 385-1-1. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting. Both the safety preparatory inspection coordination meeting and the outage coordination meeting must occur prior to conducting the outage and commencing with lockout/tagout procedures.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, both the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in accordance with the HECP. In accordance with EM 385-1-1, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with EM 385-1-1.

3.5.1 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 and 29 CFR 1926.

3.5.1.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or

suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.1.2 Personal Fall Protection Equipment

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabineers must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. Equip all full body harnesses with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1.

3.6 EQUIPMENT

3.6.1 Use of Explosives

Explosives must not be used or brought to the project site without prior written approval from the Contracting Officer. Such approval does not relieve the Contractor of responsibility for injury to persons or for damage to property due to blasting operations.

Storage of explosives, when permitted on Government property, must be only where directed and in approved storage facilities. These facilities must be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

3.7 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1.

3.7.1 Electrical Work

As described in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is

minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety footwear, insulating gloves and electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910.

3.7.2 Qualifications

Electrical work must be performed by QP with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State, Local requirements applicable to where work is being performed.

3.7.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.7.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

3.7.5 Testing

Temporary electrical distribution systems and devices must be inspected, tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

-- End of Section --

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SECTION 01 41 26.00 13

NORTH DAKOTA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

PART 1 GENERAL

The NPDES program requirements covered in this section are the requirements for storm water associated with construction activities.

1.1 GENERAL

This section covers best management practices (BMPs) to be implemented for prevention of storm water pollution as required by the National Pollutant Discharge Elimination System (NPDES). The North Dakota Department of Health (NDDH) is responsible for administering permits for NPDES in the state of North Dakota. The Government has determined that the project work included under this contract requires NPDES permitting. The requirements herein supplement those covered in Section 01 57 20.00 13 ENVIRONMENTAL PROTECTION.

Note any BMPs shown on the plans or on Reference Drawings shall be considered a minimum requirement. They shall not be construed to satisfy this section of the specifications.

1.1.1 Definitions

The following terms apply to this specification and the General Permit, unless redefined in subsequent paragraphs.

- a. "EPA" means the United States Environmental Protection Agency.
- b. "NPDES" means the National Pollutant Discharge Elimination System.
- c. "BMP" means Best Management Practices.
- d. "General Permit" means the permit authorizing the discharge of storm water associated with a construction activity under the National Pollutant Discharge Elimination System/State Disposal System Permit Program.
- e. "Owner" as referred to in the general permit shall mean the Federal Government.
- f. "SWPPP" means Stormwater Pollution Prevention Plan
- g. "NDPDES" means the North Dakota Pollutant Discharge Elimination System.
- h. "Notice of Intent (NOI)" means the application to be filed with the state to receive a general permit for storm water discharges associated with a construction activity.

1.2 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

Stormwater Pollution Prevention Plan (SWPPP);

A specific SWPPP shall be prepared by the Contractor and submitted to the Contracting Officer in accordance with the General Permit and these Specifications. The Government shall be allowed 7 working days to review the SWPPP once a complete and correct submittal is received.

Notice of Intent (NOI)

A copy of the NOI (ND Form SFN 19145) shall be submitted to the Contracting Officer for review and signature prior to transmitting to the state.

The NOI application can be found at:

https://deq.nd.gov/WQ/2_NDPDES_Permits/7_Stormwater/StW.aspx.

SD-11 Closeout Submittals

Notice of Termination (NOT)

A copy of the notice of termination shall be submitted to the Contracting Officer for review and signature prior to transmitting to the state.

The NOT application can be found at:

https://deq.nd.gov/WQ/2_NDPDES_Permits/7_Stormwater/StW.aspx.

Records

A copy of all SWPPP revisions, if applicable, shall be submitted to the Contracting Officer along with all inspection reports and all documentation required for record keeping as required by the permit.

1.3 PERMIT COMPLIANCE AND REQUIREMENTS

Comply with the requirements of General Permit No. NDR11-0000, found at https://deq.nd.gov/WQ/2_NDPDES_Permits/7_Stormwater/StW.aspx, including the following.

1.3.1 Schedule

No contract construction activities which require an NPDES permit may commence until the State's General Permit is effective.

1.3.2 Application

Submit a Notice of Intent through the Electronic Reporting System (ERIS). The Contractor is responsible for payment of the application fee.

1.3.3 Storm Water Pollution Prevention Plan (SWPPP)

The Contractor is responsible for preparing and implementing the SWPPP. At a minimum, the SWPPP shall consist of the following documents:

- a. The SWPPP Drawing

- b. The Surface Water Map
- c. The Site Map
- d. The Narrative

The SWPPP shall be maintained at the site and made available to federal, state, and local officials as required by the General Permit.

1.3.3.1 The SWPPP Drawing

The drawings prepared for this project may be used for the base drawing for the SWPPP drawing. The plans used for the SWPPP drawing shall be neatly and clearly reproduced. Full size plan sheets are recommended, but shall not be smaller than 11x17 inches. The SWPPP drawing shall be clear, neat and readable. At a minimum, the drawing shall include the following.

- a. The drawings shall be labeled "SWPPP"
- b. The date and the name of the person who prepared the SWPPP.
- c. Location and type of all temporary and permanent erosion prevention and sediment control BMPs
- d. Tabulation of quantities of all proposed BMPs (This may be included in the Narrative)
- e. Details and appropriate notes for all proposed BMPs
- f. If applicable, location of staging areas, temporary stockpiles, concrete washout areas, construction access, construction equipment washing area
- g. Notes describing final stabilization
- h. All other information required by the General Permit

1.3.3.2 The Surface Water Map

This map can be a United States Geological Survey (USGS) 7.5 minute quadrangle or equivalent. All surface waters within one mile of project boundary shall be identified. All Special Waters and Impaired Waters as defined by the General Permit that are within one mile of project boundary that will receive storm water from the site shall be identified.

1.3.3.3 The Site Map

The drawings prepared for this project may be used for the base drawing for the site map. The plans used for the site map shall be neatly and clearly reproduced. Full size plan sheets are recommended, but shall not be smaller than 11x17 inches. The site map shall be clear, neat and readable. At a minimum, the map shall include the following.

- a. The drawings shall be labeled "Site Map"
- b. The date and the name of the person who prepared the site map
- c. Construction Site Boundaries

- d. Delineation of disturbed and non-disturbed areas
- e. Existing and final grades
- f. Delineation of drainage areas
- g. Flow direction arrows
- h. Soil types shall be summarized or delineated on the plan view. Soil information may be obtained from project borings, if provided in the project drawings. Soil information may also be obtained from soil surveys or other sources.

1.3.3.4 The Narrative

At a minimum, the written narrative shall include the following. A SWPPP template, if included with these specifications, or one from the State may be used for the Narrative.

- a. A description of the overall project and the type of construction activity
- b. A description of all temporary and permanent erosion prevention and sediment control BMPs
- c. Provide the drainage path runoff takes as it leaves the site. Include the municipal, county or state-operated storm sewer or drainage ditch, as well as the first named waterbody or wetland to which the site drains.
 - 1. Identify whether or not the waterbody is listed in the most recent North Dakota Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Water Needing Total Maximum Daily Loads or if a total maximum daily load (TMDL) has been developed for the waterbody.
 - 2. Identify the distance to the waterbody.
 - 3. Identify the proposed BMP's to be used to satisfy the additional requirements by the General Permit for the waterbody.
- d. Describe procedures to be used to establish additional temporary BMPs as necessary for the site conditions during construction.
- e. A timeline for the installation of the BMPs
- f. Sizing calculations for temporary sedimentation basins if proposed
- g. Identify the following personnel, their experience and training. Confirm that their training meets the requirements of the General Permit
 - 1. The person who prepared the SWPPP
 - 2. The person who will oversee the implementation of the SWPPP.
 - 3. Identify the chain of command of all personnel on the site who will be responsible for the implementation of the SWPPP including

the installation, inspection, maintenance, and removal of the BMPs.

PART 2 PRODUCTS

This Section not used.

PART 3 EXECUTION

As between the Government and the Contractor, the Contractor shall be responsible for fulfilling the obligations of the general permit.

3.1 IMPLEMENTATION

Install the sediment and erosion control BMPs in accordance with the SWPPP submitted to the Contracting Officer. The BMPs shall be modified if inspection indicates distress to the system or reveals unforeseen circumstances, or if directed by the Contracting Officer. Any updates to the plan shall be recorded. Permanent stabilization shall be initiated as soon as practicable in any portion of the site where construction activities are complete.

3.2 MAINTENANCE

Implement and manage the erosion and sediment control BMPs until the entire work site has undergone final stabilization, and a Notice of Termination has been submitted to the Contracting Officer and the State.

3.3 RECORDS

The Contractor shall record on CQC reports:

1. Dates when major stripping and grading activities occur.
2. Dates when construction activities temporarily or permanently cease on a portion of the site.
3. When permanent stabilization practices are initiated.
4. Activities associated with inspection and maintenance.

3.4 ATTACHMENTS

1. NDPDES General Permit No. NDR11-0000 28 Pages.

-- End of Section --

Permit No: NDR11-0000
Effective Date: April 1, 2020
Expiration Date: March 31, 2025

AUTHORIZATION TO DISCHARGE UNDER THE
NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33.1-16-01 of the North Dakota Department of Environmental Quality rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

Facilities both qualifying for and satisfying the requirements identified in Part I of the permit

are authorized to discharge stormwater associated with construction activity

to waters of the state

provided all the conditions of this permit are met.

This permit and the authorization to discharge shall expire at midnight,
March 31, 2025.

Signed this 30 day of March, 2020



Karl H. Rockeman, P.E.
Director
Division of Water Quality

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I. PERMIT COVERAGE AND LIMITATIONS

A. Discharges Covered

1. This permit applies to all areas within the state of North Dakota, except for those areas defined as Indian Country. Construction activity located within Indian Country within the state of North Dakota must obtain a permit through the United States Environmental Protection Agency. If the construction activity is located with the jurisdiction of the state of North Dakota, and the United States Environmental Protection Agency, a permit must be obtained from both regulatory entities.
2. This permit applies to stormwater discharges associated with construction activity and small construction activity as defined in Title 40 of the Code of Federal Regulations (CFR), Parts 122.26(b)(14)(x) and (b)(15), respectively. The reference to construction activity in this permit includes both large construction activity and small construction activity as described below.
 - a. Large construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five (5) acres or more.
 - b. Small construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres.
3. This permit applies to discharges of stormwater from construction activity identified in Part I(A)(1)-(2) associated with oil and gas exploration, production, processing or treatment operations, or transmission facilities resulting in the discharge of a reportable quantity for which notification is required pursuant to 40 CFR 110.6, 40 CFR 117.21, or 40 CFR 302.6 or contributes to a violation of a water quality standard.
4. Stormwater discharges from support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) may be covered by this permit as part of a related construction site. The support activities may only be in association with one project. If the support activity is associated with more than one project, a separate stormwater permit (Industrial or mining, extraction or paving material preparation) is required.
5. Certain non-stormwater discharges from facilities covered by this permit and meeting the requirements specified in Part II(A).
6. Stormwater discharges from construction activity covered by the previous permit, issued April 1, 2015, where a notice has been submitted to obtain coverage under this permit.
7. Projects which have obtained coverage under this permit shall amend and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of this permit within ninety (90) days of the effective date of this permit.
8. Discharges from dewatering activities related to construction activities (discharges of uncontaminated stormwater, uncontaminated groundwater, and uncontaminated surface water).
9. Local Authority. This permit does not preempt or supersede the authority of local agencies or operators of municipal separate storm sewer systems to prohibit, restrict, or control discharges of stormwater to storm sewer systems or other water courses within their jurisdiction.

B. Discharges Not Covered

1. Stormwater discharges associated with industrial activity from any source other than construction activities described in Part I(A).
2. Post-construction discharges from industrial activity that originate from the site after construction activities have been completed at the site. Industrial and post-construction stormwater discharges may need to be covered by a separate stormwater permit.
3. The placement of fill into waters of the state requiring local, state, or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits).
4. This permit does not substitute for obligations under the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Wild and Scenic Rivers Act, or National Historic Preservation Act (NHPA), it is the permittees responsibility to ensure the project and resulting discharges comply with the respective requirements.
5. Discharges to waters for which there is a total maximum daily load (TMDL) allocation are not covered unless you develop a Stormwater Pollution Prevention plan (SWPPP) that is consistent with the assumptions and requirements in the approved TMDL. To be eligible for coverage under this general permit, the SWPPP must incorporate the conditions applicable to the discharge necessary for consistency with the assumptions, allocations and requirements of the TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from construction activity, the permittee must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation. Information about TMDL allocations may be found at the following website: deg.nd.gov/WQ.
6. Stormwater discharges that the department determines will cause or have the reasonable potential to cause or contribute to a violation of the standards for quality for waters of the state (North Dakota Administrative Code [NDAC] 33.1-16-02.1).
7. Discharges from hydrostatic testing, well points, water line disinfection, treatment of refined petroleum contaminated groundwater or surface water, treatment of crude oil contaminated groundwater or surface water, and oil and gas production water.
8. Discharges of wash water using detergents, wastewater, and sanitary waste.

C. Obtaining Coverage and Authorization Effective Date

1. To obtain authorization under this general permit for stormwater discharges you must submit a complete notice of intent (NOI) and develop a SWPPP in accordance with Part II(C) of this permit. A SWPPP must be in place as a condition of the permit and a copy of the SWPPP must be retained by the permittee.
2. Permit coverage will become effective seven (7) days after you submit a complete NOI unless otherwise notified by the department (based on the department receipt date).
3. Upon the effective date of permit coverage, permittees are authorized to discharge stormwater from eligible activities under the terms and conditions of this permit.

D. Notice of Intent Process

1. Applicants must use a NOI form or electronic NOI to complete the application. The NOI form or electronic NOI can be found at: deg.nd.gov/WQ. Submission of data contained within the NOI must be in compliance with the electronic reporting requirements found in 40 CFR 127.
2. NOI Content and Conditions.
 - a. The owner, or owner jointly with the operator (usually the general contractor), shall submit a completed NOI for this permit. The owner is responsible for compliance with all terms and conditions of this permit. The operator has day to day supervision of construction activities and is jointly responsible with the owner for compliance with the permit conditions as they pertain to the construction activities delegated to the operator.
 - b. The NOI shall contain, at a minimum, the following information:
 - 1) Owner name, mailing address, and phone number;
 - 2) Project contact name, phone number, and e-mail address;
 - 3) Project/site name;
 - 4) Project/site location (street address; section, township, range) and county;
 - 5) Project/site latitude and longitude;
 - 6) A brief description of the construction activity;
 - 7) The anticipated start date and the anticipated completion date for the project (if known);
 - 8) The estimated total area of the site and the total area of disturbance in acres;
 - 9) The name of receiving water(s), or the name of the municipal storm sewer system and receiving water; and
 - 10) The signature of the applicant(s), owner (and operator if co-applicants) signed in accordance with the Signatory Requirements in Part IV(A)(6) of this permit.
 - c. A SWPPP (Part II(C)) for the project must be prepared and available for review, upon request, by the department at the time of application. Permittees are not required to submit the SWPPP with the NOI unless otherwise notified by the department.
3. For residential construction activity occurring within a common plan of development (such as a subdivision) subject to the permit requirements, coverage may be obtained by the following:
 - a. The owner of the lot(s) shall submit one NOI for all of the owner's construction activity within the common plan of development, or
 - b. The operator, such as a homebuilder who may represent one or more lot owners, shall submit one NOI for all of the operator's construction activity within the common plan of development. Additional phases of the common plan of development may be included under the initial NOI and permit coverage.

In addition, a SWPPP must be developed and implemented for the permittee's activities within the common plan of development. Additional phases of the common plan of development may be included provided the SWPPP is amended to include the additional area or phases.

4. For construction activity associated with oil and gas exploration, production, processing, treatment operations, or transmission facilities, which discharge contaminated stormwater, an NOI may be submitted for individual project sites or for an area of operations such as well field or by county.

E. Notice of Termination (NOT)

1. Permittees wishing to terminate coverage under this permit must submit a Notice of Termination (NOT) signed in accordance with Part IV(A)(6) of this permit. Submission of data contained within the NOT must be in compliance with the electronic reporting requirements found in 40 CFR 127. Compliance with the conditions of this permit is required until a NOT is submitted to the department.
2. Permittees may only submit a NOT after one of the following conditions have been met:
 - a. Final stabilization (Part II(E)) has been achieved on all portions of the site for which the permittee is responsible.
 - b. Another owner/operator/permittee has assumed control in accordance with the transfer provisions (Part I(F)) over all areas of the site that have not achieved final stabilization.
 - c. For residential construction only, a NOT is not required for each lot that is sold, transferred, or has achieved final stabilization. The permittee must modify the SWPPP to indicate that permit coverage is no longer required for that lot. The SWPPP shall indicate the reason why coverage is no longer needed and the date the lot was sold, transferred, or achieved final stabilization. In order to terminate coverage, all lots under the control of the owner or operator must be sold, transferred, or achieved final stabilization (Part II(E)).

F. Transfer of Ownership or Control

1. When the owner or operator of a construction project changes, the new owner or operator must submit a written request for permit transfer/modification within fourteen (14) days of assuming control of the site or commencing work on-site, or of the legal transfer, sale or closing on the property; except as provided in Part I(F)(2). Late submittals will not be rejected; however the department reserves the right to take enforcement for any unpermitted discharges or permit noncompliance. For stormwater discharges from construction activities where the owner or operator changes, the new owner or operator can implement the original SWPPP created for the project or develop and implement their own SWPPP. Permittees shall ensure either directly or through coordination with other operators that their SWPPP meets all terms and conditions of this permit and that their activities do not interfere with another party's SWPPP.
2. A permit transfer/modification request is not required for the legal transfer, sale or closing on a property between permittees covered by this permit. Examples include the sale of a property parcel from a developer to a builder, or the transfer of an easement from a developer to a local government authority. If the new party is not covered by this permit at the time of transfer or sale, then the new owner/operator must submit a completed NOI within fourteen (14) days of assuming control of the site.

II. STORMWATER DISCHARGE REQUIREMENTS

A. Prohibition of Non-Stormwater Discharges

The discharge of wastewater is not authorized by this permit. The following sources of non-stormwater discharges are allowed if they are not a significant source of pollution and are identified in the SWPPP: fire-fighting activity, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater, and air conditioning condensate. Impervious surface wash water may not be directed into any surface water or storm drain inlet unless appropriate pollution prevention measures have been implemented. Non-stormwater discharges may not come into contact with oil and grease deposits or any other toxic or hazardous materials (unless cleaned up using dry clean-up methods). The SWPPP must include a description of the pollution prevention measures to be implemented while non-stormwater discharges are occurring.

B. Releases in Excess of Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302, nor the reporting requirements found in NDAC 33.1-16-02.1. Any release which meets any reporting requirement shall be reported to the department in accordance with Part IV(A)(7).

C. Stormwater Pollution Prevention Plans

All permittees shall implement a SWPPP for any construction activity requiring this permit until final stabilization is achieved. The SWPPP and revisions are subject to review by the department. The objectives of the SWPPP are to identify potential sources of sediment and other sources of pollution associated with construction activity, and to ensure practices are implemented and maintained to reduce the contribution of pollutants in stormwater discharges from the construction site to waters of the state and storm sewer systems. Stormwater management documents developed under other regulatory programs may be included or incorporated by reference in the SWPPP or used in whole as a SWPPP if it meets the requirements of this part. A partially complete SWPPP is acceptable when it clearly identifies the item(s) to be completed, the person(s) responsible for completing the item(s) and the deadline for completing the item(s). The SWPPP must be completed prior to the start of construction (or the applicable construction phase).

The SWPPP may identify more than one permittee and may specify the responsibilities of each permittee by task, area, and/or timing. Permittees may coordinate and prepare more than one SWPPP to accomplish this. However, in the event there is a requirement under the SWPPP for which responsibility is ambiguous or is not included in the SWPPP, each permittee shall be responsible for implementation of that requirement. Each permittee is responsible for assuring that their activities do not render another permittee's controls ineffective.

The SWPPP must incorporate the requirements provided in Appendix 1 and shall include the following information.

1. **Site Description.** Each SWPPP shall provide a description of the construction activity and potential sources of pollution as indicated below:
 - a. A description of the overall project and the type of construction activity;
 - b. Estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, grubbing, or other activities during the life of the project;

- c. A proposed timetable/schedule, or chart, of activities that includes major phases/stages, BMP implementation, BMP removal, disturbances, and stabilization for major portions of the site;
- d. A description of the soil within the disturbed area(s);
- e. The name of the surface water(s) and municipal storm sewer system at or near the disturbed area that will receive stormwater runoff from the project site; and
- f. A site map which indicates the following items as applicable (more than one (1) map may be needed). If an item is not applicable, provide rationale describing why the item is not applicable to the construction activity:
 - 1) Location of project;
 - 2) Project boundaries;
 - 3) Areas of ground disturbance during each phase/stage of the project;
 - 4) Areas where disturbance will not occur, such as avoidance areas (e.g. wetlands, critical habitat, Threatened and Endangered Species, etc);
 - 5) Drainage patterns including flow direction (run-on and runoff);
 - 6) Discharge points and storm sewer system inlets which the site drains to or may be affected by the activity;
 - 7) Location of all temporary and permanent sediment and erosion controls during each particular phase;
 - 8) Location of any stormwater conveyances such as retention ponds, detention ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;
 - 9) Location of potential sources of pollution (e.g. portable toilets, trash receptacles, etc.) or areas where potential sources of pollution cannot be located;
 - 10) Location of soil stockpiles;
 - 11) Identify steep slopes;
 - 12) Surface waters, including an aerial extent of wetlands;
 - 13) Location of surface water crossings;
 - 14) Locations where stormwater is discharged to surface waters;
 - 15) Location of dewatering discharge points;
 - 16) Locations where chemical treatment of stormwater will be performed, including discharge points;
 - 17) Fueling locations and storage, vehicle and equipment maintenance areas, designated wash water collection site, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection area;
 - 18) Location of any impervious surfaces upon completion of construction; and
 - 19) Where included as part of the project, the site maps for off-site concrete/asphalt batch plants, equipment staging areas, borrow sites or excavated fill material disposal sites. Site maps must show items 1 through 18 of this section.
- g. Projects that discharge stormwater which flows to a water body listed as impaired under section 303(d) of the Federal Clean Water Act due to sediment, suspended solids or turbidity must identify the water body and impairment in the SWPPP. The department's 303(d) list may be found at the following website under Integrated Reports: deg.nd.gov/WQ
- h. For water bodies which have a TMDL, the SWPPP must describe and conform to the Waste Load Allocations (WLA) of the water body. Information about TMDL allocations may be found at the following website: deg.nd.gov/WQ

2. **Narrative.** The SWPPP must include a narrative description of the selected operational controls and sediment and erosion controls as outlined in Part II(C)(3), Part II(C)(4), and Appendix 1 of this permit. When applicable, a description of the requirements for any additional environmental regulations and local requirements related to the project, as it relates to waters of the state, must also be included or incorporated by reference (e.g. The Wild and Scenic Rivers Act, The National Historic Preservation Act, The Endangered Species Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Section 404 of the Clean Water Act, etc.).

The narrative shall describe at a minimum:

- a. The installation, removal (if applicable), and maintenance requirements of selected Best Management Practices (BMPs) for each phase/stage of construction activity;
 - b. The rationale for the selection of all BMPs (the design should be included where appropriate);
 - c. Whether selected BMPs are temporary or permanent;
 - d. Any descriptions of infeasibility or explanations as required in Part II of this permit.
3. **Operational Controls.** The SWPPP shall describe the BMPs used in day to day operations on the project site that reduce the contribution of pollutants in stormwater runoff.
- a. The SWPPP must identify a person knowledgeable and experienced in the application of erosion and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion and sediment control BMPs before and during construction until a NOT is filed or the permit is transferred. A knowledgeable and experienced person is someone who meets the requirements of Part II(C)(3)(e) of this permit.
 - b. The owner shall develop a chain of responsibility with all operators on the site to ensure that the SWPPP will be implemented and stay in effect until the construction project is complete, the entire site has undergone final stabilization, and a NOT has been submitted to the department.
 - c. The SWPPP must include a description of good housekeeping practices used to maintain a clean and orderly site. The SWPPP shall describe how litter, debris, chemicals and parts will be handled to minimize exposure to stormwater. The SWPPP also shall describe what measures will be used to reduce and remove sediment tracked off site by vehicles or equipment. In addition, the SWPPP shall describe methods which will be used to reduce the generation of dust that could be discharged in stormwater from the project.
 - d. The SWPPP shall describe spill prevention and response procedures where potential spills can occur. Specific handling procedures, storage requirements, spill containment, cleanup procedures, and disposal must be identified. Storage structures for petroleum products and other chemicals shall have adequate leak and spill protection to prevent any spilled materials from entering waters of the state or storm sewer systems.

The potential discharge of hazardous substances in stormwater discharges shall be minimized by including measures detailed in the SWPPP to prevent and respond to releases of hazardous substances. If a reportable quantity release occurs, the SWPPP shall be revised to prevent the reoccurrence of such a release.

- e. The SWPPP shall outline how employees and responsible parties shall be trained on the implementation of the SWPPP. Training must be provided at least annually, as new employees or responsible parties are hired, or as necessary to ensure compliance with the SWPPP and the general permit. Employees and responsible parties include individuals who are responsible for design, installation, maintenance, and repair of stormwater controls and conducting inspections.

- 1) On-site personnel must understand the requirements of this permit as it pertains to their role in implementing the SWPPP. On-site personnel must know:
 - a. The purpose of the SWPPP, requirements of the SWPPP, and how the SWPPP will be implemented;
 - b. The location of all BMPs identified in the SWPPP; and
 - c. Correct installation, function, maintenance, and removal (if applicable) of BMPs identified in the SWPPP.
 - 2) Personnel responsible for performing site inspections must understand when inspections must be conducted (Part III(A)), what must be inspected (Part II(C)(7)), how to record findings, and when to initiate and properly document corrective actions.
 - 3) Maintenance personnel must understand when maintenance must be performed on BMPs in order to maintain properly functioning BMPs and what needs to be recorded for corrective actions/maintenance records in accordance with Part III(A)(5) of this permit.
- f. The SWPPP must describe how concrete grindings and slurry will be managed. Wastewater from concrete washout, cleanout or washout from stucco, paint, joint compound, and other building materials shall not be discharged to waters of the state, storm sewer systems, or curb and gutter systems.
- 1) Wash water must be collected in leak-proof containers or leak-proof pits. Containers or pits must be designed and maintained so that overflows cannot occur due to inadequate sizing, precipitation events, or snowmelt.
- g. The SWPPP shall describe any dewatering activities planned at the site. Dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the permitted activity must be managed with appropriate BMPs, such that the discharge does not adversely affect the receiving water. The following conditions apply to dewatering activities:
- 1) Dewatering is limited to uncontaminated stormwater, surface water, and groundwater that may collect on-site and those sources identified in Part II(A), if they are not a significant source of pollution. A separate permit must be obtained to discharge water from other sources such as hydrostatic testing of pipes, tanks, or other similar vessels; disinfection of potable water lines; pump testing of water wells; and the treatment of refined petroleum contaminated groundwater or surface water.
 - 2) The permittee(s) must operate the discharge to minimize the release of sediment and provide adequate BMPs where necessary to minimize erosion due to the discharge. Discharges must not lead to the deposition of sediment within stormwater conveyance systems or surface waters. Discharges must not cause or potentially cause a visible plume within a surface water body.
 - 3) When dewatering, utilize structures or BMPs which allow for draw down to occur from the surface of the water, unless infeasible. If infeasible, documentation must be provided in the SWPPP. In addition, you must describe what BMP(s) will be used in its place.

- 4) Chemical treatment of dewatering activities for sediment removal must be conducted in accordance with the chemical manufacturer's specifications. Treatment chemicals must be appropriately selected for the anticipated soil particle size and characteristics of the stormwater (pH, turbidity, flow rate of stormwater flowing into the chemical treatment system, etc.). A description of the chemical treatment process must be included in the SWPPP. Permittees shall ensure the selection and management of chemicals minimize the potential for harmful effects in the discharge. The following information must be included in the SWPPP.
 - a. Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS);
 - b. Proposed water additive discharge concentration;
 - c. Discharge frequency (i.e., number of hours per day and number of days per year);
 - d. Monitoring point for product discharge;
 - e. Type of removal treatment, if any, that the water additive receives prior to discharge;
 - f. Product function (e.g., coagulant, flocculant, etc.);
 - g. A 48-hour LC₅₀ or EC₅₀ for a North American freshwater planktonic crustacean (*Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); and
 - h. Results for a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean).
 - 5) Local authorities may require specific BMPs for discharges affecting their storm sewer system.
4. **Erosion and Sediment Controls.** Erosion and sediment controls and stabilization requirements must be implemented for each major phase of site activity (e.g., clearing, grading, building, and landscaping phases). A description of the erosion and sediment controls and site stabilization methods must be provided in accordance with Part II(C)(2) of this permit. Erosion and sediment controls, and site stabilization must conform to the requirements provided in Appendix 1. The description and implementation of controls shall address the following minimum components:
- a. The selection of erosion and sediment controls, and site stabilization shall consider the following:
 - 1) The expected amount, frequency, intensity, and duration of precipitation events. Permittees may state that selected erosion and sediment controls and site stabilization methods are industry standards;
 - 2) The nature of stormwater run-on and runoff from the site as well as changes during, and as a result of, construction activity. This includes changes to impervious surfaces, slopes, seasonal changes, and drainage features on-site;
 - 3) Channelized flow must be handled in order to minimize erosion at outlets and to minimize impacts to downstream receiving waters;
 - 4) Soil types (wind and water erodibility, and settling time); and
 - 5) Seasonal conditions.
 - b. Sediment basins, or an appropriate combination of equivalent sediment controls such as smaller sediment basins and/or sediment traps, silt fences, fiber logs, vegetative buffer strips, berms, etc., are required for all down slope boundaries of the disturbance area and for those side slope boundaries as may be appropriate for site conditions.

- c. Temporary or permanent erosion protection and stabilization (such as cover crop planting or mulching) must be initiated immediately, as described in Appendix 1(A), for all exposed soil areas where activities have been completed or temporarily ceased.
- d. All control measures must be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site situations. Corrective actions must be made prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first) or as soon as field conditions allow. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

The permittee may deviate from the manufacturer's specifications and erosion and sediment control requirements in Appendix 1 if they provide justification for the deviation and document the rationale for the deviation in the SWPPP. Any deviation must provide equivalent erosion and sediment control.

- e. If sediment escapes from the site, off-site accumulations of sediment must be removed in a manner and frequency sufficient to minimize off-site impacts as outlined in Appendix 1(B). The SWPPP must be modified to prevent further sediment deposition off site.
 - f. Stormwater controls are expected to withstand and function properly during precipitation events of up to the 2-year, 24-hour storm event. Visible erosion and/or off-site sediment deposition from such storm events should be minimal. The 2-year, 24-hour rainfall event in North Dakota ranges from about 1.76 inches in the west to 2.50 inches in the east (NOAA Atlas 14, Volume 8, Version 2, Midwestern States 2013).
 - g. For projects that discharge stormwater which flows to a water body for which there is a TMDL allocation the SWPPP must be consistent with the assumptions, allocations, and requirements in the approved TMDL. If a TMDL specifies certain BMPs or controls to meet a WLA applicable to the project's discharges, the BMPs or controls must be incorporated into the SWPPP. Information about TMDL allocations may be found at the following website: deq.nd.gov/WQ
5. **Stormwater Management.** The SWPPP must identify permanent practices incorporated into the project to control pollutants in stormwater discharges occurring after construction operations have been completed.
- a. Identify stormwater ponds; flow reduction methods; infiltration of runoff on-site; sequential systems which combine several practices or other post-construction stormwater management features.
 - b. Identify velocity / energy dissipation devices placed at discharge locations and appropriate erosion protection for outfall channels and ditches.
 - c. Maintenance for on-site stormwater management features is the responsibility of the permittee until the NOT is submitted or the feature is accepted by the party responsible for long term maintenance.
 - d. The design, installation and use of stormwater management features must comply with applicable local, state or federal requirements.

6. **Maintenance.** The SWPPP shall describe preventative maintenance practices used to ensure the proper operation of erosion and sediment control devices and equipment used or stored on site. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. The SWPPP must indicate, as appropriate, the maintenance or clean out interval for sediment controls. If site inspections, required in Part III of this permit, identify BMPs that are not operating effectively, maintenance shall be arranged and accomplished in accordance to Appendix 1 or as soon as practicable.
7. **Inspections.** The SWPPP must provide for site inspections as outlined in Part III. The permittee shall ensure that personnel conducting site inspections are familiar with permit conditions and the proper installation and operation of control measures. Inspectors must be knowledgeable in their role of the SWPPP, as outlined in Part II(C)(3)(e) of this permit. The erosion and sediment control measures and stabilized areas identified in the SWPPP shall be observed to ensure they are operating correctly and in serviceable condition. Inspections shall include areas used for storage of materials, permanent stormwater control measures, vehicle maintenance areas, and dewatering activities. These areas shall be inspected for evidence of, or the potential for, pollutants entering a drainage system. If necessary, the plan shall be revised based on the observations and deficiencies noted during the inspection.
8. **SWPPP Review and Revisions.**
 - a. The SWPPP shall be signed in accordance with the Signatory Requirements, Part IV(A)(6), and retained on-site for the duration of activity as outlined in Part III(B). The owner, or owner jointly with the operator (usually the general contractor), shall sign the SWPPP.
 - b. The permittee shall make the SWPPP available upon request to the department, EPA, or, in the case of discharges to a municipal storm sewer system, the operator of the municipal system.
 - c. The permittee shall amend the SWPPP whenever there is a change in design, construction, operation, maintenance, or BMPs. The SWPPP shall be amended if the plan is found to be ineffective in controlling pollutants present in stormwater. The SWPPP shall include a description of the amendment process.

D. Local Requirements

All stormwater discharges must comply with the requirements, policies, or guidelines of municipalities and other local agencies as applicable to the construction site. Any discharges to a storm sewer, ditch or other water course under the jurisdiction of a municipality must comply with any specific conditions or BMPs required by the municipality or agency.

E. Final Stabilization

The permittee(s) must ensure final stabilization of the site. Permittees should submit a NOT within 30 days after final stabilization has been achieved, or another owner/operator (permittee) has assumed control according to Part I(F) for all areas of the site that have not undergone final stabilization. Final stabilization can be achieved in one of the following ways.

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent of the pre-existing cover over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

- a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;
 - b. All temporary erosion prevention and sediment control BMPs (such as silt fence) must be removed as part of the site final stabilization; and
 - c. The permittee(s) must remove all sediment from conveyances and temporary sedimentation basins that will be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed into basins, conveyances or drainage ways discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.
2. For areas of the state where the average annual rainfall is less than 20 inches, all soil disturbing activities at the site have been completed and erosion control measures (e.g., degradable rolled erosion control product) and stabilization methods are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years and achieve 70 percent of the pre-existing vegetative cover within three (3) years without active maintenance. Sites must meet the criteria outlined in items 1(a), (b), and (c) above.
 3. Disturbed areas on land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to these final stabilization criteria. If the construction activity removed standing crop, the area must be restored in accordance with the landowner.

Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas which are not being returned to their pre-disturbance use must meet the final stabilization criteria in (1) or (2) above.

4. For residential construction only, final stabilization may be achieved when soil is stabilized (see Appendix 1(A)(3)) and down gradient perimeter control for individual lots has been implemented and the residence has been transferred to the homeowner. Additionally, the permittee must distribute a "homeowner fact sheet" to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization. The permittee also must demonstrate that the homeowner received the fact sheet.

III. SELF MONITORING AND REPORTING

A. Inspection and Maintenance Requirements

1. Inspections shall be performed by or under the direction of the permittee at least once every 14 calendar days and within 24 hours after any storm event of greater than 0.25 inches of rain per 24-hour period. Rainfall inspections do not take the place of the scheduled once every 14-calendar day inspection unless the rainfall inspection occurs on the same day as the once every 14-calendar day inspection. Inspections are only required during normal working hours. The permittee shall use a rain gauge on-site or utilize the nearest National Weather Service precipitation gauge station. Rain gauge locations or stations must be representative of the site.
 - a. "Within 24 hours after any storm event greater than 0.25 inches rain per 24-hour period" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. If there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

2. There may be times when a site inspection may not be practical at the specified time. Adverse climatic conditions, such as flooding, high winds, tornadoes, electrical storms, site access constraints, etc., may prohibit inspections. The permittee must include a description of why the inspection(s) could not be performed at the designated time in the next inspection record. If an inspection is delayed due to adverse weather conditions or rain events outside normal working hours, an inspection must be conducted during the next working day, or as conditions allow.
3. Some erosion and sediment control measures may require more frequent inspection based on location (e.g., sensitive areas or waters of the state) or as a result of recurring maintenance issues. Erosion or sediment control measures found in need of maintenance between inspections must be repaired or replaced with appropriate measures as soon as practicable. Erosion and sediment control measures which require more frequent inspection based on location or as a result of recurring maintenance issues must be identified in the SWPPP.
4. All inspections conducted during construction must be recorded. These records (or reports) must be retained in accordance with Part III(B). Records (or reports) of each inspection activity shall include:
 - a. Date of inspections;
 - b. Name of person(s) conducting inspections;
 - c. Findings of inspections, including recommendations and schedule for corrective actions;
 - d. Date and amount of all rainfall events greater than 1/4 inch (0.25 inches) in 24 hours;
 - e. Documentation that the SWPPP has been amended when changes are made to BMPs in response to inspections; and
 - f. Signature of person(s) conducting the inspection or other means used to verify an inspector (e.g., work order or preventative maintenance schedule completion).
5. Corrective actions (maintenance activities) performed during construction must be recorded and these records must be retained in accordance with Part III(B). Records for maintenance activity shall include:
 - a. Best Management Practice corrected;
 - b. Date of corrective action;
 - c. Name of person(s) performing corrective actions;
 - d. Corrective actions taken; and
 - e. Corrective actions/maintenance records shall be signed or use another means to verify corrective actions/maintenance were completed (e.g., work order or preventative maintenance schedule completion).
6. Completed areas that have been stabilized but do not meet the 70 percent perennial vegetative cover criteria for final stabilization may be inspected once per month. Inspections may be suspended for parts of the construction site that meet final stabilization requirements of Part II(E) of this permit. The SWPPP must update to identify any areas which meet this condition.

7. Inspections may be suspended where earthwork has been suspended due to frozen ground conditions. The required inspections and maintenance must resume as soon as runoff occurs or the ground begins to thaw at the site. The permittee must record freeze/thaw and runoff dates as part of the inspection records.
8. Dewatering activities shall be inspected daily. The inspection must include the dewatering site, areas where BMPs are being implemented and the discharge location. A record (or report) shall be maintained to document the inspections of the dewatering operation and actions taken to correct any problems that may be identified. Records shall contain at a minimum:
 - a. Date of inspections;
 - b. Name of person(s) conducting inspections;
 - c. Approximate volume of water discharged;
 - d. Findings of the inspection, including recommendations and schedule for corrective actions;
 - e. Corrective actions taken (including dates and party completing maintenance activities);
 - f. Documentation that the SWPPP has been amended when changes are made to the dewatering activity in response to inspections; and
 - g. Signature of person(s) conducting inspections and maintenance or other means used to verify an individual (e.g., work order or preventative maintenance schedule completion).

B. Records Location

A copy of the completed and signed NOI, coverage letter from the department, SWPPP, site inspection records, corrective actions/maintenance records, and this general permit shall be kept at the site of the construction activity in a field office, trailer, shed, vehicle that is on-site during normal working hours, or other reasonable on-site location. If the site does not have a reasonable on-site location, then the documents must be retained at a readily available alternative location; preferably with the individual responsible for overseeing the implementation of the SWPPP. Electronic copies of records are acceptable if the records can be accessed on-site. If the site is inactive, then the documents may be stored at a local office. Permittees should avoid using personal electronic devices for storing electronic records.

IV. STANDARD CONDITIONS

A. COMPLIANCE RESPONSIBILITIES BP 2019.05.29

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

3. Planned Changes

The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

4. Duty to Provide Information

The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

5. Records Retention

All records and information (including calibration and maintenance) required by this permit shall be kept by the permittee for at least three years from the date that permit coverage expires or is terminated or longer if requested by the department or EPA.

6. Signatory Requirements

All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer for a corporation; a general partner or the proprietor for a partnership or sole proprietorship; or a principal executive officer or ranking elected official for a municipality, State, Federal, or other public agency.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above and included in the SWPPP; and
- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

A copy of the written authorization must be submitted to the department upon request. If an authorization under 6. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be included in the SWPPP.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Twenty-four Hour Notice of Noncompliance Reporting

- a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The oral report shall be made the department at 701.328.5210.
- b. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:
 - 1) A description of the noncompliance and its cause;
 - 2) The period of noncompliance, including exact dates and times;
 - 3) The estimated time noncompliance is expected to continue if it has not been corrected; and
 - 4) Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

Reports shall be submitted to the department at the following address:

ND Department of Environmental Quality
Division of Water Quality
918 East Divide Ave
Bismarck ND 58501-1947

The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

8. Bypass of Treatment Facilities

- a. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:
 - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of preventive maintenance; and

The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the two (2) conditions listed above.

9. Upset Conditions

An upset constitutes an affirmative defense to an action brought for noncompliance with erosion and sediment or site stabilization methods if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An upset occurred and the permittee can identify its cause(s);
- b. The permitted facility was, at the time being, properly operated;

- c. The permittee submitted notice of the upset as required under 7. Twenty-four Hour Notice of Noncompliance Reporting and
- d. The permittee complied with any remedial measures required under 10. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

11. Removed Materials

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard.

12. Duty to Reapply

Any request to have this permit renewed should be made fifteen days prior to its expiration date.

B. GENERAL PROVISIONS

1. Inspection and Entry

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the construction activity and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

2. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

3. Transfers

This permit is not transferable except upon the filing of a Transfer/Modification request (Part I(F)) by the new party. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the department of the possible change.

4. New Limitations or Prohibitions

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. **Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

7. **State Laws**

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

8. **Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

9. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

10. **Severability**

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

V. DEFINITIONS

“303(d) list” or **“section 303(d) list”** means a list of North Dakota’s water quality-limited waters needing total maximum daily loads or TMDLs developed to comply with section 303(d) of the Clean Water Act. A copy of the list is available on the state’s web site at: deq.nd.gov/WQ

“Act” means the Clean Water Act.

“Bankfull” means the channel is filled to the top of one or both of its banks.

“BMP” or **“best management practices”** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

“Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.

“Common plan of development or sale” means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

“Construction activity” means construction activity as defined in 40 CFR part 122.26(b)(14)(x) and small construction activity as defined in 40 CFR part 122.26(b)(15). This includes a disturbance to the land that results in a change in topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. Construction activity includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) acre or more. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

“Department” means the North Dakota Department of Environmental Quality, Division of Water Quality.

“Energy dissipation” means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

“Indian country” means (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservations; (2) All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

“Infeasible” means not technologically possible or not economically practicable and achievable in light of best industry practices.

“Immediately” means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

“Large construction activity” means land disturbance of equal to or greater than five (5) acres. Large construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than five acres.

“Normal wetted perimeter” means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur once every year.

“Non-stormwater discharges” means discharges other than stormwater. The term includes both process and non-process sources. Process wastewater sources that require a separate NDPDES permit include, but are not limited to industrial processes, domestic facilities and cooling water. Non-stormwater sources that may be addressed in this permit include, but are not limited to: fire-fighting, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater and air conditioning condensate.

“Operator” means the person (usually the general contractor) designated by the owner who has day to day operational control and/or the ability to modify project plans and specifications related to the SWPPP. The person must be knowledgeable in those areas of the permit for which the operator is responsible and must perform those responsibilities in a workmanlike manner.

“Owner” means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

“Permanently ceased” means clearing and excavation within any area of your construction site that will not include permanent structures has been completed.

“Permanent Cover” means final stabilization. Examples include grass, gravel, asphalt, and concrete.

“Severe property damage” means substantial physical damage to property, damage to best management practices which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in construction.

“Significant materials” includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

“Significant spills” includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

“Small construction activity” means land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres.

“Stabilized” means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, or other material that prevents erosion from occurring. Grass seeding alone is not stabilization. Snow cover and frozen ground conditions are not considered stabilized.

“Steep Slopes” means slopes which are 3:1 (Horizontal:Vertical) or greater in grade.

“Stormwater” means stormwater runoff, snow melt runoff, and surface runoff and drainage.

“Stormwater associated with industrial activity” means stormwater runoff, snow melt runoff, or surface runoff and drainage from industrial activities as defined in 40 CFR 122.26(b)(14).

“Stormwater associated with small construction activity” means the discharge of stormwater from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

(ii) Any other construction activity designated by EPA or the Department, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the state.

“Temporarily ceased” means clearing, grading, and excavation within any area of the site that will not include permanent structures, will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future.

“Temporary erosion protection” means methods employed to prevent erosion. Examples of temporary cover include; mulch, straw, erosion control blanket, wood chips, tackifiers, and erosion netting.

“Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with permit requirements because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed erosion and sediment controls or site stabilization methods, inadequate erosion and sediment controls or site stabilization methods, lack of preventive maintenance, or careless or improper operation.

“Waters of the state” means any and all surface waters that are contained in or flow in or through the state of North Dakota as defined in NDCC 61-28-02. This definition includes all water courses, even if they are usually dry.

Appendix 1 – Erosion and Sediment Control Requirements

Requirements for designing, implementing and maintaining erosion and sediment controls.

A. Erosion and Sediment Control Practices

1. Sites using temporary (or permanent) sediment basins must meet the following requirements:
 - a. Sediment basins shall be designed for a calculated volume of runoff from a 2-year, 24-hour storm per acre drained to the basin and provides not less than 1,800 cubic feet of sediment storage below the invert of the outlet pipe from each acre drained to the basin; or
 - b. Basins shall be sized to provide 3,600 cubic feet of sediment storage below the invert of the outlet pipe per acre drained to the basin if calculations are not performed.
 - c. Basin outlets must be designed to avoid short-circuiting and the discharge of floating debris. Basins must be designed with the ability to allow complete basin drawdown for maintenance activities. Basins must release the storage volume in at least 24 hours. Outlet structures must be designed to withdraw water from the surface, unless not practicable. If not practicable, rationale must be provided in the SWPPP. The basin must have a stabilized emergency overflow to prevent failure of pond integrity. Energy dissipation must be provided for the basin outlet.
2. Erosion, sediment, and stabilization practices shall be provided. Erosion, sediment, and stabilization practices include such things as: silt fences, fiber logs, stabilized earth berms, vegetative buffer strips, erosion control blankets, mulch, hydro-seeding combined with mulch or tackifiers, etc.
3. All exposed soil areas must be stabilized (see definitions). Stabilization must be initiated immediately where activities have been permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days. Stabilization must be completed as soon as practicable, but no later than fourteen (14) calendar days after the initiation of soil stabilization. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) are exempt from this requirement.
 - a. For slopes with a grade of 3:1 or greater, stabilization must be initiated immediately once activities have been completed or temporarily ceased. Stabilization must be completed as soon as practicable, but no later than seven (7) calendar days after the initiation of soil stabilization.
4. Temporary soil stockpiles must have effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches.
5. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized at least 200 linear feet from the property edge, or from the point of discharge to any surface water. Stabilization shall be completed prior to connection with a surface water. Any remaining portion of the temporary or permanent drainage ditch must be stabilized within fourteen (14) calendar days for portions which construction activities have temporarily or permanently ceased.
6. If stabilization requirements cannot be met due to circumstances beyond the control of the permittee, the permittee may comply with following:
 - a. If vegetative stabilization is to be used, immediately initiate, and within 14 calendars days complete, the installation of temporary non-vegetated stabilization; or
 - b. Complete all methods of initiating stabilization as soon as conditions or circumstances allow.

If any conditions in parts (a) or (b) above are encountered, the permittee must document in the SWPPP the circumstances which prevented the stabilization requirements from being met and provide a schedule in the SWPPP which will be followed in order to meet the stabilization requirements.

Permittees are responsible for implementing winter stabilization methods during frozen ground conditions if the site was not stabilized prior to the ground freezing.

7. Stream diversions, or any temporary or permanent drainage ditch or trench which will have continuous flow, shall be stabilized with appropriate controls prior to connection with any surface water. The entire area (channel and bank) of the stream diversion or temporary or permanent drainage ditch, or trench, must be appropriately stabilized to bankfull height.
8. While working in or around surface waters, sediment and erosion controls must be used above the anticipated level of the surface water. Floating silt curtain does not satisfy the down slope and side slope boundary requirements in Part II(C)(4)(b) of this permit, unless the construction activity is on or below the elevation of the surface water. Floating silt curtain must be placed as close to shore as possible. Sediment controls must be installed where exposed soils drain to the surface water immediately after construction activity along the waterline has been completed.
9. Pipe and culvert outlets must be provided with energy dissipation prior to connection with a surface water.
10. Splash pads and/or downspout extensions must be provided for roof drains to prevent erosion from roof runoff.
11. All storm drain inlets in the immediate vicinity of the construction site must be protected by appropriate BMPs during construction until all disturbed areas and stockpiles with the potential to discharge to the inlet have been stabilized. This includes storm drain inlets which may be affected by sediment tracked onto paved surfaces by vehicles or equipment.
12. Inlet protection devices are a last line of control – erosion and sediment control practices must be used on site. Inlet protection devices must conform to local ordinances or regulations. In general, inlet protection devices need to provide for adequate drainage to prevent excessive roadway flooding. Inlet protection may be removed for a particular inlet if a specific concern (i.e., street flooding/freezing, snow removal) has been identified and documented in the SWPPP. In this situation, additional erosion and sediment control practices, or stabilization methods must be used to supplement the loss of the inlet protection device to prevent sediment from entering the storm sewer system.
13. Vegetated buffers must have a minimum width of 1 foot for every 5 feet of disturbed area that drains to the buffer. The width of the buffer shall have a slope of 5 percent or less and the area draining to the buffer shall have a slope of 6 percent or less. Concentrated flows should be minimized throughout the buffer.

Buffers shall consist of dense grassy vegetation, 3 to 12 inches tall with uniform coverage over 90 percent of the buffer. Woody vegetation shall not be counted for the 90 percent coverage. No more than 10 percent of the overall buffer may be comprised of woody vegetation.

14. A 50-foot natural buffer or equivalent erosion and sediment controls must be provided when a project is within 50 feet of a surface water and stormwater flows to the surface water. If equivalent erosion and sediment controls are used, rationale for using equivalent controls must be provided in the SWPPP.

If working within 100 feet of a surface water listed as impaired for sediment, suspended solids or turbidity, a 100-foot natural buffer or equivalent sediment and erosion controls must be provided. If equivalent erosion and sediment controls are to be used, rationale for using equivalent controls must be provided in the SWPPP.

15. Discharges from the chemical treatment of stormwater must not cause a violation of the standards of quality for waters of the state (NDAC 33.1-16-02.1). The discharge must meet the dewatering or basin draining requirements provided in Part II(C)(3)(g) of this permit.
16. Minimize the duration of exposed soils on steep slopes.

B. Maintenance Requirements for Erosion and Sediment Controls

1. All erosion prevention and sediment control BMPs must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, maintained, or replaced with functional BMPs. Corrective actions must be made prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first), or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

Permittees must investigate and comply with the following inspection and maintenance requirements:

- a. All control devices similar to, and including, silt fence or fiber rolls must be repaired, replaced, maintained or supplemented when they become nonfunctional (torn from posts, visible tears, etc.). Collected sediment must be removed as it approaches 1/2 of the above ground capacity of the control device.
 - b. Fiber rolls must be replaced when 1/2 of the original above ground height of the device when it was installed has been lost as a result of flattening or other damage.
 - c. Sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.
 - d. Maintenance and cleaning of inlet protection devices must be performed when sediment accumulates, the filter becomes clogged, and/or performance is compromised.
2. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment deposited by erosion. Permittees must remove all deltas and sediment deposits in surface waters, drainage ways, catch basins, and other drainage systems. Areas where sediment removal results in exposed soil must be stabilized. Removal and stabilization must take place immediately, but no more than, seven (7) calendar days after the discovery unless precluded by legal, regulatory or physical access constraints. Permittees shall use all reasonable efforts to obtain access. If precluded, removal and stabilization shall take place immediately, but no more than, seven (7) calendar days after obtaining access. Permittees are responsible for contacting all local, regional, state, and federal authorities, and receiving any applicable permits prior to conducting any work.
 3. Vehicle tracking of sediment from the site must be minimized by BMPs. This may include having a designated egress with aggregate surfacing from the site or by designating off-site parking. Permittees are responsible for (or making the arrangements for) street sweeping and/or scraping if BMPs are not adequate to prevent sediment from being tracked onto the street from the site.

Construction site egress locations must be inspected for evidence of sediment being tracked offsite by vehicles or equipment onto paved surfaces. Accumulations of tracked and deposited sediment must be removed from all off-site paved surfaces by the end of the work day, shift or if applicable, within a shorter time specified by local authorities or the department.

4. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain event and/or pose a safety hazard to users of public streets). BMPs shall be used to minimize further impacts of off-site accumulations of sediment until the off-site accumulations are removed. Impervious surface wash water may not be directed into any surface water or storm drain inlet unless appropriate pollution prevention measures have been implemented.
5. Vegetative buffers must be inspected for proper distribution of flows, sediment accumulation and signs of rill formation. If a buffer becomes silt covered, contains rills, or is otherwise rendered ineffective, other control measures shall be implemented. Eroded areas shall be repaired and stabilized within 24 hours of discovery, or as soon as conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

C. Operational Controls

1. Properly handle construction debris and waste materials.
 - a. Debris and waste must be handled appropriately until disposal. Litter and debris shall be collected and stored to reduce the potential for wind and water to carry the materials off-site or leachate discharging from a site. Collected material shall be taken to the appropriate facility for disposal or recycling.
 - b. Liquid or soluble materials including oil, fuel, paint, and any other hazardous substances must be properly stored, to prevent spills, leaks or other discharges. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of liquid or soluble material must be in compliance with applicable regulations.
2. Wash water containments must be cleaned out (solids and liquid) before 80 percent of storage capacity is attained.
3. BMPs used in surface waters must be cleaned immediately upon removal from surface waters to prevent the transfer of aquatic nuisance species.
4. Fueling operations must be managed to minimize spills or leaks. Collected spill or leak material must be disposed in compliance with applicable regulations.

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1.2 ORDERING INFORMATION

PART 2 PRODUCTS

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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.

AACE INTERNATIONAL (AACE)
1265 Suncrest Towne Centre Drive
Morgantown, WV 26505-1876 USA
Ph: 304-296-8444
Fax: 304-291-5728
Internet: <https://web.aacei.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 CONCRETE INSTITUTE (ACI)
38800 Country Club Drive
Farmington Hills, MI 48331-3439
Ph: 248-848-3700
Fax: 248-848-3701
Internet: <https://www.concrete.org/>

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Two Park Avenue
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: <https://www.asme.org/>

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)
520 N. Northwest Highway
Park Ridge, IL 60068
Ph: 847-699-2929
E-mail: customerservice@assp.org
Internet: <https://www.assp.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/>

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/>

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-981-9667
E-mail: onlinesupport@ieee.org
Internet: <https://www.ieee.org/>

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
ISO Central Secretariat
BIBC II
Chemin de Blandonnet 8
CP 401 - 1214 Vernier, Geneva
Switzerland
Ph: 41-22-749-01-11
E-mail: central@iso.ch
Internet: <https://www.iso.org>

INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)
1901 North Moore Street
Arlington, VA 22209-1762
Ph: 703-525-1695

Fax: 703-528-2148
Internet: <https://safetyequipment.org/>

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)
395 John Ireland Blvd,
St. Paul, MN 55155-1800 USA
Ph: 651-296-3000
Internet: www.dot.state.mn.us/

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
1300 North 17th Street, Suite 900
Arlington, VA 22209
Ph: 703-841-3200
Internet: <https://www.nema.org>

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 800-344-3555
Fax: 800-593-6372
Internet: <https://www.nfpa.org>

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)
100 Bureau Drive
Gaithersburg, MD 20899
Ph: 301-975-2000
Internet: <https://www.nist.gov/>

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/>

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)
608 East Boulevard Avenue
Bismark, ND 58505-0700
Ph: 701-328-2500
E-mail: dot@nd.gov
Internet: <https://www.dot.nd.gov/>

NSF INTERNATIONAL (NSF)
789 North Dixboro Road
P.O. Box 130140
Ann Arbor, MI 48105
Ph: 734-769-8010 or 800-NSF-MARK
Fax: 734-769-0109
E-mail: info@nsf.org
Internet: <http://www.nsf.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

<http://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/>

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Order AMS Publications from:

AGRICULTURAL MARKETING SERVICE (AMS)

Seed Regulatory and Testing Branch

801 Summit Crossing Place, Suite C

Gastonia, NC 28054-2193

Ph: 704-810-8884

E-mail: PA@ams.usda.gov

Internet: <https://www.ams.usda.gov/>

Order Other Publications from:

USDA Rural Development

Rural Utilities Service

STOP 1510, Rm 5135

1400 Independence Avenue SW

Washington, DC 20250-1510

Phone: (202) 720-9540

Internet:

<https://www.rd.usda.gov/about-rd/agencies/rural-utilities-service>

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. 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/>

UNDERWRITERS LABORATORIES (UL)

2600 N.W. Lake Road

Camas, WA 98607-8542

Ph: 877-854-3577 or 360-817-5500

E-mail: CustomerExperienceCenter@ul.com

Internet: <https://www.ul.com/>

UL Directories available through IHS at <https://ihsmarkit.com/>

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

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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

1.2 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). The Contractor accesses the system using the Contractor Mode of RMS, referred to as RMS CM, to record, maintain, and submit various information throughout the contract period. 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. RMS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

- Administration
- Finances
- Quality Control
- Submittal Monitoring
- Scheduling
- Closeout
- Import/Export of Data

1.2.1 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.

1.2.2 Other Factors

Other portions of this document have a direct relationship to the reporting accomplished through RMS. Particular attention is directed to Contract Clause 52.236-15, SCHEDULES FOR CONSTRUCTION CONTRACTS; Contract Clause 52.232-5, PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS; Section 01 32 01.00 10 PROJECT SCHEDULE; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS; and Section

01 45 04.00 13 CONTRACTOR QUALITY CONTROL.

1.3 RMS SOFTWARE

RMS is a Windows-based program that can be run on a Windows based PC meeting the requirements as specified in Paragraph: SYSTEM REQUIREMENTS. Download, install and be able to utilize the latest version of the RMS software within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates and training information are available from the RMS website (<http://rmsdocumentation.com>). 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.

1.4 SYSTEM REQUIREMENTS

The following is the minimum system configuration required to run the Contractor Mode RMS features.

Minimum RMS System Requirements	
Hardware	
Windows-based PC	1.5 GHz 2 core or higher processor
RAM	8 GB
Hard drive disk	200 GB space for sole use by the RMS system
Monitor	Screen resolution 1366 x 768
Mouse or other pointing device	
Windows compatible printer	Laser printer must have 4 MB+ of RAM
Connection to the Internet	minimum 4 Mbs per user
Software	
MS Windows	Windows 10 x 64 bit (RMS requires 64 bit O/S) or newer
Word Processing software	Viewer for MS Word 2013, MS Excel 2013, or newer
Microsoft.NET Framework	Coordinate with Government QA Representative for free version required
E-mail	MAPI compatible

Minimum RMS System Requirements	
Virus protection software	Regularly upgraded with all issued manufacturer's updates and is able to detect most zero day viruses.

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's 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 will monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1, Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS and as required by any other applicable Federal, State or local agencies.

1.6.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only 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. Use RMS to group electronic submittal documents into transmittal packages to send to the Government. Some submittals cannot be imported into RMS. These submittals may include 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.

1.6.5 Schedule

Enter and update the contract project schedule in RMS by either manually entering all schedule data or by importing the Standard Data Exchange Format (SDEF) file, based on the requirements in Section 01 32 01.00 10 PROJECT SCHEDULE.

1.6.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. The Contractor is responsible to 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

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SECTION 01 45 04.00 13

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D3740 (2019) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E329 (2021) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

1.2 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

Quality Control Plan (QCP); G

SD-07 Certificates

Testing Laboratories; G

1.3 QUALITY CONTROL ORGANIZATION

1.3.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and alternate(s) and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Officer shall receive direction and authority from the CQC System Manager and shall serve as a member of the CQC staff. 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 maintained at the site at all times, except as otherwise acceptable to the Contracting Officer.

1.3.2 CQC System Manager

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 graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 5 years experience in related duties on construction similar to this contract. A construction manager without a college degrees with a minimum of 10 years of experience in related work is also acceptable. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC Manager shall have no other duties unless approved by the Contracting Officer or allowed elsewhere in the specification. 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.

1.3.3 Additional Requirement

In addition to the above qualifications, the CQC System Manager and the alternate CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered through the Government by USACE Districts and NAVFAC.

1.3.4 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

1.4 PAYMENT

The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS (Not Applicable)

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 Contract Clause 52.246-12 INSPECTION OF CONSTRUCTION. 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 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.

3.2 QUALITY CONTROL PLAN

3.2.1 General

Furnish for review by the Government, not later than 15 days after receipt of notice to proceed, the Contractor Quality Control Plan (QCP) proposed to implement the requirements of Contract Clause 52.246-12 INSPECTION OF CONSTRUCTION. 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.

3.2.2 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. Include a CQC System Manager that reports to an individual other than the project superintendent. The individual should be outside of the project superintendent's chain of command and must be shown as at least one level above the project superintendent in the chain of command.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. 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 and in accordance with Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM).
- 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 will be approved by the Contracting Officer.

- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation in RMS.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action in RMS.
- 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.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting. During the 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 address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC system manager shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.5 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 work as follows:

3.5.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans, documents, and materials are approved or accepted. Copies of the plans shall be available at the preparatory meeting. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. 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 analyses 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. Notify the Government at least 48 hours in advance of beginning

the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. 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. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.5.2 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 workmanship 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 48 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.

3.5.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. 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. Do not build upon nor conceal non-conforming work.

3.5.4 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.

3.6 TESTS

3.6.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. 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.

3.6.2 Testing Laboratories

A link to a current listing of validated testing laboratories is available at: <https://mtc.erdc.dren.mil>

3.6.2.1 Compliance Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D3740 and ASTM E329.

3.6.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.6.4 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 Contracting Officer. Coordination for each specific test, exact delivery location, and dates will be made with the Contracting Officer.

3.7 COMPLETION INSPECTION

3.7.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in Contract Clause 52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK - ALT 1, or by the specifications, the CQC Manager shall conduct an inspection of the work and update the deficiency list in RMS to include all items which do not conform to the approved drawings and specifications. The deficiency listing in RMS shall be edited to reflect the estimated date by which the deficiencies shall be corrected. The CQC System Manager shall make a second inspection to ascertain that all deficiencies have been corrected. Once the Contractor verifies correction of said deficiencies, notify the Government that the facility is ready for the Government Pre-Final inspection.

3.7.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. The Government will update the deficiency list in RMS. 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.

3.7.3 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 during the final acceptance inspection. Additional Government personnel may also be in attendance. The final acceptance inspection shall be formally scheduled by the Contractor 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, provided that the Contracting Officer receives the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work to be 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 Contract Clause 52.246-12 INSPECTION OF CONSTRUCTION.

3.8 DOCUMENTATION

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 submitted through RMS. Other formats may be used to record basic QC data. However, the Daily CQC Report generated by RMS shall be the Contractor's official report. The reports shall include, as a minimum, the following information:

- a. Contractor or subcontractor and its area of responsibility.
- b. Operating plant and equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, by whom, equipment used and how the equipment was used. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and control activities performed with results and references to specifications/drawings requirements. 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. Reports shall be submitted electronically to the Government within 24 hours after the date covered by the report. Provide the Government a signed, printed copy of the daily CQC report. 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 signed, printed copy of the daily CQC Report shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.9 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected

noncompliance with the foregoing requirements. Immediate corrective action shall be taken 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.

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TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 SUBMITTALS

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

SD-02 Shop Drawings

Site Plan;

Prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Identify all Gravel Construction Entrances and other erosion and sediment control features. Indicate if the use of a supplemental or other staging area is desired.

SD-06 Test Reports

Formaldehyde Emission Test Results

Submit formaldehyde emission test results for any administrative or government field offices as specified in this section.

1.2 GROUNDS AND ROADWAYS

1.2.1 Availability of Grounds

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings. Any additional rights-of-entry or grounds desired by the Contractor shall be obtained by the Contractor at its own expense, and copies of agreements for the use of such rights-of-entry shall be furnished to the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damages resulting from the use of the grounds.

1.2.2 Drainage Facilities

Insofar as natural drainage from the protected areas is obstructed by contract operations, it shall be the Contractor's responsibility to make adequate provision for accommodating such drainage in a satisfactory manner during the life of this contract, either by temporary means or by use of the permanent construction and operation of the permanent facilities.

1.3 AVAILABILITY AND USE OF UTILITY SERVICES

1.3.1 Temporary Electrical Facilities

The Contractor shall be responsible for coordination and costs for electrical power required for the Contractor's operations, including all costs for utility company hookup, installation/dismantling of transformers and distribution lines. The Contractor shall establish its own service connection with the utility company.

1.3.2 Sanitation

Provide and maintain within the construction area field-type sanitary facilities in accordance with EM 385-1-1. These facilities shall include but not be limited to toilet, washing, and drinking water facilities. Government toilet facilities will not be available to Contractor's personnel.

1.3.3 Telephone

The Contractor shall make arrangements and pay all costs for their desired telephone and on-site communication facilities.

1.4 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction, provide access and temporary relocated roads as necessary to maintain traffic. Maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. Investigate the adequacy of existing roads and the allowable load limit on these roads. Dust control shall be provided as stated in Section 01 57 20.00 13 ENVIRONMENTAL PROTECTION.

1.4.1 Off-Site Haul Routes

Submit a Haul Route Plan in accordance with Section 01 14 00.00 13 WORK RESTRICTIONS. Secure all permits required along haul routes. The Contractor shall be the sole permittee and shall be responsible for meeting all obligations of the permits. A copy of each permit shall be submitted to the Contracting Officer. The Contractor, as between the Government and the Contractor, has sole responsibility for damage or deterioration of the Contractor's haul routes.

1.4.2 On-Site Haul Roads

Construct access and haul roads necessary for proper prosecution of the work under this contract at no additional cost to the Government. Haul roads shall be constructed with suitable grades and widths. Sharp curves, blind corners, and dangerous cross traffic shall be avoided. Provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control chosen by the

Contractor shall be adequate to ensure safe operation at all times. Haul roads shall be all weather type roads constructed in a manner such that they can be used at all times under any weather conditions throughout the life of the contract. Haul roads shall not block or impede drainage in or through the right-of-way. The Contractor is responsible for and damages resulting from haul roads blocking or impeding drainage. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed and the area restored to its pre-construction condition.

1.4.3 Barricades

Erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.5 CONTRACTOR'S TEMPORARY FACILITIES

1.5.1 Administrative Field Offices

Provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.5.2 Formaldehyde Emission Requirements

Any administrative field offices the Contractor proposes to use shall be tested for formaldehyde emission by a state certified laboratory prior to being brought on site. The formaldehyde emission level shall not exceed 0.016 ppm. If this level is exceeded for any administrative field office, the Contractor shall take appropriate action to reduce the formaldehyde emission concentration to an acceptable level or shall provide another administrative field office that meets the requirements. No Luan, MDF, vinyl gypsum, or products that contain urea-formaldehyde will be allowed.

1.5.3 Staging Area

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings as "Work Limits", "Construction Limits", and/or staging area(s). Trailers, materials, or equipment shall not be placed or stored outside the work limits.

1.6 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

1.7 TEMPORARY PROJECT SAFETY FENCING

Prior to performing any work on the site, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, generally located to encompass the active construction areas. The safety fence shall meet EM 385-1-1 requirements for Section 04.A.04 Fencing and Warning Signs and other applicable sections. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

PART 2 PRODUCTS

2.1 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

2.1.1 Bulletin Board

Within 10 days of mobilizing to site, provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board must be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board must be removed by and remain the property of the Contractor.

2.1.2 Project and Safety Signs

Furnish and erect a Project sign and a Safety sign in a location selected by the Contracting Officer at the project site prior to the start of Construction. The requirements for the signs and their content shall be as shown on the drawings at the end of this section. The data required by the safety sign shall be corrected daily. Signs shall be maintained throughout the construction period, and upon completion of the project, the signs shall be removed from the site. The PROJECT DESCRIPTION and PROJECT NAME shall be as follows:

PROJECT DESCRIPTION: RED RIVER OF THE NORTH RIVER BASIN
FARGO-MOORHEAD FLOOD RISK MANAGEMENT

PROJECT NAME: SOUTHERN EMBANKMENT REACH SE-3

2.2 GOVERNMENT FIELD OFFICE

Provide and maintain for the life of the contract an approved mobile office (mobile home style) meeting the following requirements for the exclusive use of the Government. The unit shall be ready for occupancy prior to the start of construction. The unit shall provide a minimum of 400 square feet of floor area and shall include two private offices, and a restroom. The remaining space shall be utilized as one large office with a chest of drawers and a storage area for coats, etc.

The unit shall have two entrance doors. The unit interior headroom shall be no less than a nominal 8 feet.

The private offices shall have approximately 100 square feet of floor area.

The bathroom shall include a toilet, sink, and an electric heater.

2.2.1 Formaldehyde Emission Requirements

The government field office the Contractor proposes to use shall be tested for formaldehyde by a state certified laboratory prior to being brought on site. The formaldehyde emission level shall not exceed 0.016 ppm. If this level is exceeded the Contractor shall take appropriate action to reduce the formaldehyde emission concentration to an acceptable level or shall provide another government field office that meets the requirements. No Luan, MDF, vinyl gypsum, or products that contain urea-formaldehyde will be allowed.

2.2.2 Location

Locate the portable mobile home type field office at or near the Contractor's field office site at a location approved by the Contracting Officer. The location shall be such that four Government vehicles may be parked at the Government trailer.

2.2.3 Construction.

The Government field office shall be similar in quality and age as the Contractor's field office, if provided. Exterior and interior finishes shall be free from color fade, chipping, or peeling. The unit shall be set level on blocking, be provided with plywood skirting, and be anchored to the ground for protection against wind damage. Exterior doors shall be provided with screens and outside hasps for use with padlocks. The unit shall be electrically wired for fluorescent ceiling lighting fixtures and weather proof porch lights at each entrance door, along with switches, duplex convenience outlets, and a master switch and fuse box as required. The entire unit shall be adequately insulated with fiberglass insulation and vapor barrier. Dead air crawl space shall be properly ventilated. Heating and air conditioning facilities shall be provided to maintain an ambient inside temperature of 68 degrees F. The unit shall be weather proof, and furnished with a forced air type heating plant, either gas or oil with hot and cold air ducts adequate to supply even heat throughout the unit. Air conditioning shall be furnished with capacity as recommended by the manufacturer for the trailer size. A central air conditioning system shall be provided.

2.2.4 Utilities.

The Contractor shall be responsible for service fees in connection with electrical power and heating (natural gas or oil service). The Contractor shall also be responsible for service fees in connection with the water supply, sanitary waste system, telephone and Internet (WIFI) as indicated below. When available, city water and sewer system connections are preferred.

- a. Sanitary Facilities. In the absence of a city sewer connection, holding tanks shall be provided. The lavatory shall discharge into an outside underground holding tank with a capacity of not less than 400 gallons and a vented drain. The Contractor shall provide year-round pumping of the holding tank as required. Subject to approval, a serviced chemical toilet may be used.

b. Potable Water. In the absence of a city water connection, a potable water storage tank of not less than 300 gallons capacity shall be furnished with adequate supply filling connections and screened vent, and shall be stainless steel or plastic with a drain cock of not less than ½ inch size. Upon completion of the job, the Contractor shall remove the underground holding tank and backfill the excavation. The Contractor shall provide potable water for the storage tank if service connections are not provided.

c. Internet Service. Provide, install, and maintain WIFI internet service at the Government field office. The internet service shall be of the same performance characteristics as provided in the Contractor's files office.

2.2.5 Furnishings.

The following furnishings shall be provided for the Government office:

- a. A hot and cold drinking water dispenser.
- b. Bulletin board, minimum size 6 square feet.
- c. A cabinet shall be supplied along a side wall with minimum nominal dimensions 2 feet wide, 3 feet high and 6 feet long. The cabinet shall include a finished wood or laminate counter. Two shelves, one above and one below the cabinet, shall be provided for storage.
- d. Sign. The Contractor shall securely attach to the unit exterior and adjacent to the main entrance door, as approved, a 24 inch by 36 inch sign with the Corps of Engineers castle insignia with wording as specified.
- e. Stoop. A stoop with 8 inch risers and handrails shall be provided at each entrance door.
- f. Windows. All windows shall be provided with sash and security screens along with shades, blinds or similar features that allow for the complete coverage of the windows on the inside.
- g. Lavatory. A 5 by 24 inch metal shelf and 15 by 20 inch wood or metal framed plate glass mirror shall be provided above the lavatory.

2.2.6 Furniture

Office furniture shall be coordinated with respect to style, color, and upholstery. The following furniture shall be provided:

- a. Two desks either wood or steel, double pedestal type, top approximately 60 inches by 34 inches, with lock.
- b. Two swivel armchairs with tilting seat and adjustable spring back.
- c. Two filing cabinets, four-drawer legal size, with lock.
- d. One drafting table stool, non-tilting, rotary type with back and circular footrest.
- e. One drafting table, metal and/or wood, 36 inches by 48 inches.
- f. One conference table, ¾ inch thick by 72 inches long by 36 inches wide with solid core construction top.
- g. Eight chairs for conference table, either wood or steel construction, with cushioned seat and backrest.
- h. One rack for hanging full size drawings.
- i. Two 24 inch by 36 inch white boards and white board markers.

2.2.7 Maintenance.

The Contractor shall maintain the field office for the life of the

contract. The Contractor shall be responsible for maintaining and paying for all costs associated with the following services:

- a. Supplies. Toilet paper, paper toweling, and paper and supplies for the copy machine shall be provided. Supply water for the drinking water dispenser. Supply water for the lavatory if a service connection is not provided for potable water.
- b. Maintenance of office equipment. Include a maintenance service contract/agreement for operation of the copy machine covering the duration of the contract.
- c. Janitorial Service. The Contractor shall provide daily janitorial service and provide all janitorial and sanitary supplies as well as trash removal service.
- d. Snow removal. Maintenance of site access including snow removal service is the responsibility of the Contractor.

PART 3 EXECUTION

3.1 MAINTENANCE OF GROUNDS

Borrow areas, stockpiles, and other grounds stripped of natural vegetation or disturbed by the Contractor's operations shall be kept free of noxious weeds, debris, and unnecessary materials and supplies. Control of vegetation shall comply with local ordinances.

3.2 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

3.3 RESTORATION

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will remain the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including topsoil and seeding as necessary.

3.4 ATTACHMENTS

- 1. SIGN REQUIREMENTS 5 Pages

-- End of Section --

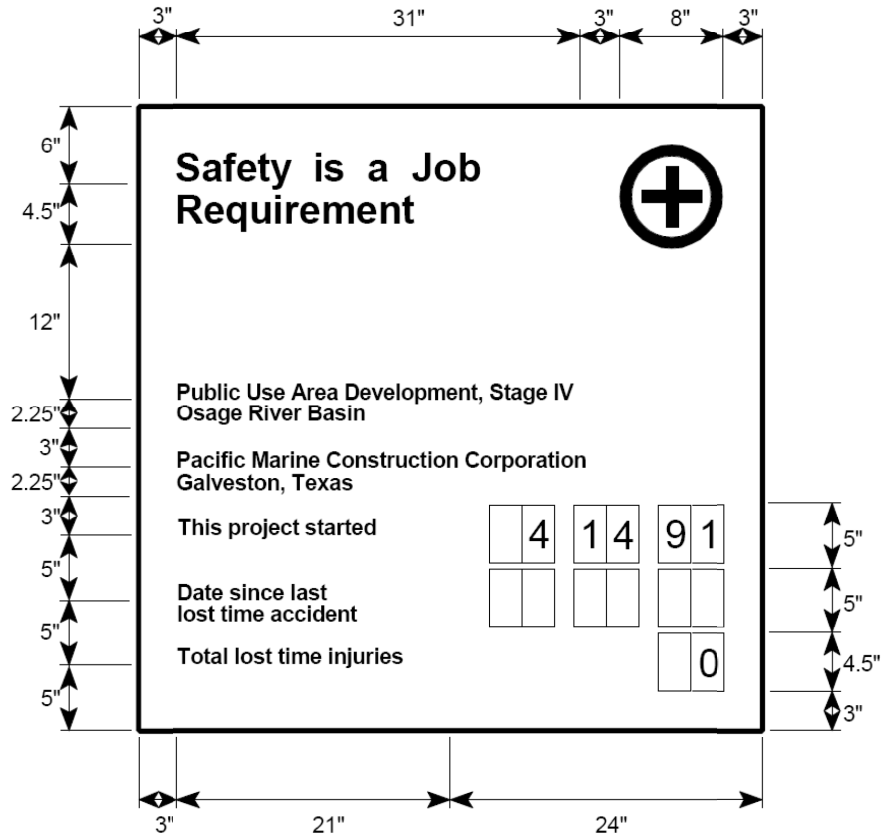
ATTACHMENTS: SECTION 01 50 20.00 13
TEMPORARY CONSTRUCTION FACILITIES

SIGN REQUIREMENTS



SIGN REQUIREMENTS

SAFETY SIGN



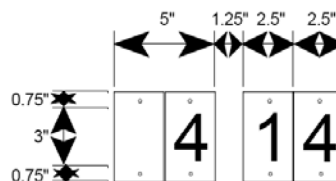
All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter and word spacing to follow Corps Standards (EP 310-1-6a and 6b).

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with (8" od.) Safety Green First Aid logo. 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".

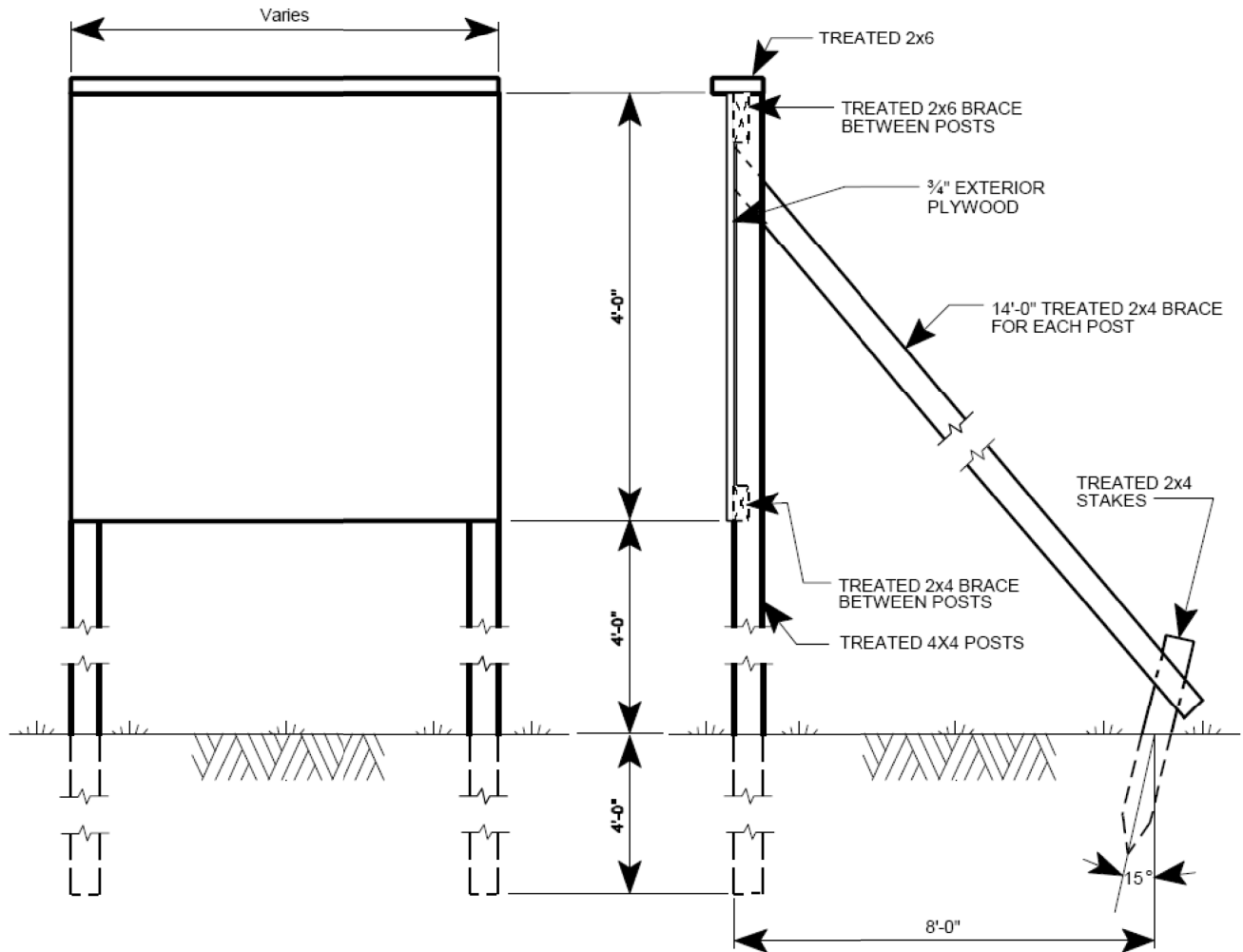
Legend Group 4: Standard safety record captions as shown. Color: Black; Typeface: 1.25" Helvetica Regular.



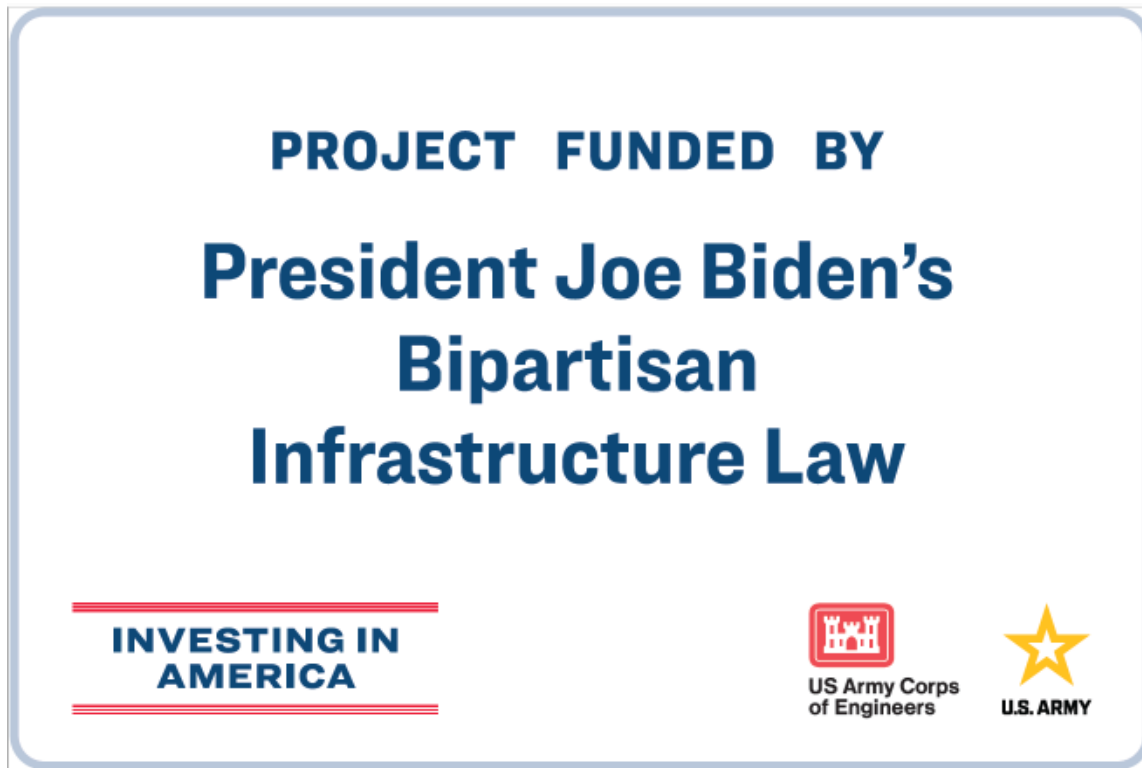
Replaceable numbers are to be mounted on white 0.060 aluminum plates and screw-mounted to background. Color: Black; Typeface: 3" Helvetica Regular; Plate size: 2.5" x 4.5".

SIGN REQUIREMENTS

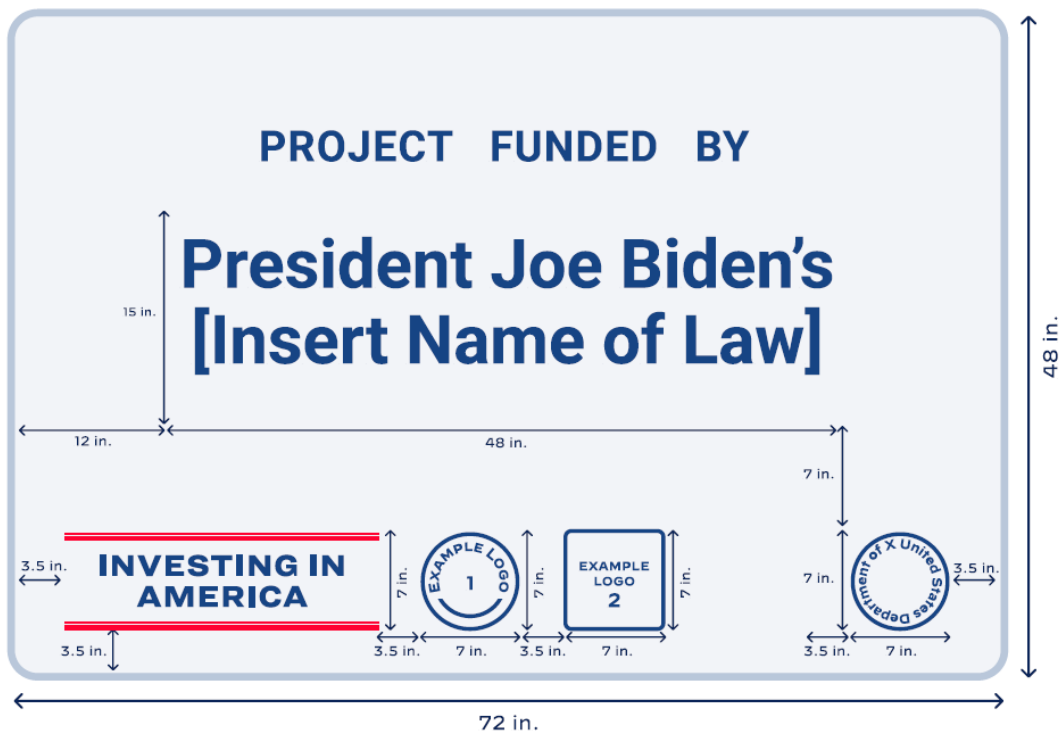
SIGN ERECTION DETAILS



Bipartisan Infrastructure Law – Project Sign Requirements



General Guidelines and Dimensions



Bipartisan Infrastructure Law Sign Fabrication and Mounting Guidelines

EP 310-1-6a
01 Jun 06

Fabrication and Mounting Guidelines

All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer representative and shall conform to the size, format, and typographic standards shown on pages 16-2 and 16-3. Detailed specifications

for HDO plywood panel preparation are provided in Appendix B.

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

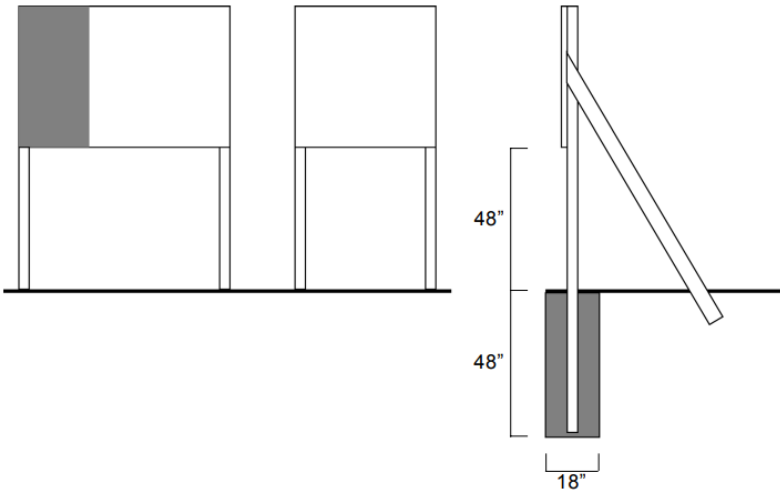
For additional information on the proper method to prepare sign panel graphics, contact the district Sign Program Manager.

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

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

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

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



Construction Project Identification Sign

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 - 1.1.1 Definitions and Responsibilities
- 1.2 MEASUREMENT AND PAYMENT
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- 1.4 SUBMITTALS

PART 2 PRODUCTS

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- 3.1 General

-- End of Section Table of Contents --

SECTION 01 55 26

TEMPORARY TRAFFIC CONTROL

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include furnishing, installing, and maintaining all required traffic control devices, personnel, and necessary precautions for protecting the public and workers.

1.1.1 Definitions and Responsibilities

a. Engineer: "Engineer" as used in the NDDOT Standard Specifications and throughout the plans, indicates the Contracting Officer, unless used in reference to quality control. Within the quality control sections of the NDDOT Standard Specifications, the term Engineer shall mean Contractor.

b. The Contractor shall perform and be responsible for all quality control measures described in the NDDOT Standard Specifications.

1.2 MEASUREMENT AND PAYMENT

The NDDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications shall not be followed when referencing measurements and payments. Deductions for payment referred to in the NDDOT Standards Specifications shall not be followed.

Requirements of the NDDOT Standard Specifications for acceptance of temporary traffic control measures shall be strictly adhered to. Items not meeting the minimum requirements of the NDDOT Standard Specifications shall be removed and replaced at the Contractor's expense.

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.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 704	(2023) Standard Specifications for Road and Bridge Construction, Temporary Traffic Control
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1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Temporary Traffic Control Device Certificates; G, CIV

Flagger Qualifications And Certificate Of Compliance; G, COR

Temporary Traffic Control Device Daily Inspection Report

PART 2 PRODUCTS

2.1 General

All products shall meet the requirements specified in NDDOT 704, and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

PART 3 EXECUTION

3.1 General

All work shall be completed in accordance with the requirements specified in NDDOT 704, and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

-- End of Section --

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SECTION 01 57 13

TEMPORARY EROSION CONTROL

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- 2.1 General

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- 3.1 General

-- End of Section Table of Contents --

SECTION 01 57 13

TEMPORARY EROSION CONTROL

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include furnishing and installing all temporary erosion control. Specifications for seeding and turf reinforcement mat provision and installation are included in Sections 32 92 19.01 13 and 31 32 11, respectively. The intent is to complete construction of CR81 in accordance with North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, while adhering to U.S. Army Corps of Engineers contract provisions. Should the NDDOT Standard Specifications referenced in this section conflict with the Government contract requirements for the same work, the Government contract requirements shall control.

1.1.1 Definitions and Responsibilities

a. Engineer: "Engineer" as used in the NDDOT Standard Specifications and throughout the plans, indicates the Contracting Officer, unless used in reference to quality control. Within the quality control sections of the NDDOT Standard Specifications, the term Engineer shall mean Contractor.

b. The Contractor shall perform and be responsible for all quality control measures described in the NDDOT Standard Specifications.

1.2 MEASUREMENT AND PAYMENT

The NDDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications shall not be followed when referencing measurements and payments. Deductions for payment referred to in the NDDOT Standards Specifications shall not be followed.

Requirements of the NDDOT Standard Specifications for acceptance of pavement shall be strictly adhered to. Pavement not meeting the minimum requirements of the NDDOT Standard Specifications shall be removed and replaced at the Contractor's expense.

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.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 216 (2022) Standard Specifications for Road and Bridge Construction, Water

NDDOT 255 (2022) Standard Specifications for Road and Bridge Construction, Erosion Control Blanket and Turf Reinforcement Mat

NDDOT 260	(2022) Standard Specifications for Road and Bridge Construction, Silt Fence
NDDOT 261	(2022) Standard Specifications for Road and Bridge Construction, Fiber Roll
NDDOT 856	(2022) Standard Specifications for Road and Bridge Construction, Erosion Control Blanket and Turf Reinforcement Mat

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Erosion Control Blanket; G, CIV

Fiber Roll; G, CIV

PART 2 PRODUCTS

2.1 General

Products associated with temporary and permanent seeding, including mulch, are included in Section 32 92 19.01 13. Turf reinforcement mat material requirements are included in Section 31 32 11.

All other products shall meet the requirements specified in NDDOT 216, NDDOT 255, NDDOT 260, NDDOT 261, and NDDOT 856 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

PART 3 EXECUTION

3.1 General

Installation of temporary and permanent seeding, including mulch, are included in Section 32 92 19.01 13. Turf reinforcement mat installation requirements are included in Section 31 32 11.

All work shall be completed in accordance with the requirements specified in NDDOT 216, NDDOT 255, NDDOT 260, NDDOT 261, and NDDOT 856 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

-- End of Section --

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 - 1.2.2 Environmental Protection
 - 1.2.3 Contractor Generated Hazardous Waste
 - 1.2.4 Land Application for Discharge Water
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SECTION 01 57 20.00 13

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328	Definitions of Waters of the United States
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171 - 178	Hazardous Materials Regulations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual
WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

1.2 DEFINITIONS

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (e.g. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated pesticide equipment rinse water.

1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water means that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

1.2.5 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

1.2.6 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

1.2.7 Surface Discharge

The term "Surface Discharge" means that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a permit from the governing agency to discharge water.

1.2.8 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

1.2.9 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with the WETLAND MANUAL.

1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall be responsible for any delays resulting from failure to comply with any Federal, State, or Local environmental laws and regulations.

1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, regional and local laws and regulations.

1.6 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

Environmental Protection Plan; G,ENV

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor considers necessary, shall be identified and discussed after those items

formally identified in this section. Before the start of construction, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan, possible subsequent additions and revisions to the plan including any reporting requirements, and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.7.2 Contents

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. In accordance with the NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) permit, prepare an erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided during construction. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, and Federal, State, and local laws and regulations.
- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

- i. Drawing showing the location of borrow and disposal areas.
- j. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:
 - 1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer, and the local Fire Department for flammable materials, in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.
 - 2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
 - 3. Training requirements for Contractor's personnel and methods of accomplishing the training.
 - 4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
 - 5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
 - 6. The methods and procedures to be used for expeditious contaminant cleanup.
- k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction.
- l. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to participate in Federal, State, regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.
- m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.

n. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the product Safety Data Sheets (SDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

p. A historical, archaeological, cultural resources, biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical, archaeological, cultural resources, biological resources or wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

q. A pesticide treatment plan shall be included and updated, as information becomes available. The plan shall include: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (e.g. pounds per acre), equipment used for application and calibration of equipment. The Contractor is responsible for Federal, State, regional and local pest management record keeping and reporting requirements.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with

the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

1.9 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.10 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping (suspending) all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law. The failure of the Contracting Officer to notify the Contractor of any noncompliance with Federal, State, or local environmental laws or regulations, permits, or the Contractor's Environmental Protection Plan shall not relieve the Contractor of the duty to comply with those laws or regulations, permits, or the Contractor's Environmental Protection Plan.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PERMITS

The Government has obtained the following permits related to this project.

1. STATE OF NORTH DAKOTA PERMIT TO CONSTRUCT OR MODIFY A DAM

The North Dakota State Water Commission has issued a permit to Construct or Modify a Dam, (Permit number 2489). The conditions that apply to or impact the Contractor are addressed elsewhere within the contract documents.

2. MNDNR DAM SAFETY & PUBLIC WATERS WORK PERMIT

The Minnesota Department of Natural Resources has issued a Dam Safety & Public Waters Work Permit, (Permit number 2018-0819). The conditions that apply to or impact the Contractor are addressed

elsewhere within the contract documents.

3. NORTH DAKOTA SECTION 401 WATER QUALITY CERTIFICATION

A copy of this permit is attached at the end of this section.

The Contractor is responsible for obtaining all applicable permits or licenses except those previously obtained. The Contractor is responsible for implementing the terms and requirements of all permits.

3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Section 01 41 26.00 13 NORTH DAKOTA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.

3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas

shall be controlled to protect adjacent areas.

3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

3.3.1 Cofferdams, Diversions, and Dewatering Operations

Construction operations for dewatering, water return for hydraulic dredging, removal of cofferdams, tailrace excavation, and tunnel closure shall be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. The Contractor shall plan its operations and perform all work necessary to minimize adverse impact, such as water turbidity, on the habitat for wildlife and on water quality for downstream use.

3.3.2 Stream Crossings

Stream crossings shall allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

3.3.3 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands, unless authorized herein. The Contractor shall be responsible for the protection of wetlands shown on the drawings. Authorization to enter specific wetlands identified shall not relieve the Contractor from any obligation to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries.

3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphalt batch plants; shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep

the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall comply with State rules.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes

Solid wastes (excluding dredge material and clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off the construction site and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill shall be the minimum acceptable off-site solid waste disposal option. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate.

3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes shall be classified, managed, stored, and disposed in accordance with Federal, State, and local laws and regulations.

3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The

Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations. The Contractor shall transport Contractor generated hazardous waste off the construction site in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

3.5.4 Fuel and Lubricants

Storage, fueling, and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations.

3.5.5 Waste Water

Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways.

3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs.

3.7 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing historical, archaeological, and cultural resources within the Contractor's work area are shown on the drawings, or will be designated by the Contracting Officer, if any have been identified. The Contractor shall protect these resources and shall be responsible for their preservation during the life of the Contract. If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.8 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, regional, and local laws and regulations.

3.9 PESTICIDES

3.9.1 Pesticide Delivery and Storage

Pesticides shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Pesticides shall be stored according to manufacturer's instructions and under lock and key when unattended.

3.9.2 Qualifications

The applicator shall be certified in the state where the work is to be performed.

3.9.3 Pesticide Handling Requirements

The Contractor shall formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and shall use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Product Safety Data Sheets (SDS) shall be available for all pesticide products.

3.9.4 Application

Pesticides shall be applied by a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator shall wear clothing and personal protective equipment as specified on the pesticide label. Water used for formulating shall only come from locations designated by the Contracting Officer. The Contractor shall not allow the equipment to overflow. Prior to application of pesticide, all equipment shall be inspected for leaks, clogging, wear, or damage and shall be repaired prior to being used.

3.10 INVASIVE SPECIES PREVENTION

The Contractor shall clean each previously used piece of construction equipment and watercraft, unless specified otherwise, prior to bringing it onto the project site and prior to removing it from the site to prevent the spread of invasive species. The Contractor shall ensure that the equipment and watercraft is free from soil residuals, egg deposits from plant pests, noxious weeds, plant seeds, aquatic plants and animals (including zebra mussels), and residual water. Cleaning of equipment and watercraft shall be in accordance with the Environmental Protection Plan.

If construction equipment or watercraft brought to the project site is found to be contaminated with invasive species, despite implementation of the Best Management Practices, the Contractor shall not use the construction equipment or watercraft in its present state. Any contaminated construction equipment or watercraft in water shall immediately be placed on dry land. The Contractor shall follow

decontamination protocols as identified in the environmental protection plan. Contaminated equipment shall be decontaminated on site if there is an area that meets decontamination protocols. If this is not possible, the equipment shall be quarantined on site until a decontamination plan is approved by the Contracting Officer. Such equipment shall not be used on site until all invasives have been removed and documentation verifying the results of the cleaning is provided.

As per Executive Order 13112 (Section 1. Definitions) an "invasive species" is defined as a species that is:

- 1) non-native (or alien) to the ecosystem under consideration and
- 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the primary means of invasive species introductions.

North Dakota Century Code chapter 4.1-47-02, "Each person shall do all things necessary and proper to control the spread of noxious weeds"

Weeds declared noxious shall be confined to weeds that are difficult to control, easily spread, and injurious to public health, crops, livestock, land, or other property. The following weeds have been declared noxious with-in the state of North Dakota Century Code per chapter 4.1-47:

Absinth wormwood (*Artemisia absinthium* L.)
Canada thistle (*Cirsium arvense* (L.) Scop.)
Dalmatian toadflax (*Linaria genistifolia* spp. *damatica*)
Diffuse knapweed (*Centaurea diffusa* Lam.)
Leafy spurge (*Euphorbia esula* L.)
Musk thistle (*Carduus nutans* L.)
Purple loosestrife (*Lythrum salicaria* L., *Lythrum virgatum* L. and all cultivars)
Russian knapweed (*Centaurea repens* L.)
Saltcedar (*Tamarisk* spp.)
Spotted knapweed (*Centaurea maculosa* Lam.)
Yellow toadflax (*Linaria vulgaris*)
Palmer amaranth (*Amaranthus palmeri*)
houndstongue (*Cynoglossum officinale* L.)

3.11 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.12 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices,

vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.13 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause 52.236-12 CLEANING UP. The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

3.14 ATTACHMENTS

1. WATER QUALITY CERTIFICATION 3 PAGES

-- End of Section --

ATTACHMENTS: SECTION 01 57 20.00 13
ENVIRONMENTAL PROTECTION

WATER QUALITY CERTIFICATION

August 14, 2020

Derek Ingvalson, Biologist
180 Fifth St East - Suite 700
St. Paul, MN 55101-1600

Section 401 Water Quality Certification for the Southern Embankment Portion of the Fargo-Moorhead Metropolitan Area Flood Risk Management Project

Dear Mr. Ingvalson:

Pursuant to §401 of the Clean Water Act the North Dakota Department of Environmental Quality (NDDEQ) has reviewed the U.S. Army Corps of Engineers construction specification, design documentation and plans of the Southern Embankment Portion of the Fargo-Moorhead Metropolitan Area Flood Risk Management Project (SE-Portion) for consistency in supporting the State's Standards of Quality for Waters of the State (standards).

In brief, the SE-Portion is a diversion dike and channel/borrow ditch system (dam) that contains and directs flood waters to the diversion channel of the Fargo-Moorhead Metropolitan Area Flood Risk Management Project.

A SE-Portion's dam will connect North Dakota and Minnesota from ¼ mile east Sheyenne River approximately equal distance between Kindred and Horace to a few miles south of Comstock. The dam travels in a winding fashion first north then east, then south for a total length of 25-30 miles.

Projected wetland impacts of 66.66 acres consisting of 52.88 acres of seasonal, 0.69 of shallow marsh and 13.08 of wet meadow. All wetland impacts will be mitigated following US Army Corps of Engineers protocols.

Based on this evaluation, the NDDEQ is reasonably assured that no violations of the standards will occur during construction and grants clean water certification provided the following conditions are met prior to and during construction:

- 1) Prior to any construction activity, the contractor or their agent acquire:
 - a. A permit to discharge storm water runoff until the all areas of the site is stabilized by the reestablishment of vegetation or other permanent cover, and
 - b. A temporary dewatering permit to discharge water from sources other than storm water runoff, including contaminated groundwater.

Further information on the storm water and temporary dewatering permits may be obtained from the department's website or by calling the Division of Water Quality (701-328-5210).

COPY

- 2) Remove, stockpile and contain above the highwater mark any excavated or dredged materials from rivers, creeks, or wetlands (waters of the state) in a manner that prevents runoff of sediments back into any waters of the state.

This material may not be placed back into waters of the state unless it has been tested for trace elements and heavy metals to ensure none would be released in concentrations above the aquatic life or human health criteria in the water quality standards.

While this material/sediment/slurry may not be put back into the river without testing for contaminants, it may be used for "fill" in upland location(s) where it will not erode back into the river without testing.

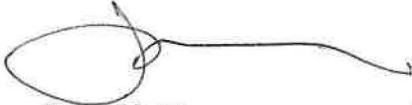
- 3) When working in, or on the banks, of any river or stream secure upland staging area or areas, will need to be developed for the storage of equipment, fuel, petroleum products, and hazardous materials when not in use. The staging area(s) are to be located at or constructed in such a way that a spill will not enter the river. Equipment which cannot be moved to the staging area at the end of each day, will be locked or secured in such a manner as to prevent vandalism.
- 4) Develop a list of fuels, lubricants, antifreeze, hydraulic fluids, petroleum products, and hazardous materials used, and have it available on request.
- 5) When working on/near rivers or streams maintain containment booms and/or absorbent materials on site. The numbers, types, and length of booms and/or absorbent materials need to be enough to address the types and volumes of materials listed in condition 4.
- 6) Clean and inspect all equipment, temporary materials, watercraft, barges, and tools for aquatic nuisance species prior to being allowed on the construction site.
- 7) Clean and inspect all equipment for leaks of oil, gas, diesel, antifreeze, hydraulic fluid, or other petroleum prior to being allowed on the construction site.
- 8) Equipment that leaks after being allowed on the river or stream banks must be removed immediately. At no time is equipment that leaks oil, gas, diesel, antifreeze, hydraulic fluid, or other petroleum product be allowed to operate on the construction site that has the potential to reach waters of the state.
- 9) Remove and dispose of, or store at an upland site, any vegetation, debris, or other organic riverbank material removed during construction of the connecting channel and channel approach and outlet such that it cannot reenter the river during high water or precipitation events.
 - a. All exposed riparian areas are to be revegetated with native species immediately following completion of work.
 - b. Previously harvested vegetation may be used for revegetation.
- 10) Any stone rip rap must be clean and free from rubbish such as rebar, wire or wood.
- 11) Stone rip rap is of a size and shape appropriate to withstand the energy of the river.
- 12) Protect upland, riparian, and adjacent vegetation, except where it is being removed.

13) No asbestos containing products may be used in the structure.

14) No lead-based paints, adhesives or other material may be used in the structure.

The department reserves the right to amend this certification if it is determined that the impacts to water quality were underestimated, conditions change, or for any reason it is no longer reasonable to assume that the project is complying with the standards or other appropriate requirements of State law. Should you have any questions, I may be reached at 701.328.5268.

Sincerely,

A handwritten signature in black ink, consisting of a large loop followed by a horizontal line that tapers off to the right.

Peter N. Wax
Environmental Scientist
Division of Water Quality

PNW:dlp

xc. Bruce Kreft, Biologist Supreme, NDG&F, Bismarck
Aaron Carranza, Regulatory Program Manager, Bismarck
Patricia L. McQueary, State Program Manager, USACE Bismarck
Toni R. Erhardt, Regulatory Project Manager, USACE Bismarck

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CONTRACTOR SURVEYS

PART 1 GENERAL

1.1 DEFINITIONS

Construction Surveying: Accurately providing all necessary computations, stakes and marks to establish lines, slopes, elevations, points, and continuous profile grades in accordance with the requirements and tolerances of the project to enable a construction Contractor to perform all required construction work for the project in accordance with the Contract requirements; and so that the Contracting Officer or the Contracting Officer's Representative can perform all necessary contract administration duties.

Terrain Model (.DGN): A set of three-dimensional triangles mathematically computed from point data collected on the surface being modeled. Models are used to define irregular surfaces, particularly the surface of the earth.

Geospatial Data: Data or information that identifies the geographic location of features and boundaries on Earth, such as natural or constructed features. Spatial data is usually stored as coordinates and topology, and is data that can be mapped.

Global Navigation Satellite System (GNSS): Refers to a global constellation of satellites providing signal from space transmitting positioning and timing data. This includes GPS, GLONASS, Galileo, Beidou and other regional systems.

Positioning Equipment: Refers to devices that produce (directly or indirectly) geographic coordinates or elevation values as an output. See paragraph POSITIONING EQUIPMENT for examples.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-1-1003	(2011) Engineering and Design: NAVSTAR Global Positioning System Surveying
EM 1110-1-1005	(2007) Engineering and Design: Control and Topographic Surveying
EM 1110-1-2909	(2012) Engineering and Design: Geospatial Data and Systems
EM 1110-2-1003	(2013) Engineering and Design:

Hydrographic Surveying

EM 1110-2-6056

(2010) Engineering and Design: Standards and Procedures for Referencing Project Elevation Grades to Nationwide Vertical Datums

1.3 AVAILABLE DATA FROM THE GOVERNMENT

After contract award, design models (.dgn) and terrain models (.dgn) are available upon request. Utilizing, managing, and converting these files to other formats is the Contractor's responsibility.

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

Construction Surveying Work Plan and Schedule; G, SURV

Information as defined in Paragraph: Layout Surveys.

Quality Control Plan; G, SURV

Information as defined in Paragraph: Quality Control Plan.

Preliminary Survey; G, SURV

Information as defined in paragraph: Preliminary Survey.

Professional Certification and Work Experience; G, SURV

Information as Defined in paragraph: Professional Certification and Work Experience.

SD-11 Closeout Submittals

As-Built Survey; G, SURV

Information as defined in Paragraph: As-Built Surveys.

Geospatial Data

Information as defined in Paragraph: GEOSPATIAL DATA.

1.5 GEOSPATIAL DATA

1.5.1 Metadata

All geospatial information submitted must include Federal Geographic Data Committee (FGDC) compliant metadata. See EM 1110-1-2909 or http://www.fgdc.gov/metadata/documents/workbook_0501_bmk.pdf for more information.

1.5.2 Geospatial Information

Geospatial data that may be used include any of the following information: GIS drawings/maps, hydrographic surveys, topographic mapping, georeferenced digital drawings generated from hard copy maps/drawings, high-order geodetic control (horizontal and vertical) surveys using Global Navigation Satellite System (GNSS) or Global Positioning System (GPS) and conventional survey techniques for control and property/boundary surveys. For required accuracies see EM 1110-1-1005 - Chapter 6 and EM 1110-1-1003 - Chapter 8.

1.5.2.1 GNSS/GPS Data

Collect and submit to the Contracting Officer the GNSS observables (L1/L2) in both the GNSS receiver's native format and the Receiver Independent Exchange Format (RINEX) all Real Time Kinematic, Static, and Differential Surveys. If a Virtual Reference Network (VRS) is not used, a completed observation log sheet is required for each base station occupation/session. All GNSS/GPS control surveys require "closed" observation campaigns. A "closed" campaign consists of more than one observation of each control point. Use appropriate observation times for the level of accuracy required for the type of work.

1.5.2.2 Field Notes/Books

Submit all original field books/notes/computation sheets fully describing the geospatial data collection and all significant events related to said event. This allows the Contracting Officer to apply quality assurance measures to the data collect. Compile the format and content of field notes/books according to EM 1110-1-1005-Chapter 12.

1.6 DATUMS AND UNITS OF MEASURE

Use the spatial reference information on the drawings. Ensure all geospatial data submitted is referenced to the National Spatial Reference System (NSRS).

1.7 MEASUREMENT AND PAYMENT

No separate payment will be made for the work covered under this section. Include all costs associated with this section within the contract bid items most closely related to the work.

1.8 QUALITY CONTROL

Establish and maintain quality control for the work of this section to assure compliance with the contract requirements. Maintain records of quality control for all geospatial data collection including but not limited to the following:

1.8.1 Quality Control Plan

Submit a plan for conducting quality control for the work to be performed under this specification. Approval of the QCP by the Contracting Officer is required prior to commencing field work. Outline the personnel, equipment, and activities scheduled by the Contractor or subcontractor(s) to meet contract requirements. Include the expected data formats to be submitted. Determine and use the appropriate procedures and techniques for the required tasks.

1.8.2 Layouts and Surveys

Keep a daily log of layout work and surveys consisting of type and location using the Government-furnished control system as stated in the Contract Clause 52.236-17 LAYOUT OF WORK.

1.9 PROFESSIONAL SURVEYOR

All geospatial data collections must be accomplished under the direction of a professional surveyor licensed and registered by the state or states in which the work is done. The professional surveyor shall be on site at all times during surveying activities. The professional surveyor shall not have additional duties such as Superintendent or CQC System Manager.

1.9.1 Professional Certification and Work Experience

Provide documentation verifying the professional surveyor is licensed and registered by the state or states in which the work is done. Provide documentation verifying that the professional surveyor has a minimum of three years experience performing similar type work. For hydrographic surveys, provide documentation verifying a minimum of three years of experience in hydrographic surveying of navigable channels. Possession of a current hydrographic certification from the American Congress for Surveying and Mapping (ACSM) is acceptable in lieu of the registered Professional Surveyor requirement for hydrographic surveys.

1.10 GEOSPATIAL DATA COLLECTION EQUIPMENT

1.10.1 Positioning Equipment

Positioning equipment for geospatial data collection shall be capable of achieving the required accuracy for the work being performed. Perform initial calibration and subsequent checks in accordance with the manufacturer's instructions or the latest guidance documents (see paragraph REFERENCES). Provide documentation of all calibrations and subsequent checks to the Contracting Officer. Positioning equipment includes, but is not limited to, the following: conventional/robotic total stations, GNSS/GPS systems, and digital levels.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 COMMENCEMENT, PERFORMANCE, AND COMPLETION

3.1.1 General

Execute all surveys in accordance with EM 1110-1-1003, EM 1110-1-1005, EM 1110-1-2909, EM 1110-2-1003, and EM 1110-2-6056. Layout the work from the Government furnished horizontal/vertical control points in accordance with Contract Clause 52.236-17 LAYOUT OF WORK. 7 calendar days prior to commencing construction operations, have in place sufficient stakes and markings allowing the Contracting Officer to observe the field layout of the alignment and limits of each feature of work. Stake each feature of work to define area limits such that the Contracting Officer can easily determine, without additional surveys, if alignment and/or limit adjustments need to be made. For embankments, levees, floodwalls, and similar work, define control line, stationing, outermost fill/cut limits,

and work limits with staking. For structures and similar work, stake the structure corners and grid lines. Stake general site work to define staging areas, storage areas, and other area limits as directed. The Contracting Officer may waive these requirements for certain areas. The layout shall be sufficient for the Contracting Officer to mark trees, vegetation and other features to be left undisturbed. Contracting Officer approval of field layout is required prior to commencement of work.

These stakes shall remain or be replaced as needed during all periods of active work. If stakes become damaged or are moved, the Contractor shall replace them within 24 hours. The Contracting Officer shall have the right to suspend work if the grade stakes are not maintained.

Perform observations of all control points in accordance with the accuracy level appropriate for the type of work being performed. Tie all geospatial data collections to a fixed control point that is published in the National Spatial Reference System (NSRS).

3.1.2 Alignment Changes

The Contracting Officer reserves the right to make changes in the alignment of any feature of work as may be found necessary during the course of the contract. Make no alignment changes or abandonment without prior written approval from the Contracting Officer.

3.1.3 Geospatial Data Collection

The Contracting Officer reserves the right to be present for all geospatial data collection field work.

For preliminary, as-built, quantity surveys and verification of design section surveys perform a breakline and grid style survey/point cloud of the project area at sufficient spacing to accurately define site conditions and as-built conditions but not to exceed 100 feet. Conduct the breakline and grid style survey/point cloud with an equipment type that can meet or exceed the requisite accuracies.

Produce and submit for approval:

1. a terrain model in Bentley CONNECT.DGN format, LandXML format 1.2, or in a format compatible with Bentley CONNECT approved by the Contracting Officer. the terrain model should include planimetrics, spot elevations, breaklines, voids and contours.
2. XYZ text file with descriptions.
3. Metadata (in an .xml, .gen. or .met file format) associated with submittal.

3.1.3.1 Preliminary Survey

Run a preliminary survey, locating the control line (if applicable), all other significant features that may affect the design and/or construction of the project within the limits of the work, and all existing conditions from which construction of the design features will be based. Submit all geospatial data (raw and processed) used to derive preliminary survey documentation as evidence of performance and for review by the Contracting Officer for compliance with applicable standards and guidance. At a minimum, collect the preliminary survey using the appropriate data

collection equipment (paragraph GEOSPATIAL DATA COLLECTION EQUIPMENT) for the accuracy level required. Deliver all geospatial data according to paragraph GEOSPATIAL DATA.

3.1.3.2 Layout Surveys

Conduct layout surveys for all project features necessary to complete the project as represented in the plans. Perform surveys in a timely manner and that is reflective of the continuing and ongoing nature of construction and inspection activities. This will generally require frequent, separate site visits by the Contractor's survey crew to the project location to accommodate the various stages of construction and inspection activities that will occur.

The Contractor is:

1. responsible for the preservation of all reference points, monuments, government land corners (Public Land Survey System corner monuments), horizontal and vertical control points, stakes, and marks that are established by the Government or others within the project limits. If the Contractor fails to preserve these items and if the Government must reestablish them, the Contracting Officer will deduct a charge from monies due or becoming due the Contractor. All Public Land Survey System corner monuments recovered or reestablished require a record of location be filed with the appropriate authority with a copy sent to the Contracting Officer.

2. responsible to review, balance, adjust, correct, and investigate Government-furnished data and to perform work on survey data and control points that may be necessary to use the survey points and data, all at no extra cost to the Government, unless it is determined by the Contracting Officer that latent errors existed in the information provided by the Government.

3. to start and end all level runs, traverses, or GNSS/GPS control surveys, from known control.

4. to set all stakes and marks in such a manner that is highly visible and notations thereon legible and sufficiently descriptive, unless otherwise agreed to.

5. to bear all costs, including but not limited to the cost of actual reconstruction of Contract work that may be incurred due to errors in Contractor's Construction Surveying.

6. Surveying Activities

- a. Provide the Contracting Officer a 14 calendar day written notice before the Contractor needs the Government to establish any horizontal and vertical control points shown in the construction documents.

- b. Submit for approval, prior to commencing Surveying work, a written Construction Surveying Work Plan and Schedule detailing:

- i. Pertinent information as to how the requirements in these specifications are being met by the Contractor.

- ii. A project specific Construction Surveying Work Schedule

for the Construction Surveying and how it relates to the time frame for construction activities and the Government inspection needs.

- iii. A proposed method of communications between the Contractor and Government Personnel.
- iv. How and when the Contractor will make delivery of the as-built Survey Data to the Contracting Officer.
- c. During the course of construction, provide notice of commencement of any Construction Surveying activities.

3.1.3.3 As-Built Survey

3.1.3.3.1 Project Elements and Features

Conduct an as-built survey of all project elements and features to accurately document the relationship between the design location and construction location and submit within 30 calendar days of the construction completion date as defined in Clause 52.211-10 Commencement, Prosecution, and Completion of Work, ALT 1. Provide all geospatial data (raw and processed) used to derive as-built documentation to the Contracting Officer. Ensure data is in compliance with applicable standards and guidance. At a minimum, electronically collect all as-built surveys of project elements and features using the appropriate data collection equipment (paragraph GEOSPATIAL DATA COLLECTION EQUIPMENT) for the accuracy level required and produce sufficient documentation of the as-built conditions. Deliver all geospatial data according to paragraph GEOSPATIAL DATA.

3.1.3.3.2 Utilities

Conduct an as-built field survey of all utilities, culverts and pipelines after installation or relocation to determine the final locations and elevations of all utility structures such as manholes, catch basins, gate valves, cleanouts, service connections, and other special controls or structures. Final elevations shall be determined for all sewer inverts, castings, and other elevations shown in the contract drawings. For utilities that are removed and not replaced, the removal limits and elevations shall be surveyed. Show locations using the same convention as the original contract drawings. Include this information on the Contractor Record Drawings in Section 01 78 02.00 10 CLOSEOUT SUBMITTALS.

3.1.3.4 Quantity Surveys for Measurement and Payment

Perform quantity surveys in accordance with CONTRACT CLAUSE 52.236-16 QUANTITY SURVEYS--ALTERNATE I. Perform quantity surveys for all features of work necessary to establish measurement for partial and final payments. Complete surveys in enough detail to accurately determine quantities and verify the required section. Tasks include, but are not limited to, the following:

1. Initially, perform geospatial data collection prior to initiation of construction of the feature of work according to paragraph Geospatial Data Collection.
2. At time periods at which partial payments are to be requested, perform geospatial data collection according to paragraph Geospatial

Data Collection.

3. Provide documentation and all associated files to the Contracting Officer showing all calculations, notes, and determinations. Include cross-sections with quantity calculations for material within the design section and quantity of material outside the design section.

4. For the final payment request, complete a final geospatial data collection according to paragraph Geospatial Data Collection.

The Contracting Officer may use the surveys for tolerance verification purposes. Additionally, the Contracting Officer may authorize an independent verification of any surveys.

3.1.3.5 Surveys for Verification of Design Section

For bid items where the unit of measure for payment is not in units of volume but where the work required is based on achieving specific section requirements, perform surveys as defined in this paragraph to verify that the design section requirements have been satisfactorily achieved. Perform the surveys using appropriate methods for the verification of the thickness and geometry of the materials placed as required by the contract documents. Tasks include, but are not limited to, the following:

1. Initially, perform geospatial data collection prior to initiation of construction of the feature of work according to paragraph Geospatial Data Collection.

2. At time periods at which verification of design section is requested, perform geospatial data collection according to paragraph Geospatial Data Collection.

3. Provide documentation and all associated files to the Contracting Officer showing all calculations, notes, and determinations. Include cross-sections with quantity calculations for material within the design section and quantity of material outside the design section.

4. Complete a final geospatial data collection according to paragraph Geospatial Data Collection.

The Contracting Officer may use the surveys for tolerance verification purposes. Additionally, the Contracting Officer may authorize an independent verification of any surveys.

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SECTION 01 78 02.00 10

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTALS

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

SD-11 Closeout Submittals

As-Built Drawings; G,

NPDES Closeout Submittals and Records; G,

1.2 NPDES Closeout Submittals and Records

The NPDES Closeout Submittals and Records shall be submitted as required by Section 01 41 26.00 13 NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM.

1.3 AS-BUILT DRAWINGS

1.3.1 Working Drawings

The Contractor shall maintain a separate set of marked-up full-scale drawings indicating as-built conditions. These drawings shall show all changes and revisions made up to the time the work is completed and accepted. These drawings shall be maintained in a current condition at all times until completion of the work and shall be available for review by Government personnel at all times. All work that differs from the drawings, including modifications and optional materials shall be indicated.

1.3.2 Final Drawings

An electronic copy and a full size hardcopy of the Final As-built Drawings shall be submitted. In addition to the requirements below, the drawings shall be in accordance with the As-built Survey requirements as stated in Section 01 71 23.05 13 CONTRACTOR SURVEYS.

1.3.3 Changes and Corrections

The Final As-built Drawings shall include, but not be limited to, the following information:

- a. Changes in grade, elevation, cross sections, location or alignment of roads, earthwork, structures or utilities.

- b. Changes in details.

1.3.4 Drawing Standards

- a. Deleted items shall be indicated in red.
- b. Added items or changed locations shall be shown in green.
- c. Variations shall be shown in the same general detail utilized in the contract drawings.
- d. Revisions shall be shown on all drawings and details related to the changed feature.
- e. All markups shall be neat, clean and legible.
- f. Where contract drawings or specifications present options, only the option selected for construction shall be shown.

1.4 MEASUREMENT AND PAYMENT

The Contactor shall be responsible for the work in this section without any direct compensation being made other than the payment received for contract items.

All information, records, and drawings shall be submitted prior to the construction completion date as defined in Clause 51.211-10 Commencement, Prosecution, and Completion of Work, ALT 1 and will become the property of the Government.

Approval of final as-built drawings is required before final payment is made to the Contractor.

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SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 PROJECT DESCRIPTION

This section covers the the removal of the roadways, culverts and the abandoned or removed utility lines as indicated.

1.2 TRAFFIC CONTROL

Permanent and temporary traffic control shall be addressed as stated elsewhere in the plans and specifications.

PART 2 PRODUCTS

2.1 FILL MATERIAL

Comply with excavating, backfilling, and compacting procedures for soils used as backfill material to fill voids, depressions or excavations resulting from demolition in accordance with Section 31 00 00.00 13 EARTHWORK.

PART 3 EXECUTION

3.1 UTILITY LINES

Cut and remove the abandoned utility lines as indicated on the drawings. Watermains shall be capped. Utility work shall be coordinated with the corresponding owner, as designated in the project plans, prior to any disturbance or work on any existing communication, buried electric, OH electric, water, and sanitary sewer forcemain. Contractor shall coordinate with Xcel Gas no less than one week prior to removal of the gas main located along 57th Ave W or any perceived gas line removals as noted on plans. The Contractor shall coordinate gas removals with the following contacts:

Travis Lill - 701.241.8663
Jade Brown - 701.241.8695

3.2 CULVERT REMOVAL

The removal of the culvert at the temporary levee shall include all culvert material, accessories, and controlled density backfill as indicated on the plans.

3.3 ROADWAYS

Removal of roadways includes the aggregate surface and any granular subbase.

3.4 DISPOSITION OF MATERIAL

3.4.1 Title to Materials

Except for salvaged items specified in related Sections, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, become the property of the Contractor and must be removed from Government property. Materials approved for storage by the Contracting Officer must be removed before completion of the Contract. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer. 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.

3.4.2 Unsalvageable and Non-Recyclable Material

Unsalvageable and non-recyclable material shall be disposed of in an approved disposal area, located off site, obtained and arranged by the Contractor.

3.5 CLEANUP AND DISPOSAL

Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Dispose of debris, rubbish, scrap, and other unchallengeable materials resulting from removal operations in accordance with all Federal, State and local regulations.

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SECTION 03 22 70.01

CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

PART 1 GENERAL

1.1 REFERENCES

All publications referenced shall be the most current version, edition, standard, latest revision, or reapproval unless otherwise stated. The following publications and standards listed below will be referred to only by the basic designation thereafter, and shall form a part of this specification to the extent indicated by the references thereto:

ASTM INTERNATIONAL (ASTM)

ASTM C33/C33M	(2023) Standard Specification for Concrete Aggregates
ASTM C94/C94M	(2024a) Standard Specification for Ready-Mixed Concrete
ASTM C595/C595M	(2023) Standard Specification for Blended Hydraulic Cements
ASTM C685/C685M	(2017) Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C940	(2022) Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory
ASTM D5971/D5971M	(2016) Standard Practice for Sampling Freshly Mixed Controlled Low-Strength Material
ASTM D6023	(2016) Standard Test Method for Density (Unit Weight), Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low-Strength Material (CLSM)
ASTM D6103/D6103M	(2017;E2021) Standard Test Method for Flow Consistency of Controlled Low-Strength Material (CLSM)

1.2 DESIGN REQUIREMENTS

Controlled Low-Strength Material (CLSM) mixture proportion shall consist of 100 pounds or less of portland cement plus fly ash per cubic yard; pozzolan; sand; water; and a fluidifier, if required to obtain the required slump. The CLSM fill mixture proportion shall have a flow consistency of more than 8 inches. The flow consistency shall be determined in accordance with ASTM D6103/D6103M. CLSM fill shall have a compressive strength of 100 psi at 28 days. The compressive strength of

the CLSM shall be determined in accordance with ASTM D4832 after being made and cured in accordance with ASTM D4832. The mixture proportions shall be reported in accordance with ASTM C94/C94M. If the CLSM is to be placed using a concrete pump, the mixture proportions shall be designed so that it will not segregate in the pump line under pressure or when there is an interruption in flow. The air content shall be limited to 10 to 20 percent.

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-01 Preconstruction Submittals

On-Site Batching and Mixing; G, STR

Water Reducing; G

Concrete Mixture Proportions; G, STR

The Contractor shall submit manufacturer's literature from suppliers which demonstrates compliance with applicable specifications for all equipment and materials.

Placing; G, STR

The methods and equipment for transporting, handling, and depositing the CLSM backfill and CLSM fill shall be submitted to the Contracting Officer prior to the first placement.

SD-05 Design Data

Concrete Mixture Proportions; G, STR

CLSM mixture proportions shall be the responsibility of the Contractor and shall be designed in accordance with the criteria in paragraph DESIGN REQUIREMENTS. Ten days prior to placement of CLSM, the Contractor shall submit to the Contracting Officer the mixture proportions that will produce CLSM of the qualities required. Mixture proportions shall include the dry weights of cementitious material(s); saturated surface-dry weights of the fine aggregate; 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.

SD-06 Test Reports

CLSM Moisture Proportions Tests; G

Applicable test reports shall be submitted to verify that the CLSM mixture proportions selected will produce CLSM of the quality specified. 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.

SD-07 Certificates

Cement

Cementitious Material will be accepted on the basis of a manufacturer's certificate of compliance.

Aggregates

Aggregates will be accepted on the basis of certificate of compliance that the aggregates meet the requirements of the specifications under which it is furnished.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Ready-Mixed Concrete

Ready-mixed concrete shall conform to ASTM C94/C94M, except as otherwise specified.

2.1.1.1 Volumetric Batching and Continuous Mixing

Volumetric batching and continuous mixing shall conform to ASTM C685/C685M.

2.1.1.2 On-Site Batching and Mixing

The Contractor shall have the option of using an on-site batching and mixing facility. The method of measuring materials, batching operation, and mixer shall be submitted for review by the Contracting Officer. On-site plant shall conform to the requirements of either ASTM C94/C94M or ASTM C685/C685M.

2.1.2 Portland Cement

1. Portland Cement shall conform to ASTM C595/C595M, Type IL, allowable 5-15 percent replacement of limestone.

2.1.3 Pozzolan

Pozzolan shall be Class F or C fly ash conforming to ASTM C618/C618M.

2.1.4 Sand

Sand shall meet the requirements of fine aggregate of ASTM C33/C33M.

2.1.5 Fluidifier

The fluidifier shall give the CLSM fill the following salient characteristics:

- a. must have less than 1 percent bleed water in accordance with

ASTM C940

b. have an initial set time of more than 5 hours modified by using a Ferioli apparatus

c. have a flow consistency equal to or more than 8 inches in accordance with ASTM D6103/D6103M

d. have a compressive strength of 100 psi at 28 days in accordance with ASTM D4832

e. maintain a homogeneous mixture during pumping

1. Quantity of admixture(s) required in the mixture proportion is governed by the salient characteristics specified.

2. The admixture shall be added as directed by the manufacturer, in most cases it is added to the CLSM at the job site and mixed for a minimum of 5 minutes at mixing speed.

2.1.6 Water

Water shall be fresh, clean, and free from sewage, oil, acid, alkali, salts, or organic matter.

2.2 MIXING AND TRANSPORTING

The CLSM shall be mixed and transported in accordance with ASTM C94/C94M.

PART 3 EXECUTION

3.1 PREPARATION

Once the trench has been dug it shall be cleaned of all loose material and debris to the satisfaction of the Contracting Officer before any CLSM fill is placed. The new utility pipeline shall be placed on mortar sacks, spaced to support pipe and allow CLSM to flow below line. A minimum of 1 foot of CLSM fill shall be placed above the top of the pipeline. The pipeline shall be securely anchored to maintain its position and prevent it from any movement during placement of the CLSM.

3.2 PLACEMENT

3.2.1 General

CLSM placement shall not be permitted when, in the opinion of the Contracting Officer, weather conditions prevent proper placement. When CLSM is mixed and/or transported by a truck mixer, the CLSM 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). The fluidifier shall not be added to the Ready Mix trucks until they have arrived onsite. The fluidifier shall be added to each truck at the proper dosage rate and mixed for 5 minutes and no more than 15 minutes before it is placed. CLSM shall be conveyed from the mixer to point of placement as rapidly as practicable by methods which prevent segregation or loss of ingredients.

3.2.2 Consolidation

Consolidation of the CLSM will not be required.

3.3 TESTS

3.3.1 General

The individuals who sample and test CLSM as required in this specification shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to ACI minimum guidelines for certification of concrete Field Testing Technicians, Grade I.

3.3.2 Inspection Details and Frequency of Testing

3.3.2.1 Flow Consistency

Flow consistency shall be checked once during each shift that CLSM is produced for each class of concrete required. Samples shall be obtained in accordance with ASTM D5971/D5971M and tested in accordance with ASTM D6103/D6103M. Whenever a test result is outside the specifications limits, the CLSM shall not be delivered to the placement 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-cement ratio does not exceed that specified in the submitted CLSM mixture proportion

3.3.2.2 Compressive-Strength Specimens

At least one set of test specimens shall be made each day on CLSM placed during the day or every 10 cubic yards placed. Additional sets of test cylinders shall be made, as directed by the Contracting Officer, when the mixture proportions are changed or when low strengths are detected. A random sampling plan shall be developed by the Contractor and approved by the Contracting Officer prior to the start of construction. The plan shall assure that sampling is accomplished in a completely random and unbiased manner. A set of test specimens for concrete with strength as specified in paragraph DESIGN REQUIREMENTS shall consist of six cylinders, one tested at 7 days, one tested at 14 days, and two tested at 28 days. Two cylinders shall be tested as directed. Test specimens shall be molded and cured in accordance with ASTM D4832 and tested in accordance with ASTM D4832. All compressive strength tests shall be reported immediately to the Contracting Officer.

3.3.3 Density

At least one set of test specimens shall be made each day on CLSM placed during the day or every 20 cubic yards placed. A random sampling plan shall be developed by the Contractor and approved by the Contracting Officer prior to the start of construction. The plan shall assure that sampling is accomplished in a completely random and unbiased manner. Test procedures and calculations shall be in accordance with ASTM D6023.

3.3.4 Reports

The Contractor shall prepare reports of all tests and inspections conducted at the project site.

-- End of Section --

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PLANT-PRECAST CONCRETE PRODUCTS FOR BELOW GRADE CONSTRUCTION

PART 1 GENERAL

1.1 DESCRIPTION

This specification covers plant-precast concrete products for below grade construction including polymer concrete manholes intended for use in sanitary sewers, storm sewers and water lines where corrosion resistance is required.

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	(2020) 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)
ACI 350-06	Code Requirements for Environmental Engineering Concrete Structures & Commentary
ACI 440.1R-06	Specification for Carbon and Glass Fiber-Reinforced Polymer Bar Materials for Concrete Reinforcement

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2020; Errata 1 2021) Structural Welding Code - Steel
AWS D1.4/D1.4M	(2011) Structural Welding Code - Reinforcing Steel

ASTM INTERNATIONAL (ASTM)

ASTM A767/A767M	(2016) Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement
ASTM C31/C31M	(2024) Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39/C39M	(2023) 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	(2024) 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	(2022) Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C309	(2019) Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C443	(2021) Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
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 C877	(2021) Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections
ASTM C891	(2020) Standard Practice for Installation of Underground Precast Concrete Utility Structures

ASTM C923	(2008; R 2013; E 2016) Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
ASTM C990	(2009; R 2019) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1064/C1064M	(2023) 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 C1244	(2020) Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill
ASTM C1478	(2019) Standard Specification for Storm Drain Resilient Connectors Between Reinforced Concrete Storm Sewer Structures, Pipes and Laterals
CSA GROUP (CSA)	
CSA A23.4	(2016; R 2021) Precast Concrete - Materials and Construction
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)	
ISO 9001	(2018) Quality Management Systems- Requirements
NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA)	
NPCA QC Manual	(2017) Quality Control Manual for Precast and Prestressed Concrete Plants

1.3 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. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Quality Control Procedures

SD-02 Shop Drawings

Standard Precast Units; G

Custom-Made Precast Units; G

Special Finishes

SD-03 Product Data

Standard Precast Units

Proprietary Precast Units

Embedded Items

Accessories

SD-05 Design Data

Design Calculations; G

Concrete Mix Proportions; G

SD-06 Test Reports

Test Reports

SD-07 Certificates

Quality Control Procedures; G

Welding Qualifications

SD-11 Closeout Submittals

Recycled content for fly ash and pozzolan; S

Recycled content for Ground Iron Blast-Furnace Slag; S

Recycled content for Silica Fume; S

Recycled content for steel; S

1.4 QUALITY ASSURANCE

Demonstrate adherence to the standards set forth in NPCA QC Manual or ACPA QPC. Meet requirements written in the subparagraphs below.

1.4.1 NPCA and ACPA Plant Certification

The precast concrete producer must be certified by the National Precast Concrete Association's or the American Concrete Pipe Association's Plant Certification Program prior to and during production of the products for this project.

1.4.2 Qualifications, Quality Control and Inspection

1.4.2.1 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.

1.4.2.2 Welding Qualifications

Prior to welding, submit certification for each welder stating the type of welding and positions qualified for, the code and procedure qualified under, date qualified, and the firm and individual certifying the qualification tests. If the qualification date of the welder or welding operator is more than 6 months old, accompany the welding operator's qualification certificate with a current certificate by the welder attesting to the fact that he has been engaged in welding since the date of certification, with no break in welding service greater than 6 months. Conform to all requirements specified in AWS D1.1 and AWS D1.1M.

1.4.2.3 Quality Control Procedures

Submit quality control procedures established by the precast manufacturer in accordance with NPCA QC Manual and ACPA QPC. Show that the following QC tests are performed as required and in accordance with the ASTM standards indicated.

1.4.2.3.1 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.

1.4.2.3.2 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.

1.4.2.3.3 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.

1.4.2.3.4 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.

1.4.2.3.5 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.

1.4.2.4 Polymer Concrete Manholes

Facility Quality Control should be maintained by adhering to ISO 9001:2018 for manufacturing. All fabricators must be ISO 9001 Certified and provide documentation of current certification.

Fabricator shall have a minimum of 5 years of previous polymer manhole construction experience.

1.4.2.5 Inspection

The Contracting Officer may place an inspector in the plant when the units covered by this specification are being manufactured. 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.

1.4.2.6 Test Reports

Submit the following:

1.4.2.6.1 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.

1.4.2.6.2 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.

1.4.2.6.3 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.

1.4.2.6.4 In-Plant QA/QC Inspection Reports

Submit inspection reports upon the request of the Contracting Officer.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 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.

1.5.2 Storage

Store units off the ground or in a manner that minimizes potential damage.

1.5.3 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 and ASTM C1443.

2.1.1 Standard Precast Units

Design standard precast concrete units to withstand indicated design load conditions in accordance with applicable industry design standards ACI 318 and 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 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.

2.1.3 Proprietary Precast Units

Products manufactured under franchise arrangements must conform to all the requirements specified by the franchiser. Items not included in the franchise specification, but included in this specification, must conform to the requirements in this specification. Submit standard plans or informative literature, for proprietary precast concrete units. Make available supporting calculations and design details upon request. Provide sufficient information as to demonstrate that such products will perform the intended task.

2.1.4 Joints and Sealants

Provide joints and sealants between adjacent units of the type and

configuration indicated on shop drawings meeting specified design and performance requirements.

2.1.5 Concrete Mix Design

2.1.5.1 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.

2.1.5.2 Concrete Strength

Provide precast concrete units with a 28-day compressive strength (f'_c) as determined by manufacturer's design and no less than 5,000 psi.

2.1.5.3 Water-to-Cement Ratio

Where exposed to freezing and thawing, furnish concrete containing entrained air and with a water-cementitious ratio of 0.45 or less. Where not exposed to freezing, but required to have a low permeability, furnish concrete with a water-cementitious ratio of 0.48 or less. Where exposed to deicer salts, brackish water, or seawater, furnish concrete with a water-cementitious ratio of 0.40 or less, for corrosion protection.

2.1.5.4 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 CLASSES F2 and F3
3/8 inch	7.5
1/2 inch	7.0
3/4 inch	6.0
1.0 inch	6.0
1.5 inch	5.5

	AIR CONTENT PERCENT
NOMINAL MAXIMUM AGGREGATE SIZE	EXPOSURE CLASSES F2 and F3
Note: For specified compressive strengths greater than 5000 psi, air content may be reduced 1 percent	

2.2 MATERIALS

2.2.1 Pigments

Non-fading and lime-resistant.

2.2.2 Reinforcement

2.2.2.1 Reinforcing Bars

- a. Deformed Billet-steel: ASTM A615/A615M.
- b. Deformed Low-alloy steel: ASTM A706/A706M.
- 1. Reinforcement for Polymer Concrete Manholes shall be as described in Paragraph Polymer Concrete Manholes.

2.2.2.2 Reinforcing Wire

- a. Plain Wire: ASTM A1064/A1064M.
- b. Deformed Wire: ASTM A1064/A1064M.

2.2.2.3 Welded Wire Reinforcement

- a. Plain Wire: ASTM A1064/A1064M.
- b. Deformed Wire: ASTM A1064/A1064M.

2.2.2.4 Epoxy Coated Reinforcement

- a. Reinforcing Bars: ASTM A775/A775M.
- b. Wires and Welded Wire: ASTM A884/A884M.

2.2.2.5 Galvanized Reinforcement

Provide galvanized reinforcement conforming to ASTM A767/A767M.

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.

- a. Rubber Gaskets for Circular Concrete Sewer Pipe and Culvert Pipe: ASTM C443.
- b. External Sealing Bands for Noncircular Sewer, Storm Drain and Culvert Pipe: ASTM C877.
- c. Preformed Flexible Joint Sealants for Concrete Pipe, Manholes, and Manufactured Box Sections: ASTM C990.
- d. Elastomeric Joint Sealants: ASTM C920.

2.2.5 Pipe Entry Connectors

Pipe entry connectors must conform to ASTM C923 or ASTM C1478.

2.2.6 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 of five (5) percent for grout exposed to the weather.

2.3 Polymer Concrete Manholes

2.3.1 Polymer Concrete Manholes

Provide polymer concrete manhole sections, monolithic base sections and related components referencing to ASTM C478. ASTM C478 material and manufacturing is allowed compositional and dimensional differences required by a polymer concrete product.

Provide base riser section with monolithic floors, unless shown otherwise.

Provide riser sections joined with bell and spigot / ship-lap design seamed with butyl mastic and/or rubber gaskets ASTM C990 so that on assembly, manhole base, riser and top section make a continuous and uniform manhole structure.

Construct riser sections for polymer concrete manholes from standard polymer concrete manhole sections of the diameter indicated on drawings. Use various lengths of polymer concrete manhole sections in combination to provide correct height with the fewest joints.

Design wall sections for depth and loading conditions with wall thickness as designed by polymer concrete manufacturer.

Provide tops to support AASHTO HS-20 or HL-93 or vehicle loading or loads as required and receiving cast iron frame covers or hatches, as indicated

on drawings.

2.3.2 Design Criteria for Polymer Concrete Manholes

Polymer Concrete Manhole risers, cones, flat lids, grade rings and manhole base sections shall be designed by manufacturer to meet the intent of ASTM C 478 with allowable compositional and sizing differences as designed by the polymer concrete manufacturer.

1. AASHTO HS-20 or HL-93 design or as required loading applied to manhole cover and transition and base slabs.
2. Polymer manholes must be designed based upon live and dead load criteria in ASTM C857 and ACI 350-06.
3. Unit soil weight of 120 pcf located above portions of manhole, including base slab projections.
4. Internal liquid pressure based on unit weight of 63 pcf.
5. Dead load of manhole sections fully supported by polymer concrete manhole base.

2.3.3 Mix Design and Accessories for Polymer Concrete Manholes

Risers, cones, flat lids, grade rings and manhole base sections shall be designed by manufacturer to meet loading requirements of ASTM C 478, ASTM C 857 and ACI 350-06 as modified for polymer concrete manhole design as follows:

1. Polymer Concrete Mix Design shall consist of thermosetting resin, sand, and aggregate. No Portland cement shall be allowed as part of the mix design matrix. All sand and aggregate shall be inert in an acidic environment.
2. Reinforcement - Shall use acid resistant reinforcement (FRP Bar) in accordance with ACI 440.1R-06 as applicable for polymer concrete design.
3. The wall thickness of polymer concrete structures shall not be less than that prescribed by the manufacturer's design by less than 95% of stated design thickness.
4. Each polymer concrete manhole component shall be free of all defects, including indentations, cracks, and foreign inclusions that, due to their nature and degree or extent, detrimentally affect the strength and serviceability of the component part. Cosmetic defect shall not be cause for rejection. The nominal internal diameter of manhole components shall not vary more than 2%.
5. Marking and Identification - Each manhole shall be marked with the following information - Manufacturer's name or trademark, Manufacturer's location and Production Date.
6. Manhole joints shall be assembled with a bell/spigot or shiplap butyl mastic and/or gasketed joint so that on assembly, manhole base, riser and top section make a continuous and uniform manhole. Joint sealing surfaces shall be free of dents, gouges and other surface irregularities that would affect joint integrity.

7. Minimum clearance between wall penetrations and joints shall be per manufacturer's design.
8. Construct invert channels to provide smooth flow transition with minimal disruption of flow at pipe-manhole connections. Invert slope through manhole is as indicated on drawings. All precast base sections to be cast monolithically. Polymer bench and channel are to be constructed with all polymer concrete material, monolithically. Extended ballast slab requirements for buoyancy concerns can be addressed with cementitious concrete material.
9. Provide resilient connectors conforming to requirements of ASTM C923 or other options as available. All connectors are to be watertight. Install approved resilient connectors at each pipe entering and exiting manholes in accordance with manufacturer's instructions.

2.3.4 Grouting

All materials needed for grouting and patching must be a polyester mortar compound provided by the manufacturer or an approved equal by the manufacturer.

PART 3 EXECUTION

3.1 FABRICATION AND PLACEMENT

Perform fabrication in accordance with NPCA QC Manual or ACPA QPC 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 Galvanizing

Galvanize iron and steel products to meet AASHTO M 111. Galvanize iron and steel hardware to meet AASHTO M 232. Repair damaged galvanized coating to meeting ASTM A780.

3.1.5 Epoxy Resin Adhesives

Use material that meets the requirements of AASHTO M 235, Type IV, Grade 3. Select the appropriate Class of adhesive based on the surface temperature of the concrete the adhesive will be applied to.

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.

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.

3.3.4 Joints

Install the barrel section so that joints between sections fit as tight as possible, with a maximum gap of 3/4 inch wide. Connect each section using the approved ties before setting the next section. Provide watertight joints on the floor, on the exterior walls, and roof using a preformed mastic meeting ASTM C990. Use a waterproof membrane that is a minimum of 36 inches wide. Prepare the walls and roof exterior surface of the joint according to the waterproof membrane manufacturer's recommendation. Roll the membrane to the surface keeping it free of wrinkles and bubbles. Lap waterproof membrane joints a minimum of 2.5 inches. Seal the joints and exposed edges with a joint sealing mastic recommended by the manufacturer of the membrane.

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.

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DIVISION 10 - SPECIALTIES

SECTION 10 14 54

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- 3.1 General

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SECTION 10 14 54

HIGHWAY SIGNS

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include furnishing, fabricating, and installing highway signs, delineators, and supporting structures. The intent is to complete the work in accordance with North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, while adhering to U.S. Army Corps of Engineers contract provisions. Should the NDDOT Standard Specifications referenced in this section conflict with the Government contract requirements for the same work, the Government contract requirements shall control.

1.1.1 Definitions and Responsibilities

a. Engineer: "Engineer" as used in the NDDOT Standard Specifications and throughout the plans, indicates the Contracting Officer, unless used in reference to quality control. Within the quality control sections of the NDDOT Standard Specifications, the term Engineer shall mean Contractor.

b. The Contractor shall perform and be responsible for all quality control measures described in the NDDOT Standard Specifications.

1.2 MEASUREMENT AND PAYMENT

The NDDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications shall not be followed when referencing measurements and payments. Deductions for payment referred to in the NDDOT Standards Specifications shall not be followed.

Requirements of the NDDOT Standard Specifications for acceptance of pavement shall be strictly adhered to. Pavement not meeting the minimum requirements of the NDDOT Standard Specifications shall be removed and replaced at the Contractor's expense.

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.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 754	(2022) Standard Specifications for Road and Bridge Construction, Highway Signs
NDDOT 802	(2022) Standard Specifications for Road and Bridge Construction, Portland Cement Concrete
NDDOT 836	(2022) Standard Specifications for Road

and Bridge Construction, Reinforcing
Steel, Dowel Bars, and Tie Bars

NDDOT 854 (2022) Standard Specifications for Road
and Bridge Construction, Galvanizing

NDDOT 894 (2022) Standard Specifications for Road
and Bridge Construction, Highway Signs and
Posts

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Permanent Sign Materials; G, CIV

a. Certifications for permanent sign materials and appurtenant items including, but not limited to, reflective sheeting, sign backing, sign posts and hardware and reflectors for delineators.

Galvanizing Certification; G, CIV

Concrete; G, CIV

a. Certifications for concrete anchoring material for sign installations including, but not limited to, concrete mix design, concrete admixtures, cement, and fly ash.

PART 2 PRODUCTS

2.1 General

All products shall meet the requirements specified in NDDOT 754, NDDOT 802, NDDOT 836, NDDOT 854, and NDDOT 894 and the standards referenced therein.

PART 3 EXECUTION

3.1 General

All work shall be completed in accordance with the requirements specified in NDDOT 754, NDDOT 802, NDDOT 836, NDDOT 854, and NDDOT 894 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

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SECTION 27 05 33

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SECTION 27 05 33

HDPE SOLID WALL CONDUIT FOR POWER AND COMMUNICATION APPLICATIONS

PART 1 GENERAL

1.1 GENERAL

Work under this section shall includes provision and placement of HDPE conduit for electrical and communication utilities, including coilable or straight length solid wall high-density polyethylene (HDPE) conduit, innerduct, and duct ("conduit"), HDPE conduit fittings, conduit spacers for direct burial and encased burial applications, underground pipe marking tape over underground utility lines, factory installed pull media inside conduit, tracer wire for communication conduit, conduit seals, expansion joints.

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 D3261	(2016) Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM D3350	(2021) Polyethylene Plastics Pipe and Fittings Materials
ASTM D3485	(2022) Standard Specification for Coilable High Density Polyethylene (HDPE) Cable in Conduit (CIC)
ASTM F412	(2021) Standard Terminology Relating to Plastic Piping Systems
ASTM F1290	(2019) Standard Practice for Electrofusion Joining Polyolefin Pipe and Fittings
ASTM F1668	(2008) Standard Guide for Construction Procedures for Buried Plastic Pipe
ASTM F2160	(2022a) Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)
ASTM F2620	(2020a; E 2021) Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA TC 7 (2021) Smooth-Wall Coilable and Straight
Electrical Polyethylene Conduit

NEMA TCB 4 (2021) Guidelines for the Selection and
Installation of Smooth-Wall Coilable
High-Density Polyethylene (HDPE) Conduit

UNDERWRITERS LABORATORIES (UL)

UL 651A (2011; Reprint Mar 2017) UL Standard for
Safety Schedule 40 and 80 High Density
Polyethylene (HDPE) Conduit

UL 1990 (2023) Standard for Nonmetallic
Underground Conduit with Conductors

1.3 DEFINITIONS

1.3.1 Conduit

Conduit is tubular raceway for carrying power, communications, or other
wires and cables; also known as duct.

1.3.2 CATV

Cable television

1.3.3 CCTV

Closed circuit television

1.3.4 CIC

Cable in Conduit

1.3.5 EPEC

Electrical polyethylene conduit

1.3.6 HDPE

High density polyethylene

1.3.7 Innerduct

Innerduct is a conduit installed inside of another conduit.

1.3.8 ITS

ITS is an acronym for Intelligent Transportation Systems.

1.3.9 Kink

Kink is defined as crease across the conduit where it has been folded from
excessive bending.

1.3.10 Ovality

Ovality is defined as a conduit's deviation from roundness, typically because of coiling, handling, or installation.

1.3.11 Polyethylene (PE) Plastics

Polyethylene (PE) Plastics is a type of plastic or resin prepared by the polymerization of no less than 85 percent ethylene and no less than 95 percent of total olefins with additional compounding ingredients.

1.3.12 SCADA

Supervisory control and data acquisition (SCADA) is a type of process control system architecture that uses computers, networked data communications, and graphical HMI to enable a high-level process supervisory management and control. SCADA systems are prominently used as they have the power to control, monitor, and transmit data in a smart and seamless way.

1.3.13 Slow Crack Growth (SCG)

Slow Crack Growth (SCG) is a phenomenon by which a stress crack may form, comprised of a crack initiation phase and a crack propagation phase.

1.3.14 Slow Crack Growth Resistance

Slow Crack Growth (SCG) Resistance is the primary material property that relates quality and the critical component for assessing service life, measured using the notched, constant ligament-stress (NCLS) test per ASTM F2136.

1.3.15 Stress Crack

Stress Crack is an external or internal fracture in plastic caused by tensile stresses less than its short-time mechanical strength.

1.3.16 Virgin Polyethylene (PE)

Virgin Polyethylene (PE) is a type of plastic material in the form of pellets, granules, powder, floc, or liquid that has not been subjected to use or processing other than required for initial manufacture.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Piping Plans; G

Provide piping plans that include elevations, invert elevations, sections, junction boxes, connection details, annular seals, CLSM, backfill, cover material, and any other information pertinent to installation.

SD-06 Test Reports

Fusion Logs

Air Test Results

SD-07 Certificates

Pipe Materials

Pipe Fittings and Accessories

Manufacturers Catalog Information

Qualifications Of Installer; G

Qualification Of Fusion Technicians; G

Pull Tape Material Strength Certification; G

SD-08 Manufacturer's Instructions

Installation Instructions (Pipe, Fittings, And Accessories); G

Submit special procedures required to install specified products, detailed instructions on installation requirements, including storage and handling procedures.

SD-11 Closeout Submittals

Project Record Documents

Record actual locations of HDPE piping, pipe runs, connections to junction boxes, and invert elevations.

Subsoil Conditions

Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

As-Recorded Data Requested By Owner

The Contractor or fusion provider is required to provide written reports for each fusion joint performed on the Project, including joints that were rejected. Include the following in joint report:

- a. Pipe or fitting size and dimension ratio (DR) or pressure class rating.
- b. Fusion equipment size and identification.
- c. Fusion technician identification.
- d. Job identification number.
- e. Fusion number.
- f. Fusion joining parameters.
- g. Ambient temperature.

1.5 QUALITY ASSURANCE

Perform work according to ASTM F2160, NEMA TC 7, NEMA TCB 4, UL 651A and

UL 1990 standards.

Ensure piping materials bear label, stamp, or other markings of specified testing agency.

1.6 QUALIFICATIONS

Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

Installer: Company specializing in performing Work of this Section with minimum three years' documented experience.

Fusion Technician: Technician qualified in accordance with ASTM F2620 and ASTM F3190 when making butt fusion and socket fusion joints or qualified in accordance with ASTM F1290 when making electrofusion fitting joints. Verify qualification has occurred within previous 12 months before performing on-Site fusion joining.

1.7 DELIVERY, STORAGE, AND HANDLING

Deliver materials in manufacturer's packaging; include installation instructions.

Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

Store HDPE piping according to manufacturer instructions.

Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.
3. Block individual and stockpiled pipe lengths to prevent movement.

1.8 EXISTING CONDITIONS

Field Measurements:

1. Verify field measurements prior to installation.
2. Indicate field measurements on Shop Drawings.

1.9 WARRANTY

Provide the manufacturer's standard warranty for HDPE Conduit.

PART 2 PRODUCTS

2.1 HDPE CONDUIT

2.1.1 HDPE Resin

The HDPE resin shall have the following material properties:

1. PE4710, DR/SDR17
2. Provide material for pipe production from an engineered compound of virgin and recycled HDPE. Junction boxes to be of identical material for proper fusion.
3. Conduit standards outlined in this Specification use the minimum HDPE resin specification for extruding conduit. HDPE resin compounds used in manufacturing HDPE conduit shall meet or exceed minimum cell classification as follows:
4. For ASTM F2160, ASTM D3485, and NEMA TC 7, the minimum cell classification requirement is PE334480C or E, providing all other material requirements are met in ASTM D3350, Table 1, cited in Evaluations.
5. For UL 651A and UL 1990, the minimum cell classification requirement is as follows:
 - i. UL 651A: PE 336620C stick pipe as described in ASTM D3350, Table 2, cited in Evaluations.
 - ii. UL 651A or UL 1990: PE 334420C or E coilable conduit pipe or CIC as described in ASTM D3350, Table 3, cited in Evaluations. The conduit is Schedule 40, Schedule 80, EPEC-A, or EPEC-B HDPE in trade sizes 1/2 to 4 inches.
6. Verify compatibility, as determined by design engineer, with overall system, including structural, material, and installation requirements for a given application.
7. Resin manufacturers supply material properties; however, it is the responsibility of the conduit manufacturer to ensure the resin is suitable for the intended use.

2.1.2 Colors for Conduit Application

Conduit for electrical power lines shall be red, and conduit for communication lines shall be orange. Conduit with a colored stripe shall be allowed at the determination of the contracting officer.

2.1.3 Conduit Markings

Legibly mark conduit in a color that contrasts with the conduit color. Permanently mark conduit with the following information at intervals not to exceed 5 feet:

1. Manufacturer's name or trademark, or other descriptive marking identifying the conduit manufacturer.
2. Trade size; for example, "1.00 in." for 1 inch, "1.25 in." for 1-1/4 inches.
3. The standard dimension ratio (SDR) or wall type; for example, "SDR or DR 13.5" or "SCH 40 or 80."
4. Date code and year of manufacture.
5. HDPE.

6. Applicable standard, such as ASTM F2160, NEMA TC 7, ASTM D3485, ASTM F412, UL 651A, UL 1990.

7. Manufacturing location when the manufacturer extrudes the conduit at more than one facility.

8. Optional Marking:

- a. Markings such as a lightning bolt symbol to indicate conduit is protecting electrical conductors.
- b. Sequential length numbering.
- c. Type of polyethylene conduit (e.g., EPC 13.5).
- d. Other markings as agreed on between manufacturer and customer.

2.1.4 HDPE Conduit Fittings and Junction Boxes

All joints shall be fusible. Provide butt fusion, socket fusion, electrofusion fittings manufactured from the same HDPE material (compound) as the conduit. Provide HDPE fittings complying with ASTM D3261 for molded butt fusion and socket fusion fittings.

2.1.5 Conduit Supports

Provide mortar sacks below conduit along length of CLSM encasement per plan detail. An anchoring system shall be used to prevent the conduit from floating in the CLSM.

2.1.6 Tracer Wire

Provide tracer wire if called for on plans per Section 31 00 00.00 13 EARTHWORK.

2.1.7 Conduit Seal

Provide a two-part urethane foam sealant, compliant to NEC articles 225.27, 230.8, 300.5(G) and 300.7(A) on raceway seals, capable of filling annulus around utility lines within conduit that will result in a watertight seal capable of resisting 22 feet of continuous water pressure without leaking. the urethane foam sealant shall have a service temperature range of -20 degrees to 200 degrees Fahrenheit.

2.1.8 Expansion Joints

Repair Coupling, PVC SDR 17 CL/250 per plan detail. All Expansion/Contraction Joints shall be telescoping design with triple (3) EPDM O-ring seals, including center pressure seal and outer debris seals. The minimum joint travel length shall be 12" in either direction. All Joints shall be pressure rated to a min of 200 psi and constructed of PVC material conforming to ASTM D1784 or HDPE SDR 17 material conforming to ASTM D3261. Internal pipe edges to be chamfered to allow smooth transition for pulling conductors or communication lines.

2.2 PLASTIC UNDERGROUND PIPE MARKERS

Provide a minimum 5 Mil polyethylene tape with aluminum backing to find

pipe underground using a nonferrous locator. Shall be a solid background and one-color imprint. Bury underground pipe marking tape over underground utility lines to warn excavators and to prevent damage, service interruption, and personal injury.

Tapes shall be printed in colors approved by American Public Works Association (APWA) to meet or exceed industry standards. Tapes widths shall correspond to conduit burial depths as follows:

- a. 2-inch tape width shall have a maximum burial depth of 12-inches.
- b. 3-inch tape width shall have a minimum burial depth of 12-inches and a maximum burial depth of 18-inches.
- c. 6-inch tape widths shall have a minimum burial depth of 18-inches and a maximum burial depth of 12-inches.

Tapes marking communication conduit lines shall be marked with black lettering on an orange background, and shall state, "Caution Buried Fiber Optic Cable Below," "Caution Buried Utility Line Below," "Caution Buried Communication Line Below," or similar message depending on the communication application.

Tapes marking electrical conduit lines shall be marked with black lettering on a red background, and shall state, "Caution Buried Electric Lines Below".

2.3 PULL MEDIA

Provide conduit containing pre-installed pull media consisting of high tensile fiber tapes or rope. Provide pre-lubricated tapes that include sequential length marks. Sufficient slack in the tapes or rope is required to prevent binding when unwinding the conduit from the coil.

Provide high performance pulling rope made from high molecular weight polyethylene fibers, 12-strand single braided in the following diameters and strengths:

- a. 1/8 inch pulling rope with breaking strength of 1,100 lb.
- b. 1/4 inch pulling rope with breaking strength of 7,500 lb.
- c. 9/16 inch pulling rope with breaking strength of 32,000 lb.

PART 3 EXECUTION

3.1 COORDINATION

Coordinate Work of this Section with sealing the conduits after utility wiring or fiber installation, termination or connection to low voltage and medium voltage power, fiber optic and other communications conduits.

3.2 PREINSTALLATION MEETINGS

Conduct conference at Project Site a minimum two weeks prior to commencing Work of this Section.

3.3 PREPARATION

Complete over-excavation in accordance with the Plans. Remove large stones or other hard materials that could damage pipe or impede consistent backfilling or compaction. Place and compact material as specified in Section 31 00 00.00 13 EARTHWORK. Protect and support existing conduits, utilities, and appurtenances.

3.4 TRENCHING

Complete excavation and trenching activities in accordance with Section 31 00 00.00 13 EARTHWORK. Verify that excavations, dimensions, and elevations are as indicated in the plans.

3.5 GENERAL INSTALLATION

Install HDPE pipe in accordance with ASTM F1668 and manufacturer's recommended installation guidelines. Horizontal Directional Drilling: Install Work according to ASTM F1962, PPI TR-46 and manufacturer instructions. Install plastic ribbon tape continuous above pipeline; coordinate with Section 31 00 00.00 13 EARTHWORK.

3.6 DIRECT BURIAL INSTALLATION

Install HDPE pipe in accordance with ASTM F1668 and manufacturer's recommended installation guidelines.

Protect and support existing conduits, utilities, and appurtenances. Provide mortar sacks to support the pipe a minimum 1 foot from the trench walls placed evenly at a minimum of 1/4 of the pipe length from pipe ends at roughly every 10 to 15 feet.

Verify connection size, location, and invert are as indicated on Drawings. Establish elevations of buried piping with the cover noted on the plans. Route pipe in straight lines.

Provide conduit spacers that are designed for direct burial applications. Vertically and horizontally separate raceways to provide room for heat dissipation and in a manner that allows compaction to be completed in accordance with Sections 31 00 00.00 13 EARTHWORK.

Install pipe on prepared bedding up to the spring line of pipe or on mortar bags in preparation for CLSM installation. Conduit shall be anchored to prevent movement in CLSM, and approved by the contracting officer. After each layer is placed, the selected backfill should be placed over it to the specified depth. Spread the fill evenly and compact to provide continuous support for the next tier of raceways.

Install tracer wire per Section 33 05 97 IDENTIFICATION AND SIGNAGE FOR UTILITIES and as described in the project plans.

Install plastic ribbon tape continuous above pipeline.

Install conduit seal at each termination per Manufacturer's installation instructions after utility is installed within conduit.

3.7 FUSION PROCESS

3.7.1 General

Perform butt and saddle fusion of PE4710 pipe and fittings in accordance with ASTM F2620 and the manufacturer's recommended joining procedure.

Perform electrofusion of PE334480C or E pipe and fittings in accordance with ASTM F1290 and electrofusion fitting manufacturer's recommended procedure. Fuse PE334480C or E pipe and fittings by qualified fusion technicians, as documented by the fusion provider. Provide training records for qualified fusion technicians to Contracting Officer upon request.

Record and log pressure, time, and temperature parameters by an electronic monitoring device (data logger) affixed to the fusion machine as each fusion joint is constructed. Manually log data not logged by the data logger and include in fusion technician's joint report. Submit joint data as part of the As-Recorded information in accordance with this Specification.

Include the following elements in butt fusion machines:

- a. Heat plate.
- b. Carriage.
- c. Data logger.

Include the following additional equipment for fusion processes:

- a. Pipe Rollers: Use to support pipe on either side of butt fusion machine. Rollers provide for vertical and lateral pipe alignment straight through the butt fusion machine.
- b. Protective Enclosure: Provide protective enclosure for full machine motion of the clamps, heat plate, fusion assembly, and carriage for fusion in inclement or windy weather. Cover or block open pipe ends that allow winds to blow through pipe.
- c. Maintenance Manual: Keep fusion machine operations and maintenance manual with the fusion machine at all times.

3.7.2 Joint Recording

Record and log each fusion joint using an electronic monitoring device (data logger) connected to the fusion machine. Manually log data not logged by the data logger and include in fusion technician's joint report.

3.8 BACKFILL

Place CLSM backfill in accordance with Section 03 22 70.01 CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

Place aggregate bedding and backfill in accordance with 31 00 00.00 13 EARTHWORK. Place bedding material at trench bottom to provide uniform bedding for piping and level bedding materials up to the springline of the pipe as described in the project plans.

Place earth backfill in accordance with Section 31 00 00.00 13 EARTHWORK.

3.9 CONDUIT SYSTEM CONNECTIONS

Install conduit pipe connections per applicable standards and regulations, as well as per the connection manufacturer's recommendations and as indicated.

3.10 AIR TESTING

Testing of the conduit shall be completed in accordance with Section 01 45 16.13 CONTRACTOR QUALITY CONTROL and this specification.

Air-testing the conduit shall be completed after trenches are backfilled and the Contractor has verified the conduits are ready for testing. The air testing procedure shall be as follows::

- a. Provide airtight caps on each end of conduit along with a controlled air supply line connection.
- b. Introduce air pressure slowly to approximately 10 psig.
- c. Allow pressure to stabilize for at least five minutes.
- d. Increase air pressure slowly to approximately 15 psig and maintain pressure for 1 hour.
- e. Record drop in pressure during testing period.
- f. If air pressure drops more than 10% (1.5 psig) during testing period, piping has failed.
- g. If 10 percent psi air pressure drop has not occurred during testing period, piping is acceptable; discontinue testing.
- h. If unsatisfactory testing results are achieved, make necessary repairs and retest until the result meets criteria.

3.11 PROTECTION

Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress. Cap open ends of piping during periods of work stoppage.

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EARTHWORK

PART 1 GENERAL

This section covers excavation, dam embankment construction, and backfill associated with culverts and utilities.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C117	(2017) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136/C136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D422	(1963; R 2007; E 2014; E 2014) Particle-Size Analysis of Soils
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 D1073	(2016) Fine Aggregate for Bituminous Paving Mixtures
ASTM D1140	(2017) Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing
ASTM D1556/D1556M	(2015; E 2016) Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D2216	(2019) Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D2487	(2017; E 2020) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2488	(2017; E 2018) Standard Practice for

Description and Identification of Soils
(Visual-Manual Procedure)

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
ASTM D6913/D6913M	(2017) Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
ASTM D6938	(2017a) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	(2017) Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 216	(2022) Standard Specifications for Road and Bridge Construction - Water
NDDOT 302	(2022) Standard Specifications for Road and Bridge Construction - Salvaged Base Course
NDDOT 816	(2022) Standard Specifications for Road and Bridge Construction - Aggregates
NDDOT 817	(2022) Standard Specifications for Road and Bridge Construction - Salvaged Base Course

1.2 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

Plan Of Operations; G, GEO

SD-02 Shop Drawings

Foundation Preparation Checklist

Nuclear Density Calibration Curve

SD-06 Test Reports

Daily Earthwork Report Forms

Summary of Density Testing Results

Summary of Proctor Tests

Daily Standard Count Log

SD-07 Certificates

Operator Certifications

SD-11 Closeout Submittals

Earthwork Final Report; G, GEO

1.3 SUBSURFACE INFORMATION

Reference Contract Clause 52.236-4 PHYSICAL DATA

1.3.1 Boring Logs

Summaries of the boring logs obtained for this project are shown in the Contract drawings. The borings are representative of subsurface conditions at their respective locations. Variations in the stratigraphy and characteristics of the soil are known to occur between borings. Normal variations in site geology will not be considered as differing materially within the purview of Contract Clause FAR 52.236-2, DIFFERING SITE CONDITIONS. Ground water elevations measured in borings are not constant and will fluctuate.

Subsurface data including soil boring logs and additional laboratory test data for the project site are available for inspection at the District Office. Contact the Contracting Officer.

PART 2 PRODUCTS

2.1 DEFINITIONS

2.1.1 Dewatering

Dewatering includes removal of water from trenches, pits excavations or natural recesses using pumps, sumps, sand or aggregate drains, or other means.

2.1.2 Satisfactory Materials

All materials shall be of a character and quality satisfactory for the purpose intended and meet the applicable material specifications.

All material placed as compacted fill, semi-compacted fill, or backfill shall consist of material classified by ASTM D2487 as GW, GP, GC, GM, SP, SM, SC, CL, CH or SW. The material shall be free of ice, snow, frozen earth, trash, debris, sod, roots, organic matter, and stones larger than 3 inches in any dimension.

2.1.3 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Notify the Contracting Officer when encountering any unsatisfactory materials.

2.1.4 Muck

Muck is defined as material excavated and removed from the dam embankment footprint consisting of unsatisfactory or unstable materials. Muck removal lines shown on drawings have been delineated by anticipated ground conditions, and adjustment of muck excavation limits requires Contracting Officer approval.

2.1.5 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, ASTM D422, ASTM D1140, and ASTM D6913/D6913M.

2.1.6 Unstable Material

Unstable material is material too wet to properly support the proposed structure or utility.

2.1.7 Proctor

Degree of compaction required is expressed as a percentage of the maximum density obtained by ASTM D698. The maximum density is hereafter abbreviated as the "Standard Proctor" or "Proctor" value. The optimum moisture content is the water content at which the soil is compacted to the maximum density as determined in ASTM D698.

2.1.8 Dam Embankment

Dam Embankment is defined as the earth fill portions of the dam structure and shall be constructed out of Impervious Fill.

2.1.9 Roadway Embankment

Roadway Embankment is defined as the earth fill portions of the road and shall be constructed out of Impervious Fill. Roadway Embankment shall meet the same material criteria as Dam Embankment, but is not subject to the foundation evaluation.

2.1.10 Foundation

Foundation means any area that has been excavated or stripped and will receive impervious fill or geotextile, including the bottom and side slopes of the inspection trench and muck areas.

2.1.11 Foundation Evaluation

This is the evaluation to determine the foundation adequacy and documents

the foundations for the Dam Embankment only. This evaluation is performed by the Government with assistance of the Contractor's equipment and staff. Foundation evaluation includes inspection, testing, geologic mapping, sampling, exploratory test pits, interpretation, excavation and disposal of undesirable materials, proof rolling, and decision making.

2.1.12 Foundation Preparation Checklist

A checklist filled out by the Contractor to provide proper notification to the Contracting Officer and ensure the Contractor performs adequate surface preparation for the Foundation Evaluation. This checklist is attached to the end of this section.

2.1.13 Inspection Trench

The inspection trench, as detailed in the plans, is an excavation intended to expose undesirable subsurface features.

2.1.14 Test Pit

The test pit is an excavation intended to expose previously placed embankment soils to inspect for undesirable subsurface features in the embankment.

2.1.15 Proof Rolling

Proof rolling means driving an appropriate weighted vehicle at walking speed to expose signs of unstable subgrade. An appropriate vehicle is a tandem axle truck with a gross weight of 25 tons or an approved equivalent, driven over the foundation at speeds between 2-1/2 to 3-1/2 miles per hour. The Contractor and the Contracting Officer shall agree on the appropriate vehicle based on the field conditions and the material being evaluated.

2.2 MATERIALS

2.2.1 Sherack Material

Sherack Material is the uppermost clay deposit in the project area under the topsoil. The upper 5 feet are generally dark gray-brown and difficult to distinguish from topsoil by color. The lower portion of the Sherack Material is generally brown to yellow-brown with iron stains.

Sherack Material typically has a liquid limit between 60 and 92, a plasticity index between 38 and 67, and is classified by ASTM D2487 as CL or CH. These liquid limit and plasticity index values are not contractual limitations but are meant to assist in identifying the material.

2.2.2 Brenna Material

Brenna Material is below the Sherack Material and is generally a soft to very soft clay, dark gray in color, and highly plastic. Brenna Material typically has a liquid limit between 75 and 116 and a plasticity index between 50 and 86. These liquid limit and plasticity index values are not contractual limitations but are meant to assist in identifying the material.

2.2.3 Impervious Fill

Impervious fill shall meet the following requirements:

- a. The material shall be satisfactory material.
- b. The material shall be cohesive material.
- c. The material shall be Sherack material.
- d. The material shall not include topsoil.
- e. The material shall not include Brenna material.
- f. The material must be processed and blended at the borrow/stockpile location to construct a uniform embankment profile free of large clods (larger than maximum loose lift thickness) and varying characteristics (color changes, moisture content changes, and differences in constituent materials).
- g. The material shall not be obtained from any delineated muck removal.

During subsurface investigations, the highest contact elevation located between the Brenna and Sherack formations in or nearby the project footprint occurred at EL 889 NAVD 88. The contact elevation varies throughout the project and could occur at a higher or lower elevation within the project footprint.

2.2.4 Topsoil

Obtain topsoil from onsite stripping and excavations. Topsoil shall be free of subsoil, stumps, rocks larger than one inch in any one dimension, brush, weeds, toxic substances, and other material detrimental to plant growth.

2.2.5 Pipe Bedding

Provide pipe bedding for utilities meeting the requirements of Class 3M, from North Dakota Department of Transportation Standard Specification for Road and Bridge Construction, NDDOT 816. Verify gradation by Sieve Analysis C136/C136M.

2.2.6 Utility Structural Fill

Provide utility structural fill that shall be nominal size 1.25-inch washed, crushed rock verified by Sieve Analysis C136/C136M.

2.2.7 Foundation Fill

Foundation Fill material for use in and around Reinforced Concrete Box culverts as shown on the plans, shall meet the requirements of Foundation Fill from North Dakota Department of Transportation Standard Specification for Road and Bridge Construction, NDDOT 816. Verify gradation by Sieve Analysis C136/C136M.

2.2.8 Salvaged Aggregate Base

Salvaged aggregate base material refers to aggregate base salvaged and utilized as shown in the CR 81 plan sheets and details. Material shall

meet the requirements of North Dakota Department of Transportation Standard Specification for Road and Bridge Construction, NDDOT 817.

2.3 FILTER MATERIAL

Provide material meeting the requirements of ASTM D1073, Table 1, Grading No. 3. Filter materials must consist of tough, durable, angular particles; must be free from thin, flat, and elongated pieces; and must contain no organic matter or soft friable particles. The filter material must be washed with clean water such that the final product has no visible soil slurry, caking, or objectionable coatings. The material must meet the following gradation: The portion of the filter material passing the No. 40 (0.425 mm) sieve must have a plasticity index (PI) of zero as determined by ASTM D4318.

Sieve Size		Percent Passing by Weight	
in. or #	mm	Min	Max
3/8"	-	-	-
#4	4.75	100	100
#8	2.36	95	100
#16	1.18	85	100
#30	0.60	65	90
#50	0.30	30	60
#100	0.15	5	25
#200	0.0075	0	5

2.4 PLAN OF OPERATIONS

Submit to the Government at least 30 days prior to commencement of embankment construction activities a work plan that includes at a minimum the details listed below. Government approval of the Plan of Operations is required prior to beginning embankment construction.

- a. Equipment to be used for excavation, hauling, spreading, and compaction.
- b. Process to blend material prior to placing fill in the embankment area.
- c. Process to eliminate unsuitable lift and subgrade surfaces prior to placing fill.
- d. Detailed compaction process.
- e. Detailed process for reworking areas that do not achieve minimum density testing requirements.

After the plan is accepted, changes to the Plan of Operations must be submitted to the Contracting Officer for review prior to implementation.

2.5 DAILY EARTHWORK REPORT FORMS

Use the Daily Earthwork Report Forms in the attachments at the end of this section to document earthwork.

2.6 EARTHWORK FINAL REPORT

After the earthwork is complete, submit the Earthwork Final Report for review in PDF format.

Throughout the performance of the Contract, the Contractor shall continually compile all the information for the Earthwork Final Report and have the information available for review by the Contracting Officer at all times. Include the following information in the Earthwork Final Report:

- a. Testing results indicated in paragraph TESTING, ordered by test number;
- b. Full size as-built plans with test numbers inserted to show location and elevation in plan and profile view;
- c. Finalized daily earthwork reports with all attachments, ordered by date;
- d. Narrative including unusual conditions or situations encountered; remedies applied to address these conditions or situations; and description of job sequencing and work schedule with workdays per week (by season) and any extended "no work" period.

2.7 SUMMARY OF DENSITY TESTING RESULTS

Submit weekly an electronic version (EXCEL) of all density testing results, including the Summary of Density Testing Results form attached at the end of this section.

PART 3 EXECUTION

3.1 WINTER SHUTDOWNS

Prior to a winter shutdown, 1V:10H slope transitions shall be constructed at the end of any constructed portion of the dam embankment. Detail J15 in the Civil Details plan sheet CS502 for Volume 1 shall be utilized upon re-start of embankment construction after a winter shutdown.

3.2 CLASSIFICATION OF SOIL MATERIALS

Classification of soil materials shall be performed by the Contractor in accordance with ASTM D2488. The Contracting Officer reserves the right to revise the Contractor classifications. In the case of disagreement, the Contracting Officer's classification will govern unless the soils are classified in accordance with ASTM D2487. Notwithstanding provisions of Contract Clause 52.246-12 INSPECTION OF CONSTRUCTION, testing completed by the Contractor in conjunction with soil material classification will be considered incidental to the Contract work.

3.3 INSPECTION TRENCH

Excavate so that trench is continuous at all points, aligned with smooth curves, and free from abrupt changes in alignment.

Remove any pipes, tiles, and conduits.

Clean bottom and side slopes surfaces to a smooth appearance.

If caving occurs, either flatten the side slopes of the trench and/or dewater to keep the trench stable.

Perform all work directed by the Contracting Officer as a result of the Foundation Evaluation.

Backfill trench after the Contracting Officer has performed the Foundation Evaluation and has approved the foundation.

Remove all water before backfill is placed. Backfill with impervious fill. Use existing material which was excavated from the trench if it meets the requirements of impervious fill.

Backfill in lifts and compact as specified in paragraph COMPACTION.

3.4 UTILITY TRENCH

Excavate utility trenches sufficiently to install utilities at the depths indicated on the plans. The utility trenches shall be of sufficient width to enable installation and allow inspection. Remove lumped subsoil, boulder, and rock 18-inches in diameter or larger. Trim, bench, or slope excavation as shown on the plans and remove loose matter.

Cut out soft areas of subgrade not capable of compaction in place, and replaced with impervious fill and compact per paragraph COMPACTION. Remove water or materials that interfere with the work.

No sheeting, shoring, trench boxes, or other bracing is allowed through the embankment area and within 20 feet of each toe of the embankment. Bench all trenches in the embankment footprint per plan details and backfill in accordance with specifications.

Provide uniform and continuous bearing and support for pipe bedding, utility structural fill, CLSM, or pipe as shown in the plans. Bedding shall not extend above the springline of the utility pipe. Provide methods to prevent pipe flotation during placement of CLSM. Provide methods so that the pipe is elevated above the ground so that CLSM fully encompasses the pipe cross section.

Limit advancement of open trench ahead of the utility installation as necessary to prevent excessive drying, slaking, freezing, saturation from seepage or runoff, or other deterioration of the soil conditions. Over-excavation and correction may be necessary if soil conditions deteriorate.

Backfill material above the utilities shall be impervious fill, compacted per paragraph COMPACTION. Hand operator compactors shall be operated to compact the haunches along the pipe. For hand operated compactors, the maximum uncompacted lift thickness shall be 6 inches.

3.5 STOCKPILES

Stockpiles shall be kept in a neat and well drained condition, giving due consideration to drainage at all times. Different materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material.

3.6 STRIPPING

Topsoil and vegetation shall be stripped where indicated on the plans to the depth that is indicated on the plans. The area to be stripped shall be surveyed prior to starting stripping operations as specified in Section 01 71 23.05 13 CONTRACTOR SURVEYS. Topsoil shall be spread on areas already graded and prepared for topsoil or transported and deposited in stockpiles convenient to areas that are to receive topsoil later, or to locations indicated or specified. Topsoil shall be kept separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than 1 inch in diameter, and other materials that would interfere with planting and maintenance operations.

3.7 EXISTING ROAD REMOVAL

Strip the existing asphalt and aggregate surface from the existing road as indicated on the project plans and in accordance with NDDOT 216 and NDDOT 302.

3.8 EXCAVATION

Excavation of every description, regardless of material encountered, within the grading limits of the project shall be performed to the lines and grades indicated. The Contractor shall plan the excavation operations such that the excavated material suitable and necessary for use as impervious fill and topsoil can be transported and placed within the required fill areas or stockpiles to the quantities required by this Contract. Any excess impervious or topsoil material shall be disposed of as indicated elsewhere in the plans and specifications. Excavations carried below the depths indicated shall be refilled to the proper grade with satisfactory material and compacted to the same density as the surrounding material. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times.

Excavated slopes and backfill surfaces shall be constructed and protected to prevent erosion and sloughing.

The Contractor shall perform all work such that existing drainage measures from adjacent fields are not blocked or disturbed. If during Contract performance it becomes necessary to negatively impact adjacent field drainage, it shall be the Contractor's responsibility to take necessary measures to offset the negative impacts. These measures may include, but are not limited to, installation of side ditch inlets and ditching to maintain sufficient drainage from the fields.

3.8.1 Changes and Differing Site Conditions

Any excavation subgrades that are unstable, pump, rut excessively, reveal soil conditions that are substantially different from that indicated in the contract, or are unsuitable for proceeding with the work shall

immediately be reported to the Contracting Officer. In the event that it is necessary to remove material to a depth greater than specified, the Contracting Officer will provide direction for changed work and an adjustment in the contract price will be considered in accordance with the contract. Unsatisfactory material encountered below the grades shown shall be removed. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Contracting Officer. The Contracting Officer shall be notified prior to proceeding with any unauthorized work. Additional work not authorized by the Contracting Officer shall be at the Contractor's expense.

3.8.2 Muck Excavation

All muck within the existing drain channel within the dam embankment footprint shall be removed to provide a suitable foundation for the embankment. The extent to which all muck has been removed shall be approved and documented by the Foundation Evaluation, see paragraph FOUNDATION EVALUATION. Backfill muck excavation after the Contracting Officer has performed the foundation evaluation and has approved the foundation. Remove all water before backfill is placed. Backfill with impervious fill. Backfill in lifts and compact as specified in paragraph COMPACTION.

3.8.3 Utility Excavation

Hand excavate near existing utility lines and structures to verify locations and prevent damage.

3.9 FOUNDATION EVALUATION

The Contractor shall cooperate to the extent necessary to assist the Government in evaluating the foundation after stripping, muck removal and excavation, but prior to placing fill. This will include having equipment and personnel available to assist excavating, compacting, and proof-rolling. The Contractor shall coordinate their schedule for foundation preparation with the Contracting Officer to ensure that the evaluations proceed in an orderly manner. Do not place material prior to the foundation evaluation being completed. Once the evaluation is completed and the surface is deemed acceptable, fill placement may commence.

3.9.1 Prior to the Foundation Evaluation

Notify the Contracting Officer via the Foundation Preparation Checklist at least 7 days before stripping of the foundation is to begin. The Checklist shall include the projected dates and section of the foundation that is subject to this evaluation.

Perform all topsoil stripping, muck excavation, and inspection trench excavation in the section subject to the evaluation.

Mark centerline stationing of dam alignment every 100 feet with labeled stakes.

Mark the outlines of culverts, end sections, headwalls and wingwalls with markers (e.g., ground-marking spray paint, stakes).

Remove any temporary ramps covering side slopes such that the foundation

evaluation can proceed unhindered except where necessary for safe ingress and egress. Adjust temporary ramp locations as requested by the Contracting Officer. Resubmit the Foundation Preparation Checklist with updated dates after a fresh cut surface is performed.

3.9.2 During the Foundation Evaluation

Each Foundation Evaluation by the Contracting Officer may take up to 2 days from the day that all tasks in paragraph "Prior to the Foundation Evaluation" are completed.

Permit and facilitate safe access to the foundation by Government personnel.

Keep traffic and equipment away from evaluation areas during evaluation to ensure Government personnel safety.

Provide equipment and staff, as directed by the Contracting Officer, to complete foundation evaluation. Equipment may include a backhoe with smooth edge bucket, a dozer, an approved vehicle for proof rolling, shovels, picks, hoes, and measuring tape.

3.9.3 Maintaining Dry Conditions

Foundation evaluation can only be performed in dry conditions (e.g., not during or immediately after rainfall), and the Contractor is responsible for maintaining dry conditions and scheduling appropriately around weather events to ensure those dry conditions.

Ensure foundations and working surfaces are dewatered prior to and during work as necessary to prevent ponding or material saturation.

3.10 DITCH EXCAVATION

Obtain material meeting the requirements of Impervious Fill from the borrow ditch and the drainage ditch as needed for the construction of the Dam Embankment and Road Embankment. Provide adequate drainage including pumps to remove water as needed.

Strip topsoil from from each ditch prior to excavation. After the completion of excavation, respread required topsoil and seed the disturbed areas. The finish grade shall be as indicated on the plans.

3.11 DRAINAGE

It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed. Collect and dispose of surface and subsurface water encountered during construction.

Completely drain construction site during periods of construction to keep soil materials sufficiently dry. Throughout the construction period, grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils.

3.12 EMBANKMENTS

Do not construct any embankment until the Foundation Evaluation is completed for that particular embankment.

Embankments shall be constructed to lines and grades shown on the drawings with material meeting the specifications. The material shall be placed in successive horizontal layers for the full width of the cross section. Each layer shall be compacted as specified prior to placing the next lift.

3.13 SUBGRADE PREPARATION

All areas to receive fill materials shall be inspected and approved by the Contracting Officer. Do not place fill on any subgrade that is wet, muddy, frozen, covered with snow, dry, crusted, or contains organics. If during the placement of a loose lift, the conditions of the receiving soil change (i.e., a portion of the soil becomes too dry, too wet, laminated, excessively trafficked, or rutted), the unsuitable portion of the lift must be brought to an acceptable condition prior to continuing placement of fill.

3.13.1 Subgrades for Dam Embankments and Road Embankments

The subgrade shall be proof rolled in the presence of the Contracting Officer. Ruts, soft or yielding spots as indicated by the proof rolling shall be corrected in accordance to the paragraph Subgrade Correction.

The first lift placed upon any subgrade must be disced or harrowed throughout the entire loose thickness of the lift and at least 2 inches into the subgrade upon which it is placed to ensure proper bonding with the subgrade.

Sloped ground surfaces steeper than one vertical to four horizontal on which fill is to be placed shall be horizontally stepped such that the fill material will bond with the existing surface.

3.13.2 Subgrade Correction

Soft or otherwise unsatisfactory material shall be removed and replaced with satisfactory material. The entire subgrade shall be shaped to line, grade, and cross section and compacted.

3.14 COMPACTION

3.14.1 Moisture Control

Maintain control of moisture in the fill to provide acceptable compaction. The moisture content after compaction shall be within the limits of 3 percentage points above the optimum and 1 percentage point below the optimum moisture content as determined by filed moisture density tests ASTM D698.

If water is added to fill on the project site, spread the fill layer in even lifts, moisten as necessary, thoroughly mix, and compact. Dry fill prior to placement if it is too wet to achieve proper compaction. Possible drying methods include spreading and disking of soil prior to placing in fill.

3.14.2 Compaction

Compaction requirements based on the type of fill, its maximum uncompacted lift thickness, and the minimum compaction requirements (Percent of Standard Proctor density) are as listed below. Water flooding or jetting methods of compaction will not be permitted for any soil types.

<u>Fill Zone</u>	<u>Maximum Uncompacted Lift Thickness (inches)</u>	<u>Percent of Standard Proctor Density</u>	<u>Moisture Control Required</u>
General Grading	12	90%	No
Inspection Trench	9	95%	Yes
Dam/Roadway Embankment	9	95%	Yes
Aggregate Surface	6	95%	Yes

Utility and pipe backfill requirements are the same as the adjacent Fill Zone so that, for example, utility fill on the Dam Embankment is to be compacted to the Dam Embankment standards. Place fill materials in horizontal layers not exceeding 6 inches loose depth when hand operated compactors are used.

3.14.3 Fill Processing, Blending, and Placement

Material used as impervious fill must be processed and/or blended prior to placement. This must be done either at the borrow source or stockpile location prior to placement into the embankment. Processing and blending prior to placement shall ensure uniformity across the lift and minimize potential variations and differing characteristics in material types within the embankment. Variations and differing characteristics include color changes, moisture content changes, and differences in constituent materials. Processing and blending methods will vary depending on the material type, moisture content, equipment, and excavation methods. In situ moisture contents of borrow materials are variable as presented in the soil boring logs and can vary seasonally.

Direct haul of unprocessed/unblended in situ material from the borrow source to the fill placement area is prohibited. Processing and blending methods must be included in the Plan of Operations and are subject to review by the Government. The use of scrapers for cut/fill placement is acceptable.

When placing, the surface of the lift to receive fill must be free of dry, crusty, or excessively wet material, ruts, laminations, or otherwise unsuitable material prior to placing a loose lift. The material placed as embankment fill must be uniform in nature and spread uniformly throughout the lift. Disc or harrow loose lifts prior to compaction. Disc or harrow throughout the entire loose thickness of the lift and at least 2 inches into the lift upon which it is placed to ensure proper bonding. Break up any large clods (larger than maximum loose lift thickness) prior to compaction.

3.15 COMPACTION CONSTRUCTION EQUIPMENT

Compaction equipment for embankment impervious fill must consist of tamping rollers, also called sheepsfoot or padfoot rollers. Tamping rollers may be single drum or multi-drum units with a minimum static weight at the drum of 10 tons. The use of pneumatic-tired rollers, steel-wheeled rollers, hand operated compactors, or other approved equipment well-suited to the soil type being compacted is allowed for other fill types and outside of the embankment footprint. Use sprinkling equipment for cohesive soils that are capable of applying water uniformly, in controlled quantities, and are capable of variable application widths. Compaction equipment must be included in the Plan of Operations. Acceptance will be based on written verification of the equipment characteristics, manufacturer's specifications/catalog cut sheets, and continued performance during construction. Compaction equipment must be maintained in an appropriate state to adequately perform compaction by preventing material build-up on the drum/padfoot area. Material build up must be no more than 25 percent of the distance from the drum surface to the edge of the padfoot.

3.15.1 Compaction At Structures

The Contractor shall use appropriately sized compaction equipment adjacent to manholes and associated features to avoid damage, using hand compaction as necessary.

3.16 SUBGRADE AND EMBANKMENT PROTECTION

Scarify and recompact to the required density, as specified herein, any compacted subgrades that are disturbed by the Contractor's operations or adverse weather prior to further construction thereon. Correct subgrades not meeting the specifications for finish, material type, and density at the time of surface material placement at no additional cost to the Government. Keep cohesive roadway embankments and subgrades crowned or sloped for drainage. Protect newly graded areas from traffic and erosion. Repair any settlement or washing away that may occur from any cause. Do not place base course or pavement on the subgrade until it has been checked and approved by the Contracting Officer. Maintain ditches and drains along subgrade to provide effective drainage. Implement best management practices for erosion control for all work.

3.17 PLACING TOPSOIL

Stage topsoil placement such that construction traffic for hauling material does not travel over the topsoil after it is placed. Spread topsoil with a low ground pressure dozer, skid steer loaders, or other equipment capable of lightly compacting the soil and approved by the Contracting Officer. Spread topsoil in one lift of uniform thickness. The finished grade shall be such that after subsequent treatment (tillage, topsoiling and planting) the planted grade shall join 1 inch below adjoining surfaced grade of walks, curbs and drives and even with adjoining turfed areas.

3.18 FINISHING

Uniformly smooth-grade all areas covered by the project, including excavated and filled sections and adjacent transition areas so that the finished surface is reasonably smooth, compacted, and free from irregular

surface changes. The degree of finish shall be that ordinarily obtainable from blade-grader operations, except as otherwise specified. Finish ditches and gutters to permit adequate drainage. Finish surfaces of areas to be turfed to a smoothness suitable for the application of turfing.

3.18.1 Ditch Tolerance

The finished surface of the ditch bottom and side slopes shall be within plus or minus 0.2 feet from the lines and grades shown on the drawings with the overall average finished surface within plus or minus 0.1 feet.

3.18.2 Dam Embankments Tolerance

The finished surface of these structures shall be within plus 0.2 feet from the lines and grades shown on the drawings with the overall average finished surface within plus 0.1 feet.

3.19 TESTING

Submit all test results on an on-going basis.

3.19.1 General

The Contractor is responsible for all testing expenses. Prior to sampling and testing the work, testing laboratories will be inspected and approved in accordance with Section 01 45 04.00 13 CONTRACTOR QUALITY CONTROL. The Contracting Officer reserves the right to direct the location and select the material for samples to be tested and to direct where and when moisture-density tests are to be performed.

3.19.2 Field Moisture Content Tests

Use ASTM D2216 when determining the moisture content of soil samples. When determining moisture content, perform Method B and dry materials at 60 degrees Celsius in the oven.

3.19.3 Field Density Tests

Use ASTM D6938 or ASTM D1556/D1556M when determining the in-place density of soils. Include at a minimum, the information shown below on report forms for field density tests. Keep on file additional data required by the applicable ASTM test methods and submit to the Government with the earthwork final report. Number tests sequentially throughout the job, and reference the original test number for retests (1A, 1B, etc.). Maintain an EXCEL version of a Summary of Density Testing Results Table throughout the duration of the project. An example table in PDF is contained in the attachments to this section and an EXCEL version is available from the Contracting Officer. Provide all information identified in the table.

- a. Test number;
- b. Dry density, gravel content if the sand cone method is used, and water content of field test;
- c. Proctor number, maximum dry density, optimum water content, and gravel content;
- d. Relative compaction;

- e. Plot each test on the graphic presentation of the applicable Proctor test.

3.19.4 Proctor Tests

Include, at a minimum, the information shown below on report forms for Proctor tests. Keep additional data on file as required by the applicable ASTM test methods. Jar samples must be retained by the testing laboratory for each Proctor test until field testing is completed.

- a. Use ASTM D2216 for moisture content.
- b. Provide a minimum of five points to construct the curve. One of the points must be at or near optimum. The five points cannot exceed 4 percentage points difference in moisture content. For example, if optimum moisture content is 20 percent, adjacent points should not have moisture contents outside of 16 percent and 24 percent
- c. Use Moist Preparation Method.
- d. A single Proctor test's sample material must be obtained from only one location on a single lift. Samples must not contain multiple samples from multiple locations. The sample must be taken from a loose or compacted lift from the embankment or inspection trench. Do not obtain Proctor samples more than 24 hours after compaction of the sampled area. Provide lift number and station/offset for each sample obtained. Samples obtained from the borrow area can be used for information purposes only but cannot be associated with density tests used for acceptance testing. Only Proctors obtained from the loose or compacted lifts can be associated with in-place density tests.
- e. The amount of time between obtaining a sample for a Proctor test and obtaining Proctor test results from that sample must not be more than 5 business days. For example, if a sample was collected on 10 SEP 2022, the results from that sample must be presented by 15 SEP 2022 to be considered valid for acceptance testing. There may only be 14 or fewer calendar days between when Proctor test results are available and when the Proctor test's results are used to determine if an in-place density test meets the compaction criteria. For example, if Proctor test results are available 15 SEP 2022, the Proctor cannot be compared to an in-place density test for acceptance of a lift after 29 SEP 2022.
Provide coordinates (station, offset, and elevation) for each sample collected.

3.19.5 Grain-Size Tests (Sieve Analysis)

3.19.5.1 Clay Fraction (ASTM D7928) Analysis

Complete hydrometer tests in accordance with ASTM D7928. Present results in both graphical and tabular forms. Include in the graphical form a plot of grain-size versus the percent finer than a given sieve size. Increase grain-size from right to left on the graph. Increase the percent finer axis of the graph from bottom to top. Include in tabular form a list of the sizes and the percent of the sample (by weight) finer than each size. Also provide the raw test data in an Excel .xlsx file.

3.19.5.2 Percent Passing the No. 200 Sieve

Determine the percent passing the No. 200 sieve for non-cohesive (granular) soils in accordance with ASTM C117. Use of a wetting agent, if necessary, is incidental to the test. Determine the percent passing the No. 200 sieve for cohesive soils in accordance with ASTM D1140, Method B. Present the results in tabular form. Also provide the raw test data.

3.19.6 Plasticity Index (ASTM D4318)

- a. Use ASTM D2216 for moisture content.
- b. Use distilled or demineralized water. Do not use tap water.
- c. Use Specimen Preparation Procedure 1 (wet preparation).
- d. Use Liquid Limit Method A (Multipoint Method).
- e. Use computational methods only to determine 25-drop abscissa.
- f. Provide sample location (Northing, Easting, Elevation) with elevation at top of hole if taken from a hole.

3.19.7 Treatment of Oversize Particles for Density Tests

Correct the fine gravel contents by selecting an appropriate Proctor sample. The fine gravel content shall be the particles retained on the No. 4 sieve and passing the 3/4-inch sieve. The fine gravel content of the field density test shall be within +5 percent of the fine gravel content of the Proctor sample.

The oversize fraction shall be particles retained on the 3/4-inch sieve. Correct the oversize particles for oversize fractions greater than 5 percent in accordance with the Finer Fraction Method specified in ASTM D4718/D4718M.

Report the gravel content retained on the No. 4, 3/8-inch and 3/4-inch sieve for each sand cone test as appropriate for the proctor method referenced.

Dig up and visually examine the test volume where nuclear testing is used and lack of uniformity in the soil due to layering, rock, or voids is suspected to determine if the test material is representative of the full material in general and if rock correction is required.

3.19.8 Test Pits

Test pits are required to evaluate the characteristics of the placed fill and to identify potential issues that may have occurred during construction. A minimum of 10 test pits must be excavated during construction of the embankment in the presence of, and at the time and place designated by, the Contracting Officer. Test pit dimensions must be a minimum of 10 feet long, 3 feet wide, by 4 feet deep. After each test pit evaluation is completed, the excavated area must be backfilled and compacted in lifts as described in paragraph COMPACTION. Provide sufficient resources (equipment, personnel, etc.) to assist the Government during excavation of the required test pits.

3.19.9 Corrective Action

Tests of materials which do not meet the Contract requirements (failing test) will not be counted as part of the required minimum number of tests. Retake each such failing test at the same location. Remove or recompact material if testing indicates material does not meet the Contract requirements. The quantity of failed material will be determined by the Contracting Officer up to the quantity represented by the testing frequency. Testing frequency may be increased in the vicinity of a failed material, as approved by the Contracting Officer and at no additional cost to the Government, in order to reduce removal or recompaction requirements. Additional tests due to Contractor chosen increase testing frequency will not be counted as part of the required minimum number of tests.

3.19.10 Testing Schedule

a. Moisture-Density Relations ASTM D698

1. Impervious Fill; one test for each material variation but not less than every tenth in-place density test.

b. In-Place Densities ASTM D1556/D1556M or ASTM D6938

1. Impervious Fill; one test for every material variation but not less than one for every 250 linear feet, or fraction thereof, for each lift. Number and track lifts sequentially as they are placed (stationing and extents), and provide associated lift number with test result.

c. Plasticity Index ASTM D4318

1. Impervious Fill; each time a Proctor test is performed, also determine the liquid limit and plastic limit of the soil sample used for the Proctor test before Proctor testing is performed.

d. Clay Fraction (percent smaller than 0.002 mm, determined in accordance with ASTM D7928

1. Impervious Fill; for every 5th Proctor test performed, also determine the particle size distribution by hydrometer analysis of the soil sample used for the Proctor test before Proctor testing is performed.

3.20 NUCLEAR DENSITY TESTING

Do not use gage offsets programmed into a nuclear density gage. Ensure that gage offsets programmed into a nuclear density gage have been cleared before use on the project.

If ASTM D6938 is used to determine in-place density of soils, perform at a minimum one verification pair (also called a check test) for every ten ASTM D6938 tests performed. A check test is considered acceptable if both the ASTM D6938 and ASTM D1556/D1556M results indicate the density and moisture compaction requirements have been met. Submit the results from both tests as part of the ongoing submittal of density testing results. If either test method indicates the compaction requirements have not been met: perform corrective actions to recompact the failing materials, then perform an additional check test of one sand cone and one nuclear density

test. If both retests indicate the compaction requirements have been met, the check test is considered successful. Otherwise, continue to perform corrective actions until both test methods indicate successful compaction. If any testing equipment is deemed potentially faulty, that equipment is not to be used for further density testing until the cause of the fault is identified and repairs are undertaken.

Submit to the Contracting Officer the following:

1. A certification that the operator has completed a training course approved by the nuclear density testing equipment manufacturer.
2. The most recent data sheet from the manufacturer's calibration for each gage (all nuclear density gages must be calibrated annually).
3. The standard count log for each gage for each day of use using the provided table in the attachments..

Provide the aforementioned information prior to using the nuclear density testing equipment on the site. Provide updates to all forms as testing proceeds.

Nuclear density testing gages shall have a probe that extends at least 12 inches. Probe depth during testing must capture the full height of the lift being tested and as little of the preceding lift as possible (e.g., if a lift to be tested is 7 inches compacted but the gage only has 6 inch and 8 inch settings, set the probe to 8 inches). If ASTM D1556/D1556M used, report depth of hole in inches. The Contractor shall use a minimum of one-minute counts for all nuclear density tests.

For all nuclear density testing, including all data required under ASTM D6938 Section 12 Report, including field data records and final report minimum information.

Perform a new standard count each day ASTM D6938 testing is performed.

Do not use nuclear density testing equipment during rain.

3.21 CARE OF WATER

The Contractor shall collect and dispose of surface waters and groundwater to allow for the construction to progress successfully and to prevent excessive rutting or erosional damage to constructed features.

The Contractor shall design, construct, maintain, and operate as necessary, any temporary storm drainage features such as ponds, berms, ditches, pumps, etc. to provide drainage away from the construction.

The Contractor's operations shall allow existing surface drainage to continue to flow and operate under all conditions encountered and not flood the work area or adjacent property.

The Contractor shall design, construct, maintain and operate all drainage features in accordance with Section 01 41 26.00 13 NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM, Section 01 57 20.00 13 ENVIRONMENTAL PROTECTION and all applicable regulations.

3.22 ATTACHMENTS

1. FOUNDATION PREPARATION CHECKLIST 1 PAGE
2. DAILY EARTHWORK REPORT FORMS AND EXAMPLES 7 PAGES
3. SUMMARY OF DENSITY TESTING RESULTS FORM AND EXAMPLE 3 PAGES

-- End of Section --

SECTION 31 00 00.00 13
EARTHWORK ATTACHMENTS

FOUNDATION PREPARATION CHECKLIST

Foundation Preparation Checklist

Portion of Foundation: From Station _____ + ____ to Station _____ + ____

Item #	Description	Projected Begin Date	Projected Completion Date
1	Strip topsoil over embankment footprint.		
2	Excavate inspection trench		
3	Mark centerline stationing of dam .		
4	Mark the outlines of culverts, end sections, headwalls and wingwalls .		
5	Remove any temporary ramps covering side slopes such that the foundation evaluation can proceed unhindered except necessary means for safe ingress and egress.		

Contractor Quality Control Manager	Date
Printed Name	
Signature	

Contractor Project Manager	Date
Printed Name	
Signature	

Date Checklist Submitted to Contracting Officer:	
--	--

DAILY REPORT FORMS FOR
EARTHWORK OBSERVATION

DAILY EARTHWORK REPORT FORM

Directions: Fill out this form with an accompanying plan view illustration and narrative (on back of form) throughout each work day. Estimate to nearest whole unit unless otherwise indicated. An example of this form filled out with an accompanying illustration are provided in the specifications. If you have any questions about how to fill out this form, contact the Contracting Officer for assistance.

Project	Contract Number	Date	Precipitation Recorded	Day's High Temp [F]	Day's Low Temp [F]
Datum Used	QC First and Last Name			QC Employer	

Table 1. Equipment Used				
Description	Make	Model	Amount	What was the equipment used for?

Table 2. Stripping				
Illustration Number	Station Limits	Approx. Quantity	Approx. Depth (inches)	Material Type Removed?

Table 3. Excavation								
Illustration Number	Station Limits	Approx. Quantity	Slopes 1V:XH	Bottom EL [NAVD 88, ft]	Bottom Width [ft]	Water Table EL [NAVD 88, ft]	Material Type Removed	Instability Issues and Cause

Table 4. Undesirable Features						
Illustration Number	Station Limits	Feature Description	Excavated (Y or N)	Approx. Quantity	Disposal Location	Contacted COR (Y or N)

Table 5. Stockpiling & Placement			
Illustration Number	Station Limits	Source	Material Type

Table 6. Compaction					
Illustration Number	Station Limits	Lift Thickness [inches]	Number of Passes	Density Tests Taken (list numbers)	Material Type

DAILY EARTHWORK REPORT FORM

Narrative: *Provide a narrative description of daily earthwork activities. Sentence format should be starting with each piece of equipment, what action it performed, where the action was performed, and the results of that action (e.g., Bulldozer stripped topsoil from location X and placed it in location Y). Place the illustration number at the end of each action.*

Plan View Illustration: *Illustrate and number areas where work was performed in plan view. Include stationing in the drawing and relevant features, such as culverts, intersections, ditches, inspection trench, and embankment.*

DAILY EARTHWORK REPORT FORM

Directions: Fill out this form with an accompanying plan view illustration and narrative (on back of form) throughout each work day. Estimate to nearest whole unit unless otherwise indicated. An example of this form filled out with an accompanying illustration are provided in the specifications. If you have any questions about how to fill out this form, contact the Contracting Officer for assistance.

Project	Contract Number	Date	Precipitation Recorded	Day's High Temp [F]	Day's Low Temp [F]
Fargo SE-1	XXXX-XXXXX	7/7/2025	0.00 inches	95	75
Datum Used	QC First and Last Name			QC Employer	
NAVD 1988	Jane Doe, P.E.			Earthwork-R-Us	

Table 1. Equipment Used				
Description	Make	Model	Amount	What was the equipment used for?
Backhoe	CAT	415F2	2	Excavation, Placement
Bulldozer	Komatsu	D61Exi-24	2	Stripping

Table 2. Stripping				
Illustration Number	Station Limits	Approx. Quantity	Approx. Depth (inches)	Material Type Removed?
1	SE1 53+00 to SE1 61+75	5700 CY	20	Topsoil

Table 3. Excavation								
Illustration Number	Station Limits	Approx. Quantity	Slopes 1V:XH	Bottom EL [NAVD 88, ft]	Bottom Width [ft]	Water Table EL [NAVD 88, ft]	Material Type Removed	Instability Issues and Cause
3	SE1 53+75 to SE1 61+50	8000 CY	1V:2H	914	3	916	Fat Clay	None

Table 4. Undesirable Features						
Illustration Number	Station Limits	Feature Description	Excavated (Y or N)	Approx. Quantity	Disposal Location	Contacted COR (Y or N)
5	SE1 57+65	Coarse sand lens with gravel up to 1 inch in diameter	Y	100 CY	Designated disposal site	Y
6	SE1 60+75	Steel wreckage, appears to be buried field tiller/diskier	Y	50 CY	Designated disposal site	Y

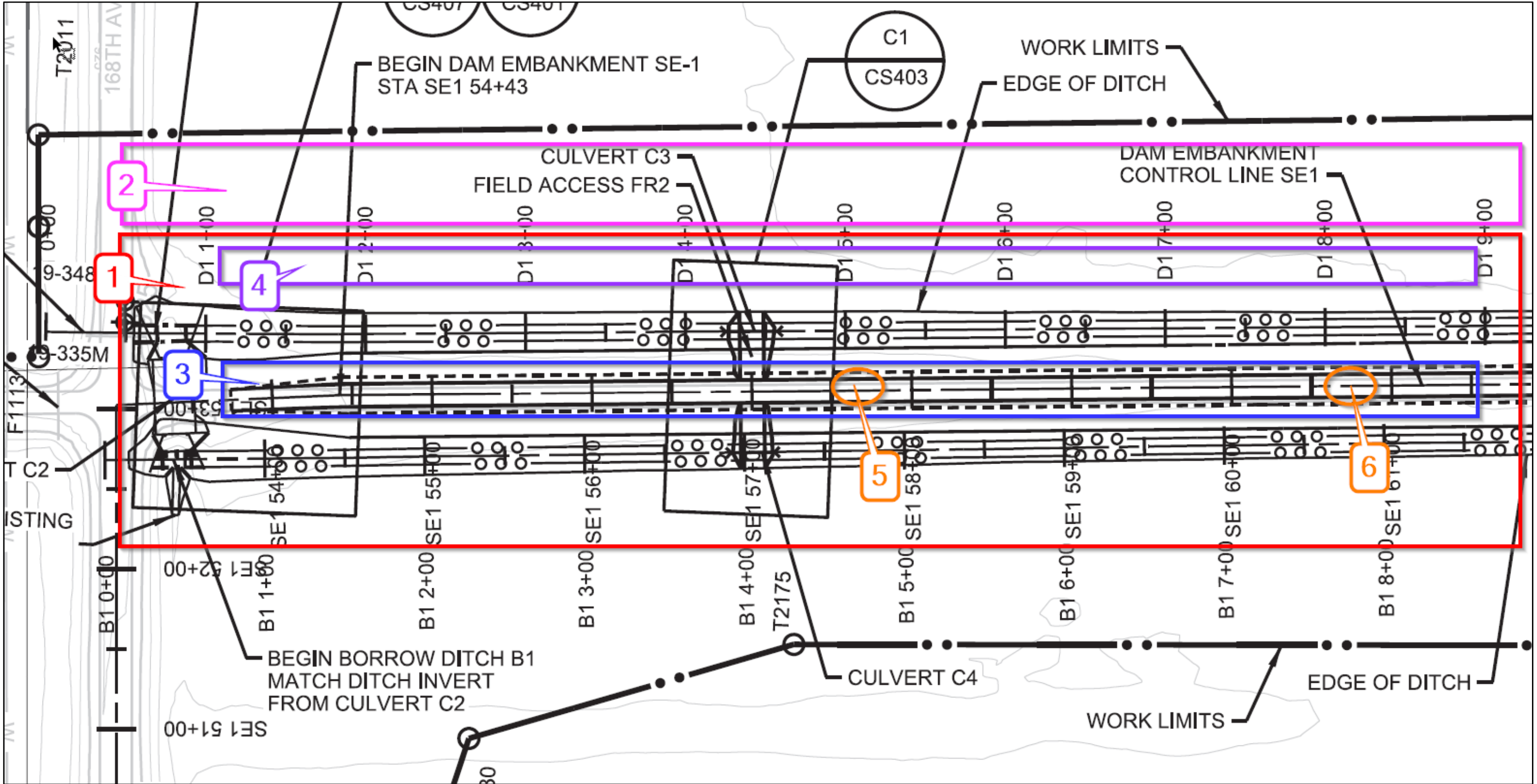
Table 5. Stockpiling & Placement			
Illustration Number	Station Limits	Source	Material Type
2	SE1 53+00 to SE1 62+00	Foundation stripping	Topsoil
4	SE1 53+75 to SE1 61+50	Inspection trench excavation	Fat Clay

Table 6. Compaction					
Illustration Number	Station Limits	Lift Thickness [inches]	Number of Passes	Density Tests Taken (list numbers)	Material Type

Narrative: Provide a narrative description of daily earthwork activities. Sentence format should be starting with each piece of equipment, what action it performed, where the action was performed, and the results of that action (e.g., Bulldozer stripped topsoil from embankment footprint and ditches (#1) and stockpiled topsoil north of stripped footprint (#2). Backhoe excavated inspection trench (#3), stockpiling excavated material on northern side of excavation at a setback distance of 50 ft (#4), and uncovered two undesirable subsurface features (#5 and #6).

Bulldozers stripped topsoil from embankment footprint and ditches (#1) and stockpiled topsoil north of stripped footprint (#2). Backhoe excavated inspection trench (#3), stockpiling excavated material on northern side of excavation at a setback distance of 50 ft (#4), and uncovered two undesirable subsurface features (#5 and #6).

Plan View Illustration: Illustrate and number areas where work was performed in plan view. Include stationing in the drawing and relevant features, such as culverts, intersections, ditches, inspection trench, and embankment.



DAILY EARTHWORK REPORT FORM

Directions: Fill out this form with an accompanying plan view illustration and narrative (on back of form) throughout each work day. Estimate to nearest whole unit unless otherwise indicated. An example of this form filled out with an accompanying illustration are provided in the specifications. If you have any questions about how to fill out this form, contact the Contracting Officer for assistance.

Project	Contract Number	Date	Precipitation Recorded	Day's High Temp [F]	Day's Low Temp [F]
Fargo SE-1	XXXX-XXXXX	7/8/2025	0.00 inches	97	76
Datum Used	QC First and Last Name			QC Employer	
NAVD 1988	Jane Doe, P.E.			Earthwork-R-Us	

Table 1. Equipment Used				
Description	Make	Model	Amount	What was the equipment used for?
Backhoe	CAT	415F2	1	Placement
Articulated Truck	CAT	725	2	Stockpiling
Vibratory Roller	CAT	CSGT78	2	Compaction

Table 2. Stripping				
Illustration Number	Station Limits	Approx. Quantity	Approx. Depth (inches)	Material Type Removed?

Table 3. Excavation								
Illustration Number	Station Limits	Approx. Quantity	Slopes 1V:XH	Bottom EL [NAVD 88, ft]	Bottom Width [ft]	Water Table EL [NAVD 88, ft]	Material Type Removed	Instability Issues and Cause

Table 4. Undesirable Features						
Illustration Number	Station Limits	Feature Description	Excavated (Y or N)	Approx. Quantity	Disposal Location	Contacted COR (Y or N)

Table 5. Stockpiling & Placement			
Illustration Number	Station Limits	Source	Material Type
1	SE1 56+25 to 56+75	Supplier XYZ	Filter Material - Sand
2	SE1 57+00, Culvert C4	Filter Material Stockpile	Filter Material - Sand

Table 6. Compaction					
Illustration Number	Station Limits	Lift Thickness [inches]	Number of Passes	Density Tests Taken (list numbers)	Material Type
3	SE1 57+00, Culvert 4	6	2	15554 through 15559	Filter Material - Sand

Plan view of the proposed dam embankment SE-1. The diagram shows the alignment of the embankment from station 51+00 to 61+00. Key features include:

- Stationing:** The embankment is marked with stations from 51+00 to 61+00. A specific section is highlighted with a red box and labeled "1".
- Work Limits:** Indicated by dashed lines at both ends of the embankment section.
- Edges of Ditch:** The edges of the ditch are shown as solid lines.
- Culverts:** Culvert C3 (Field Access FR2) and Culvert C4 are shown crossing the embankment.
- Existing Infrastructure:** Existing structures like T211, T2175, and T2176 are shown. A pink box labeled "2 & 3" highlights a specific area near station 54+00.
- Labels:** "BEGIN DAM EMBANKMENT SE-1 STA SE1 54+43", "DAM EMBANKMENT CONTROL LINE SE1", "BEGIN BORROW DITCH B1 MATCH DITCH INVERT FROM CULVERT C2", "EDGE OF DITCH", "WORK LIMITS", "CULVERT C3 FIELD ACCESS FR2", "CULVERT C4", "T211", "T2175", "T2176", "SE1 51+00", "SE1 52+00", "SE1 53+00", "SE1 54+00", "SE1 55+00", "SE1 56+00", "SE1 57+00", "SE1 58+00", "SE1 59+00", "SE1 60+00", "SE1 61+00", "B1 1+00", "B1 2+00", "B1 3+00", "B1 4+00", "B1 5+00", "B1 6+00", "B1 7+00", "B1 8+00", "D1 1+00", "D1 2+00", "D1 3+00", "D1 4+00", "D1 5+00", "D1 6+00", "D1 7+00", "D1 8+00", "D1 9+00", "9-348M", "9-335M", "F1113", "T C2", "ISTING", "168TH AV", "C3407", "C3401", "C1 CS403".

SUMMARY OF DENSITY
TESTING RESULTS
FORM AND EXAMPLES

Summary of Proctor Tests

Column Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Proctor Sample - Spatial Location														Proctor Sample - Time Data										Lab Selected Max/Opt. Point	
Provided by Contractor														Provided by Contractor										Provided by Contractor	
Proctor Number	Enter a whole number. Must count up and cannot be repeated.	Provide the alignment prefix as shown on the plans. Example: A = Control Line A	Station where sample taken in survey feet. Use project datum. Enter as number rounded to nearest tenth of a foot.	Offset where sample taken in survey feet. Enter as number nearest to project datum. Use positive number for right offset and negative number for left offset.	Lift number from which sample was obtained.	Elevation where sample taken in survey feet. Use project datum. Enter as number rounded to nearest tenth of a foot.	Sample type Choices: C = Compacted Lift L = Loose Lift I = In-situ OW = Only	If sample taken using from compacted lift, measure lift, measure hole depth in surface of the lift. Report to nearest inch. This measure is shown on lift, only top lift is included.	Is lift part of embankment or inspection trench? Enter either EM or IT. EM = Embankment IT = Inspection trench	Northing (ft) Datum: 515895.4	Easting (ft) Datum: 658827.9	Date Sample Taken mm/dd/yyyy format.	Point 1 - Density (pcf)	Point 1 - Moisture Content (%)	Point 2 - Density (pcf)	Point 2 - Moisture Content (%)	Point 3 - Density (pcf)	Point 3 - Moisture Content (%)	Point 4 - Density (pcf)	Point 4 - Moisture Content (%)	Point 5 - Density (pcf)	Point 5 - Moisture Content (%)	Maximum Dry Density (pcf)	Moisture Content (%)	
1		A	357.0	-13.5	10	303.3	C	6.0	EM	515895.4	658827.9	5/27/2021	81.4	25.2%	86.4	27.7%	88.5	30.0%	88.0	31.5%	87.1	32.8%	88.6	29.1%	
2		A	357.5	-13.5	10	303.3	C	5.0	EM	515895.4	658827.9	5/27/2021	87.3	25.2%	92.4	27.7%	95.5	30.0%	95.0	31.5%	94.1	32.8%	95.6	29.2%	

Cartouche

Column
Number

Daily Standard Count Log

Column
Number

1	2	3	4	5	6	7
Provide gage manufacturer.	Provide gage model number.	Provide gage serial number.	Provide date of standard count. Date must be in mm/dd/yyyy format.	Provide time of standard count. Time must be in HH:MM format (24-hr/ military time).	Provide density standard count. Process in ASTM D6938, Appendix A3, Paragraph A3.6.	Provide moisture standard count. Process in ASTM D6938, Appendix A3, Paragraph A3.6.
Gage Manufacturer	Gage Model Number	Gage Serial Number	Date of Standardization	Time of Standardization	Density Standard Count (prescaled)	Moisture Standard Count (prescaled)
Troxler	3440	68795	5/19/2021	8:00	1830	639
Troxler	3440	68795	5/20/2021	8:00	1820	646
Troxler	3440	68795	5/21/2021	8:00	1832	650
Troxler	3440	68795	5/22/2021	8:00	1817	646
Troxler	3440	68795	5/23/2021	8:00	1820	646
Troxler	3440	68795	5/24/2021	8:00	1829	654
Troxler	3440	68795	5/25/2021	8:00	1816	646
Troxler	3440	68795	5/26/2021	8:00	1825	660
Troxler	3440	68795	5/19/2021	8:00	1830	639
Troxler	3440	68795	5/20/2021	8:00	1832	650
Troxler	3440	68795	5/21/2021	8:00	1829	654
Troxler	3440	68795	5/22/2021	8:00	1817	646
Troxler	3440	68795	5/23/2021	8:00	1820	645
Troxler	3440	68795	5/24/2021	8:00	1819	650
Troxler	3440	68795	5/25/2021	8:00	1822	640
Troxler	3440	68795	5/26/2021	8:00	1829	654
Troxler	3440	68795	5/27/2021	8:00	1817	646
Troxler	3440	68795	5/28/2021	8:00	1820	645
Troxler	3440	68795	5/29/2021	8:00	1819	650

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SECTION 31 05 19

GEOTEXTILE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)

AASHTO M 288 (2022) Standard Specification for
Geosynthetic Specification for Highway
Applications

ASTM INTERNATIONAL (ASTM)

ASTM D4354 (2012; R 2020) Sampling of Geosynthetics
for Testing

ASTM D4759 (2011; R 2018) Standard Practice for
Determining the Specification Conformance
of Geosynthetics

ASTM D4873 (2002; R 2009) Identification, Storage,
and Handling of Geosynthetic Rolls and
Samples

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

NDDOT 858 (2022) Standard Specifications for Road
and Bridge Construction

1.2 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

Manufacturing Quality Control Sampling and Testing

Thread

SD-07 Certificates

Geotextile

A minimum of 21 days prior to scheduled use, manufacturer's certificate of compliance stating that the geotextile meets the requirements of this section.

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver, store, and handle geotextile in accordance with ASTM D4873.

1.3.1 Delivery

Notify the Contracting Officer a minimum of 24 hours prior to delivery and unloading of geotextile rolls packaged in an opaque, waterproof, protective plastic wrapping. The plastic wrapping shall not be removed until deployment. If quality assurance samples are collected, immediately rewrap rolls with the plastic wrapping. Geotextile or plastic wrapping damaged during storage or handling shall be repaired or replaced. Label each roll with the manufacturer's name, geotextile type, roll number, roll dimensions (length, width, gross weight), and date manufactured.

1.3.2 Storage

Protect rolls of geotextile from construction equipment, chemicals, sparks and flames, temperatures in excess of 160 degrees F, or any other environmental condition that may damage the physical properties of the geotextile. To protect geotextile from becoming saturated, either elevate rolls off the ground or place them on a sacrificial sheet of plastic in an area where water will not accumulate.

1.3.3 Handling

Handle and unload geotextile rolls with load carrying straps, a fork lift with a stinger bar, or an axial bar assembly. Rolls shall not be dragged along the ground, lifted by one end, or dropped to the ground.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Geotextile

Provide geotextile that is a pervious sheet of polymeric material consisting of long-chain synthetic polymers composed of at least 95 percent by weight polyolefins, polyesters, or polyamides. Geotextiles shall meet the requirements of AASHTO M 288 as noted for the types listed.

In this section and in the project plans, the use of the term Geosynthetic may be used interchangeably with Geotextile in reference to the geotextile types defined below. The term Geogrid refers to geogrid soil stabilization and shall follow the requirements of Section 31 32 19.12 GEOGRID SOIL STABILIZATION.

2.1.1.1 Geotextile Type 1

Geotextile Type 1 shall be non-woven and meet the requirements of AASHTO M 288, Class 1 for a permanent erosion control geotextile selected for an in-situ soil having greater than 50% passing the No. 200 sieve.

2.1.1.2 Geotextile Type 2

Geotextile Type 2 shall meet the requirements of AASHTO M 288, Class 1 for a separation geotextile. Geotextile Type 2 may be woven or non-woven.

2.1.1.3 Geotextile Type ACB 1

Geotextile Type ACB 1 shall be installed above the sand filter at the ACB weir. It shall be non-woven and meet requirements of AASHTO M 288 for subsurface drainage, Class 2 strength, and selected for soil with less than 15 percent passing No. 200 sieve by weight.

2.1.1.4 Geotextile Type ACB 2

Geotextile Type ACB 2 shall be installed above impervious fill at the ACB weir. It shall be non-woven and meet requirements of AASHTO M 288 for subsurface drainage, Class 2 strength, and selected for soil with greater than 50 percent passing No. 200 sieve by weight.

2.1.1.5 Geotextile Type G

Geosynthetic Type G shall meet the requirements of NDDOT 858, Table 858-03.

2.1.1.6 Geotextile Type R1

Geosynthetic Type R1 shall meet the requirements of NDDOT 858, Table 858-01.

2.1.1.7 Geotextile Type RR

Geotextile Type RR shall meet the requirements of AASHTO M 288, Class 1 for a separation geotextile. Geotextile Type RR may be woven or non-woven.

2.1.2 Thread

A minimum of 21 days prior to scheduled use, submit proposed thread type for sewn seams along with data sheets showing the physical properties of the thread. Construct sewn seams with high-strength polyester, nylon, or other approved thread type. Thread shall have ultraviolet light stability equivalent to the geotextile and the color shall contrast with the geotextile.

2.2 MANUFACTURING QUALITY CONTROL SAMPLING AND TESTING

The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the specification. A minimum of 21 days prior to scheduled use, submit manufacturer's quality control manual. Perform manufacturing quality control sampling and testing in accordance with the manufacturer's approved quality control manual. As a minimum, geotextiles shall be randomly sampled for testing in accordance with ASTM D4354, Procedure A. Acceptance of geotextile shall be in accordance with ASTM D4759. Tests not meeting the specified requirements will result in the rejection of applicable rolls.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Subgrade Preparation

The surface underlying the geotextile shall be smooth and free of ruts or protrusions which could damage the geotextile. Subgrade materials and compaction requirements shall be in accordance with Section 31 00 00.00 13 EARTHWORK.

3.1.2 Placement

Notify the Contracting Officer a minimum of 24 hours prior to installation of geotextile. Geotextile rolls which are damaged or contain imperfections shall be repaired or replaced. The geotextile shall be laid flat and smooth so that it is in direct contact with the subgrade. The geotextile shall also be free of tensile stresses, folds, and wrinkles. On slopes steeper than 10 horizontal on 1 vertical, lay the geotextile with the machine direction of the fabric parallel to the slope direction.

3.2 SEAMS

3.2.1 Overlap Seams

Continuously overlap geotextile panels a minimum of 24 inches at all longitudinal and transverse joints. Where seams must be oriented across the slope, lap the upper panel over the lower panel. Upstream geotextile panels shall overlap downstream geotextile panels. Sewn seams may be used instead of overlapped seams and are required on all slopes steeper than 1 vertical on 4 horizontal.

3.2.2 Sewn Seams

Factory and field seams shall be continuously sewn on all slopes steeper than 1 vertical on 4 horizontal. The stitch type used shall be a 401 locking chain stitch or as recommended by the manufacturer. For field and factory seams which are sewn, provide at least a 6-foot sample of sewn seam before the geotextile is installed. For seams that are field sewn, the seams shall be sewn using the same equipment and procedures as will be used for the production seams. If seams are sewn in both the machine and cross machine direction, provide samples of seams from both directions. Seam strength shall meet the minimum requirements specified in AASHTO M 288. The thread at the end of each seam run shall be tied off to prevent unraveling. Skipped stitches or discontinuities shall be sewn with an extra line of stitching with a minimum of 18 inches of overlap.

3.3 PROTECTION

Protect the geotextile during installation from clogging, tears, and other damage. Damaged geotextile shall be repaired or replaced. Use adequate ballast (e.g. sand bags) to prevent uplift by wind. The geotextile shall not be left uncovered for more than 7 days after installation or manufacturer's recommendation, whichever is less in duration.

3.4 REPAIRS

Repair torn or damaged geotextile. Clogged areas of geotextile shall be removed. Perform repairs by placing a patch of the same type of

geotextile over the damaged area. The patch shall extend a minimum of 12 inches beyond the edge of the damaged area. Patches shall be continuously fastened using approved methods. The machine direction of the patch shall be aligned with the machine direction of the geotextile being repaired. Remove and replace geotextile rolls which cannot be repaired. Repairs shall be performed at no additional cost to the Government.

3.5 PENETRATIONS

Construct engineered penetrations of the geotextile by methods recommended by the geotextile manufacturer.

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SECTION 31 32 11

TURF REINFORCEMENT MAT (TRM)

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-- End of Section Table of Contents --

SECTION 31 32 11

TURF REINFORCEMENT MAT (TRM)

PART 1 GENERAL

1.1 SUMMARY

The work consists of furnishing and installing turf reinforcement mats (TRM), including fine grading, blanketing, stapling, and miscellaneous related work.

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 D4355/D4355M	(2014) Deterioration of Geotextiles from Exposure to Light, Moisture and Heat in a Xenon-Arc Type Apparatus
ASTM D6460	(2012) Standard Test Method for Determination of Rolled Erosion Control Product (RECP) Performance in Protecting Earthen Channels from Stormwater-Induced Erosion
ASTM D6566	(R 2018) Standard Test Method for Measuring Mass per Unit Area of Turf Reinforcement Mats
ASTM D6525/D6525M	(2018) Standard Test Method for Measuring Nominal Thickness of Rolled Erosion Control Products
ASTM D6818	(2018) Standard Test Method for Ultimate Tensile Properties of Rolled Erosion Control Products

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.

SD-01 Preconstruction Submittals

TRM Installation Plan; G

The Contractor shall submit a detailed, TRM Installation Plan, for TRM Installation as required in accordance with paragraph "Installation of TRM". The work plan shall include all equipment and methods for installing TRM. The plan shall also include, but not limited to, the following:

- a. Detailed layout plan for pin locations, spacing along the slopes, and spacing within the anchor trenches.
- b. Narrative shall include a time frame for placing TRM ahead of topsoil and seeding that will not allow for weed growth between operations.
- c. A detailed layout plan of the TRM panels.
- d. Method for placing mats and overlapping for the curved and straight sections of the dam embankment.

SD-02 Shop Drawings

Maintenance Record; G

Record of maintenance work performed, of measurements and findings for product failure, recommendations for repair, and products replaced.

SD-03 Product Data

Turf Reinforcement Mat; G

Submit manufacturer's literature discussing physical characteristics, applications, guarantees, and installation instructions of the turf reinforcement mat.

SD-07 Certificates

Turf Reinforcement Mat; G

Prior to delivery of materials, certificates of compliance attesting that materials meet the specified requirements

Warranty; G

1.4 DELIVERY, STORAGE, AND HANDLING

Store materials as recommended by the manufacturer protected from the elements, direct exposure, and damage. Do not drop containers from trucks. Material shall be free of defects that would void required performance or warranty.

- a. Furnish TRM in rolls with suitable wrapping to protect against moisture and extended ultraviolet exposure prior to placement. Label TRM rolls to provide identification sufficient for inventory and quality control purposes.

1.5 WARRANTY

Provide manufacturer's standard warranty.

PART 2 PRODUCTS

2.1 TRM

The TRM shall be constructed of a woven polypropylene erosion control matrix designed for steep slopes and vegetated waterways. The matrix shall be made of trilobal monofilament yarns woven into a consistent pattern of pyramid-like projections. It shall have a uniform structure without layers, composites, or loose stitching or glued netting.

The following list specifies additional physical property requirements for the TRM.

2.1.1 Physical Properties

Property	Test Method	Value
Light Penetration (percent passing)		35 percent
Minimum Thickness	ASTM D6525/D6525M	0.25 in
Min. Mass per Unit Area	ASTM D6566	7.5 oz/cy
Minimum Tensile Strength	ASTM D6818	2000 x 1800 lb/ft
Elongation	ASTM D6818	5 percent in MD
Shear Stress Fully vegetated	ASTM D6460	12 lbs/sf
UV Stability	ASTM D4355/D4355M	80 percent at 1,000 hrs

2.2 SECURING PINS

8" long twist pins shall be used. 12" long twist pins shall be used in the anchor trench.

PART 3 EXECUTION

3.1 INSTALLATION CONDITIONS

Perform turf reinforcement operations under favorable weather conditions; when excessive moisture, frozen ground or other unsatisfactory conditions prevail, the work shall be stopped. Do not apply TRM in adverse weather conditions which could affect their performance.

Verify that finished grades are as indicated on the drawings; complete finish grading and compaction prior to the commencement of the work.

3.2 SURFACE PREPARATION

The surface that the TRM is placed on shall be completed with topsoil in accordance with SECTION 31 00 00.00 13 EARTHWORK and seeded in accordance with paragraph SEEDING AND MULCHING.

Verify that the finished grade is smooth with no depressions, and is free from obstructions, such as tree roots, projecting stones or other foreign matter.

3.3 INSTALLATION OF TRM

TRM shall be installed in accordance with the plans and manufacturers' literature on shoreline installation. During TRM installation, the mat shall be installed directly on the seeded topsoil, securely held in place for continuous contact with the soil surface.

The manufacturer's representative for the TRM shall be present for the first day of installation to inspect and determine adherence with manufacturer's instructions. The Contractor shall make all arrangements for the presence of the manufacturer's representative for this inspection. The presence of the manufacturer's representative, however, will not relieve the Contractor of full responsibility.

Overlapping and seaming shall be in accordance with the manufacturer's literature.

Place 1-inch topsoil and seed on completed TRM sections in accordance with paragraph SEEDING AND MULCHING. Topsoil and Seeding shall not be installed until the TRM installation has been completed and approved by the Contracting Officer. The Government may consider portions complete and ready for topsoil and seeding prior to all TRM installation being completed. The Contractor is allowed to use either rubber tired or rubber tracked lightweight power equipment for placement of seed and topsoil on top of the TRM. The Contractor shall avoid sharp turns on installed material. Tracked heavy equipment will not be allowed on the TRM during or after installation. Heavy equipment is defined as creating a deformation in the surface greater than 1-inch. Keep equipment off TRM if soil is wet. If damage occurs, the Contractor shall repair or replace all damaged areas in accordance with paragraph DAMAGED TRM AREAS.

3.4 DAMAGED TRM AREAS

In the event of damaged TRM, the Contracting Officer will determine if the damaged area will require replacement of the roll/panel of TRM that was placed, or if the damaged TRM can be repaired. Damaged TRM areas shall be repaired in accordance with the contract drawings. For any area of TRM required to be repaired, the Contractor shall submit a repair plan for approval by the Contracting Officer. The repair plan shall show the location of the damaged area, size of the damage/tear of the TRM, the placement of new TRM materials if required, and the layout of the pins for the damaged area to be repaired.

3.5 SEEDING AND MULCHING

Perform seeding in accordance with manufacturer's instructions and section 32 92 19.01 13 SEEDING. Place Zone 1 seed mix without forbs below the TRM prior to installation. Additional Zone 1 seed with forbs shall be installed on top of the TRM with 1 inch of topsoil. Place hydro-mulch per section 32 92 19.01 13 SEEDING on top of the 1 inch of topsoil and seed to provide temporary erosion control until seed is established. In lieu of topsoil, an engineered soil medium may be used and installed per manufacturer's instructions and approval of the Contracting Officer.

-- End of Section --

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GEOGRID SOIL STABILIZATION

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 - 2.2.1 Manufacturing Quality Control Testing

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 - 3.2.1 Geonet Damage
- 3.3 PROTECTION AND BACKFILLING

-- End of Section Table of Contents --

SECTION 31 32 19.13

GEOGRID SOIL STABILIZATION

PART 1 GENERAL

Geogrid soil stabilization shall be installed in accordance with the plans and approved ACB Installation Plan as defined in Section 35 31 19.20 ARTICULATED CONCRETE BLOCKS (ACB).

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D4595	(2017) Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
ASTM D4751	(2020) Standard Test Method for Determining Apparent Opening Size of a Geotextile
ASTM D5262	(2007; R 2016) Standard Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Sampling and Testing

Penetrations

Construction Quality Control (QC) Laboratory

SD-04 Samples

Geogrid Soil Stabilization

Seams and Overlaps

SD-06 Test Reports

Sampling and Testing

Geogrid Soil Stabilization

1.3 QUALITY ASSURANCE

Provide a construction quality control (QC) laboratory that has also performed quality assurance (QA) testing, if required, of geogrid for at least five completed projects, having a total minimum area of 100,000 square feet. Submit qualifications of laboratory carrying current accreditation via the Geosynthetic Accreditation Institute's Laboratory Accreditation Program (GAI-LAP) for the tests it will be required to perform.

1.4 DELIVERY, STORAGE, AND HANDLING

The QC inspector must be present during delivery and unloading of the geogrid. Ensure the material has not been damaged during shipping, storage, or handling. Repair or replace any material found to be damaged. Accept delivery of material only after the required submittals have been approved. Label each roll with the manufacturer's name, product identification, lot number, roll number, and roll dimensions. Wrap rolls that have attached geotextiles individually in plastic. Store the rolls in a level and dry area.

PART 2 PRODUCTS

2.1 GEOGRID SOIL STABILIZATION

Use polyethylene polymer, which is clean and free of any foreign contaminants, to manufacture the geogrid. Submit one properly identified 24 by 24 inch minimum size geogrid; fasteners proposed for use; and the method of seaming and overlapping. Submit manufacturer's quality control test results. Use regrind material which consists of edge trimmings and other scraps to manufacture the geogrid; however, do not use post-consumer recycled materials. Conform the geogrid to the property requirements listed in Table 1. Where applicable, Table 1 property values represent minimum average roll values (MARV). The value for AOS represents the maximum average roll value (MaxARV).

TABLE 1 - GEOSYNTHETIC DRAINAGE LAYER PROPERTIES			
PROPERTY	TEST METHOD	TEST VALUE	MINIMUM MQC TESTING FREQUENCY
Tensile Strength, MD, minimum	ASTM D4595	1,400 lbs/ft	100,000 sq ft
Tensile Strength, CD, minimum	ASTM 4595	1,400 lbs/ft	100,000 sq ft
Creep Limited Strength, minimum	ASTM D5262	450 lbs/ft	100,000 sq ft
Long Term Allowable Design Load	ASTM 4595	400 lb/ft	100,000 sq ft
UV Resistance, minimum	ASTM D4355	90 percent at 5,000 hrs	100,000 sq ft

TABLE 1 - GEOSYNTHETIC DRAINAGE LAYER PROPERTIES			
PROPERTY	TEST METHOD	TEST VALUE	MINIMUM MQC TESTING FREQUENCY
Apparent Opening Size	ASTM D4751	1 - 10 mm, and less than D_{50} of drainage layer (AASHTO No. 57)	100,000 sq ft
Design Life		75 years	N/A

2.2 SAMPLING AND TESTING

2.2.1 Manufacturing Quality Control Testing

Provide manufacturing quality control test methods and frequencies in accordance with Table 1 unless otherwise approved. Submit manufacturer's quality control manual and construction quality control test results.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Surface Preparation

Prior to placement of the geogrid, provide a subgrade that is smooth and free of all materials which could damage the drainage layer.

3.1.2 Placement

Do not damage the geogrid during placement. Unroll the material in the direction of maximum slope, keeping the net flat against the subgrade to minimize wrinkles and folds. Place adequate ballast (e.g. sandbags) to prevent uplift by wind prior to covering.

3.1.3 Seams and Overlaps

3.1.3.1 Geogrid Side Seams

Overlap geogrid side seams a minimum of 4 inches. Space side seam fasteners a maximum of 5 feet. In anchor trenches, space fasteners a maximum of 1 foot.

3.1.3.2 Geogrid End Seams

Overlap geogrid end seams a minimum of 1 foot. Space end seam fasteners spacing a maximum of 1 foot. Make overlaps in the direction of flow.

3.1.3.3 Geogrid Fasteners

Tie geogrid rolls together with plastic fasteners. Use fasteners that are a contrasting color from the geogrid and attached geotextiles. Metallic fasteners will not be allowed.

3.1.4 Penetrations

Submit penetration details. Mechanically attach a geotextile apron to pipes and other appurtenances penetrating through the drainage layer so that soil is prevented from getting into the drainage layer. Extend the apron of the attached geotextile out from the pipe or appurtenance a minimum of 2 feet. Thermally bond the apron geotextile to the geotextile component of the geocomposite.

3.2 REPAIRS

3.2.1 Geonet Damage

Make repairs by placing a patch of the geosynthetic drainage layer over the damaged area. Extend the patch a minimum of 2 feet beyond the edge of the damage. Use approved fasteners, spaced every 6 inches around the patch, to hold the patch in place. If more than 25 percent of the roll width is damaged, approval must be obtained to repair or replace the damaged roll.

3.3 PROTECTION AND BACKFILLING

Lay the geogrid flat and smooth so that it is in direct contact with the subgrade. Provide geogrid that is free of tension, folds, and wrinkles. Minimize the number of seams and overlaps by selective orientation of geogrid panels, within the limitations of maintaining a consistent pattern. Place geogrid immediately prior to block installation, if necessary to limit damage to the geogrid from equipment or repeated pedestrian traffic and limit disturbance of the subgrade from precipitation or runoff. Cover the geogrid with the ACB within 7 days of acceptance. Do not operate equipment on the top surface of the geogrid without permission from the Contracting Officer. Do not drag or push ACB mats over the geogrid. Lift misplaced mattresses and reset.

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SECTION 32 11 16.00 13

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SECTION 32 11 16.00 13

AGGREGATE SURFACE COURSE

PART 1 GENERAL

This section covers new aggregate, imported to the site for placement on the dam embankment roadway, or as otherwise shown on the plans.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 151	(2020) Standard Specifications for Road and Bridge Construction, General Equipment
NDDOT 302	(2020) Standard Specifications for Road and Bridge Construction, Aggregate Base and Surface Course
NDDOT 816	(2020) Standard Specifications for Road and Bridge Construction, Aggregates
NDDOT 151	(2020) Standard Specifications for Road and Bridge Construction, Geosynthetics

ASTM INTERNATIONAL (ASTM)

ASTM C117	(2017) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136/C136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates

1.2 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

Aggregate Sources

Aggregate material sources as specified in Paragraph MATERIAL

SOURCES.

SD-04 Samples

Aggregate Sample

Samples of aggregate as specified in Paragraph MATERIAL SOURCES.

SD-06 Test Reports

Testing

Testing results as specified in Paragraph TESTING.

PART 2 PRODUCTS

2.1 AGGREGATE

NDDOT 816, Class 13 Aggregate.

2.2 MATERIAL SOURCES

It shall be the responsibility of the Contractor to make its own investigations for a source of suitable materials and to make its own arrangements with the owners of the pits for procuring the required quantity of suitable material. The Contractor shall designate in writing only one source or one combination of sources from which it proposes to furnish aggregate. A 50 pound aggregate sample shall be provided to the Contracting Officer. Approval of samples from a source of aggregate is not to be construed as approval of all materials from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels when such materials are unsuitable for aggregate as determined by the Contracting Officer. Materials produced from an approved source shall meet all the requirements of this section.

2.3 GEOTEXTILE

Geotextile shall be a separation geotextile fabric meeting the requirements of Geotextile Type 2, in accordance with SECTION 31 05 19 GEOTEXTILE.

PART 3 EXECUTION

3.1 GENERAL

Aggregate surface course shall be constructed in accordance with the requirements of NDDOT 302 unless specified otherwise.

3.1.1 Definitions

The term "Engineer" referenced in the state standard specifications shall mean the Contracting Officer.

3.2 EQUIPMENT

All plant, equipment, and tools used in the performance of the work will be subject to approval and shall be maintained in satisfactory working condition at all times. The equipment shall meet the requirements of the referenced state standard specification sections. The surface course

shall be compacted using a steel-wheeled roller, vibratory smooth drum roller, pneumatic-tired roller, unless other special compaction equipment is approved.

3.3 WEATHER LIMITATION

Surface courses shall be placed when the atmospheric temperature is above 35 degrees F. Surface shall not be constructed on subgrades that are frozen or contain frost. Areas of completed surface course that are damaged by freezing, rainfall, or other weather conditions shall be corrected to meet specified requirements.

3.4 STOCKPILING MATERIAL

Stockpiling of aggregate shall not be allowed on this project.

3.5 PREPARATION OF SUBGRADE

All areas to receive aggregate surface shall be inspected and approved by the Contracting Officer. Aggregate surface shall not be placed on any subgrade that is wet, muddy, frozen, containing frost, snow or any other foreign substance.

Compaction shall be in accordance to Section 31 00 00.00 13 EARTHWORK.

Proof-rolling shall be completed on the subgrade prior to the placement of geotextile and aggregate surface.

Ruts, soft or yielding spots as indicated by the proof-rolling shall be corrected in accordance to the paragraph Subgrade Correction.

The finished subgrade shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until the aggregate surface is placed.

3.6 PROOF-ROLLING

The subgrade shall be proof rolled in the presence of the Contracting Officer, consisting of 2 passes with a loaded tandem dump truck. Operate the equipment at walking speed (2-1/2 to 3-1/3 miles per hour). Ruts, soft or yielding spots as indicated by the proof-rolling shall be corrected in accordance to the paragraph Subgrade Correction.

3.7 SUBGRADE CORRECTION

Subgrade correction shall be by means as approved by the Contracting Officer. Correction may include any means or combination thereof listed below.

1. Loosening, drying, recompacting and shaping of the unsatisfactory area.
2. Removing the unsatisfactory material and replacing with satisfactory material.
3. Recompact loose zones of non-saturated granular soil.

The entire subgrade shall be shaped to the lines, grade, and cross

section and compacted as shown and specified.

3.8 GRADE CONTROL

During construction, the lines and grades, including crown and cross slope indicated for the surface course, shall be maintained by means of line and grade stakes placed by the Contractor. Grade stakes shall be in lines parallel to the centerline of the area under construction and suitably spaced for string lining. The Contractor may use an approved laser system in lieu of a grade stake system. Adequate drainage shall be provided during the entire period of construction to prevent water from collecting or standing on the area to be constructed.

3.9 PLACEMENT OF GEOTEXTILE

Placement of geotextile shall be in accordance with Section 31 05 19 GEOTEXTILE.

3.9.1 Covering Geotextile

Overlying aggregate layers shall be spread uniformly to the full lift thickness on the geotextile by methods that do not tear, puncture, or reposition the fabric. Sudden braking and sharp turning shall be avoided. Tracked equipment shall not turn to prevent tracks from shearing the geotextile. Construction equipment shall not be operated directly upon the geotextile.

3.10 AGGREGATE PLACEMENT

The mixed material shall be placed on the prepared subgrade or subbase in loose lifts not exceeding 6 inches in thickness. The layers, when compacted, shall be true to the grades or levels required, with the least possible surface disturbance. If surface course becomes contaminated by traffic or sedimentation, the surface shall be cleaned prior to completing subsequent work by sweeping with power sweepers, power brooms, or hand brooms.

3.11 COMPACTION

3.11.1 Requirements

Compaction shall follow the compaction requirements of NDDOT 302 and shall be carried out simultaneously with laydown operations. All equipment shall be operated to produce uniform density throughout the entire section. Pneumatic-tired rollers of the type specified in NDDOT 151 shall be used. The desired degree of compaction will be considered obtained when the surface is tightly bound and shows no rutting or displacement under roller operation.

3.11.2 Finishing

The surface of the top layer shall be finished to grade and cross section shown. Finished surface shall be of uniform texture. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections. Should the surface for any reason become rough, corrugated, uneven in texture, or traffic marked prior to completion, such unsatisfactory portion shall be scarified, reworked, or replaced.

3.12 SMOOTHNESS TEST

The surface of the top layer shall not deviate more than 1/2 inch when tested with a 10 foot straightedge applied parallel with and at right angles to the centerline of the area to be paved. Deviations exceeding 1/2 inch shall be corrected.

3.13 THICKNESS CONTROL

The thickness of the surface course shall be measured at intervals of one measurement for at least each 500 square yards of surface course. The depth measurement shall be made by test holes at least 3 inches in diameter. The work shall be scheduled when the Contracting Officer can observe the testing; and the Contracting Officer shall select the locations of the test holes, unless waived.

3.13.1 Thickness Tolerances

Surface Courses. 0.05 foot above or below prescribed thickness.

3.14 ELEVATION TOLERANCE

The cross slope and longitudinal profile shall be within 0.05 feet of the proposed elevation.

3.15 TESTING

The following tests shall be performed by and at the expense of the Contractor. Samples shall be taken when and where directed. Tests of materials not meeting the requirements specified will not be counted as part of the required tests. Copies of test results shall be submitted to the Contracting Officer.

Sieve Analysis (ASTM C117 and ASTM C136/C136M)

Aggregate Surface: One test prior to placing or hauling and one test per 1,000 cubic yards or fraction thereof (in place measure)

3.15.1 Correction

When any source of materials is changed or deficiencies are found, the initial analysis shall be repeated and the material already placed shall be retested to determine the extent of unacceptable material. All in-place unacceptable material shall be replaced.

3.16 MAINTENANCE

The surface course shall be maintained in a condition that will meet specification requirements until the work is accepted.

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HOT MIX ASPHALT

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SECTION 32 12 17

HOT MIX ASPHALT

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include all bituminous paving, including surface, base course, tack coat, prime coat, fog seal, and rumble strips. The intent is to complete construction of CR81 in accordance with North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, while adhering to U.S. Army Corps of Engineers contract provisions. Should the NDDOT Standard Specifications conflict with the Government contract requirements, the Government contract requirements shall control.

1.1.1 Definitions and Responsibilities

a. Engineer: "Engineer" as used in the NDDOT Standard Specifications and throughout the plans, indicates the Contracting Officer, unless used in reference to quality control. Within the quality control sections of the NDDOT Standard Specifications, the term Engineer shall mean Contractor.

b. The Contractor shall perform and be responsible for all quality control measures described in the NDDOT Standard Specifications.

1.2 MEASUREMENT AND PAYMENT

The NDDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications shall not be followed when referencing measurements and payments. Deductions for payment referred to in the NDDOT Standards Specifications shall not be followed.

Requirements of the NDDOT Standard Specifications for acceptance of pavement shall be strictly adhered to. Pavement not meeting the minimum requirements of the NDDOT Standard Specifications shall be removed and replaced at the Contractor's expense.

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.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 401	(2022) Standard Specifications for Road and Bridge Construction, Prime, Tack, or Fog Coat
NDDOT 420	(2022) Standard Specifications for Road and Bridge Construction, Bituminous Seal Coat

NDDOT 430	(2022) Standard Specifications for Road and Bridge Construction, Hot Mix Asphalt (HMA)
NDDOT 760	(2022) Standard Specifications for Road and Bridge Construction, Rumble Strips
NDDOT 816	(2022) Standard Specifications for Road and Bridge Construction, Aggregates
NDDOT 818	(2022) Standard Specifications for Road and Bridge Construction, Bituminous Materials

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Asphalt Quality Control Plan; G

- a. The Asphalt Quality Control Plan shall include all asphalt operations, including qualifications of QC personnel.

SD-06 Test Reports

Asphalt Core Test Results

SD-07 Certificates

Asphalt Manifests

- a. Manifests for asphalt cement, tack coat, and prime coat.

Permit For Water Usage And Water Tank Calibration

Asphalt Pavement

Prime Coat

Tack Coat

Scale Certificate

PART 2 PRODUCTS

2.1 General

All products shall meet the requirements specified in NDDOT 401, NDDOT 420, NDDOT 430, NDDOT 760, NDDOT 816, and NDDOT 818 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

PART 3 EXECUTION

3.1 General

All work shall be completed in accordance with the requirements specified in NDDOT 401, NDDOT 420, NDDOT 430, NDDOT 760, NDDOT 816, and NDDOT 818 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

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SECTION 32 17 23

PAVEMENT MARKINGS

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include furnishing and installing all permanent pavement markings. The intent is to complete construction of CR81 in accordance with North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, while adhering to U.S. Army Corps of Engineers contract provisions. Should the NDDOT Standard Specifications conflict with the Government contract requirements, the Government contract requirements shall control.

1.1.1 Definitions and Responsibilities

a. Engineer: "Engineer" as used in the NDDOT Standard Specifications and throughout the plans, indicates the Contracting Officer, unless used in reference to quality control. Within the quality control sections of the NDDOT Standard Specifications, the term Engineer shall mean Contractor.

b. The Contractor shall perform and be responsible for all quality control measures described in the NDDOT Standard Specifications.

1.2 MEASUREMENT AND PAYMENT

The NDDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications shall not be followed when referencing measurements and payments. Deductions for payment referred to in the NDDOT Standards Specifications shall not be followed.

Requirements of the NDDOT Standard Specifications for acceptance of pavement shall be strictly adhered to. Pavement not meeting the minimum requirements of the NDDOT Standard Specifications shall be removed and replaced at the Contractor's expense.

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.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 762	(2022) Standard Specifications for Road and Bridge Construction, Pavement Marking
NDDOT 880	(2022) Standard Specifications for Road and Bridge Construction, Pavement Markings

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification.

Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Pavement Marking Data Logging System Daily Report; G, CIV

a. Provide a printed record from the data logging system (DLS) each day, or as directed by the Contracting Officer, for all longitudinal areas where striping material was machine placed. The report shall be provided directly from the DLS and shall include application vehicle speed to nearest 0.1 mph, weight or volume of paint material used by color, weight of reflective material used, pavement surface temperature, air temperature, dew point, humidity, average material application rates and film thickness, and highway number with beginning and ending reference points.

SD-07 Certificates

Pavement Marking Data Logging System Certificate; G, CIV

a. Provide the DLS manufacturer's recommendations for equipment calibration and provide certification that the DLS equipment meets these recommendations.

Pavement Marking Paint

Glass Beads

Marking Film

Raised Pavement Markers

PART 2 PRODUCTS

2.1 General

All products shall meet the requirements specified in NDDOT 762 and NDDOT 880 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

PART 3 EXECUTION

3.1 General

All work shall be completed in accordance with the requirements specified in NDDOT 762 and NDDOT 880 and the standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

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SECTION 32 31 13

ACCESS GATES

PART 1 GENERAL

1.1 GENERAL

Construct access gates as shown on the plans and as specified in this section.

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 WELDING SOCIETY (AWS)

AWS D1.1/D1.1M (2020; Errata 1 2021) Structural Welding
Code - Steel

ASTM INTERNATIONAL (ASTM)

ASTM A90/A90M (2021) Standard Test Method for Weight
[Mass] of Coating on Iron and Steel
Articles with Zinc or Zinc-Alloy Coatings

ASTM A153/A153M (2016a) Standard Specification for Zinc
Coating (Hot-Dip) on Iron and Steel
Hardware

ASTM A780/A780M (2020) Standard Practice for Repair of
Damaged and Uncoated Areas of Hot-Dip
Galvanized Coatings

ASTM C94/C94M (2022a) Standard Specification for
Ready-Mixed Concrete

1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Gate ; G

Provide detailed shop drawings showing materials and dimensions.

Hardware and Accessories; G

SD-03 Product Data

Zinc Coating; G

1.4 DELIVERY, STORAGE, AND HANDLING

Deliver materials to site in an undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

PART 2 PRODUCTS

2.1 STEEL PIPE

All steel pipe shall meet ASTM A53/A53M, Type S, Grade B requirements and shall be seamless and galvanized with nominal size and weight class or outside diameter and nominal wall thickness as shown. All pipe shall have plain ends.

2.2 ZINC COATING

Provide hot-dip galvanized (after fabrication) ferrous-metal components and accessories, except as otherwise specified.

Provide zinc coating in accordance with ASTM A153/A153M, of weight not less than 1.94 ounces per square foot, as determined from the average result of two specimens, when tested in accordance with ASTM A90/A90M.

Provide galvanizing repair material that is cold-applied zinc-rich coating conforming to ASTM A780/A780M.

2.3 CONCRETE

Provide 28-day, 3,000 psi compressive strength concrete conforming to ASTM C94/C94M.

2.4 MISCELLANEOUS HARDWARE

Provide miscellaneous hot-dip galvanized hardware as required.

PART 3 EXECUTION

3.1 GENERAL

Provide complete installation as shown on the plans.

3.2 EARTHWORK

Provide excavations for post footings that are drilled holes in virgin or compacted soil.

Ensure final grading is complete prior to installation.

3.3 SETTING POSTS

Remove loose and foreign materials from holes and moisten the soil prior to placing concrete.

Drill holes for posts using drilling equipment and bits suitable for the intended purpose, in accordance with the manufacturer's published

installation instructions. The diameter of the holes shall be as recommended by the post manufacturer. Unless otherwise shown on the drawings, all holes shall be drilled perpendicular to the surface. Clean holes, place concrete, and install posts in accordance with manufacturer's recommendations. Remove excess concrete after the post has been set in place. Remove spills on adjacent surfaces.

Keep exposed concrete moist for at least 7 calendar days after placement or cured with a membrane curing material, as approved by the Contracting Officer.

Maintain vertical alignment of posts set in concrete until concrete has fully set.

3.4 CONCRETE STRENGTH

Concrete shall have reached 75 percent of its minimum 28-day compressive strength and have cured for 7 calendar days prior to subjecting posts to weight bearing or tension. This includes hanging gates, placing rails, or other installations.

3.5 INSTALLATION

The Contractor shall install gates plumb, level, and secure. Gates shall operate without interference through its full range of motion. Adjust hardware for smooth operation and lubricate where necessary.

3.6 WELDING

Perform welding, welding inspections, and corrective welding in accordance with AWS D1.1/D1.1M. Use continuous welds on all exposed connections. Visible welds shall be ground smooth.

3.7 ZINC COATING REPAIR

The Contractor shall repair any damaged or abraded surfaces, including cut sections, with galvanizing repair material conforming to ASTM A780/A780M, and in strict accordance with the manufacturer's printed instructions.

3.8 TOLERANCES

The Contractor shall provide posts that are straight and plumb within a vertical tolerance of 1/4 inch.

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SEEDING

PART 1 GENERAL

This section covers all seeding required by this project. The drawings indicate the locations for seeding. The Contractor will also be responsible for erosion control and corrections during the period of turf establishment and growth as well as the NPDES construction Storm Water permit during that time.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. DEPARTMENT OF AGRICULTURE (USDA)

AMS Seed Act (1940; R 1988; R 1998) Federal Seed Act

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 3876 (2020, R 2022) Standard Specifications for Construction, Seed

MNDOT 3882 (2020, R 2022) Hydraulic Erosion Control Products

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 251 (2023) Standard Specifications for Road and Bridge Construction, Seeding

NDDOT 253 (2023) Standard Specifications for Road and Bridge Construction, Mulching

1.2 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

Turf Establishment Plan; G

At least 30 calendar days prior to initiating grass establishment, the Contractor shall furnish a Turf Establishment Plan for review and approval. The Turf Establishment Plan shall describe procedures and specific equipment used for ground surface

preparation, incorporating topsoil, seeding, mulching, watering, the type of rain gage, and a device or tool that will measure soil moisture to a depth of at least 3-inches. A temporary irrigation system shall be included with the Turf Establishment Plan and it shall describe the method of application, the application rate, water source(s), drawing of the layout, and a list of equipment and material.

Seed Mix ; G

SD-03 Product Data

Manufacturer's Literature

The Contractor shall submit manufacturer's literature discussing physical characteristics, applications, warranties, and installation of the seed, and mulch. The Contractor shall submit manufacturer's literature for equipment showing application and installation instructions.

SD-06 Test Reports

Seed Test; G

The Contractor shall submit test reports for a purity and germination test following the Association of Official Seed Analysts (AOSA) rules for each seed mixture. The test reports shall indicate the purity percentage and germination percentage for each species.

Quantity Check

Bag count or bulk weight measurements of material used compared with area covered to determine the application rate and quantity installed.

Maintenance Record

Maintenance work performed, area repaired or reinstalled, diagnosis for unsatisfactory stand of grass plants.

SD-07 Certificates

Certificates of Compliance

Prior to the delivery of materials, certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include the following:

- a. Seed. Mixture percentage, percent pure live seed, percent germination, weed seed content, and date tested.
- b. Mulch. Composition and source.

1.3 DELIVERY, INSPECTION, STORAGE, AND HANDLING

1.3.1 Inspection

Seed shall be inspected upon arrival at the job site for conformity to species and quality. Seed materials shall be delivered in manufacturer's original, unopened containers with labels and tags intact and legible. The Contractor shall certify that all seed materials received proper handling during delivery (including moisture content and temperature control), especially grasses and forbs that need special attention between gathering to planting. Materials that do not conform with the requirements of this paragraph shall be removed from the jobsite at no additional cost to the Government. Seed that is wet, moldy, or bears a test date more than five months old, shall be rejected. The Contracting Officer reserves the right to inspect seed from each bag prior to mixing and to take samples from each seed lot for independent testing of the seed.

1.3.2 Storage

Materials shall be stored in areas provided by the Contractor. The storage areas shall be made accessible to the Contracting Officer so that application rates can be verified. Seed shall be stored in cool, dry locations away from contaminants. Chemical treatment materials shall be stored according to manufacturer's instructions and not with seed.

1.3.3 Handling

Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

1.3.4 Invasive Species

In order to limit the possible spread of invasive plant species to the site, the Contractor shall ensure that equipment to be used is decontaminated prior to entry on the site. Decontamination shall be in accordance to INVASIVE SPECIES PREVENTION in Section 01 57 20.00 13 ENVIRONMENTAL PROTECTION

PART 2 PRODUCTS

2.1 SEED

Substitutions must use the BWSR substitution list: <https://bwsr.state.mn.us/sites/default/files.2101-02/seedmix-substitution.pdf> and include justification for the substitution, but are prohibited without written request from the Contractor and approval from the Contracting Officer. The mixing of seed may be done by the seed supplier prior to delivery, or on-site in the presence of the Contracting Officer.

2.1.1 Seed Classification

All seed weights are given as Pure Live Seed (PLS) State-certified seed of the latest two season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for mixture percentage, purity, germination, weed seed content, and inert material. Labels shall be in conformance with AMS Seed Act and applicable state seed laws. Native seed mixes must be of local genotype from within 300 miles of the jobsite.

Planting Zone seed mixed are as follows while locations for use are

specified on the plans:

Zone 1 - MNDOT 3876 35-241 Mesic Prairie General
Zone 2 - MNDOT 3876 34-262 Wet Prairie
Zone 3 - CR81 (Volume 2) - NDDOT 251 Class II
Zone 4 - MNDOT 3876 34-271 Wet Meadow South & West
Zone 5 - MNDOT 3876 34-181 Emergent Wetland
Zone X - Plant in accordance with Paragraph TEMPORARY COVER CROP
CR81 (Volume 2) - NDDOT 251 Class II

For native seed plantings after 1 September, substitute the specified oat cover crop with winter wheat.

2.1.2 Quality

Seed shall be free of prohibited and restricted noxious weed seeds and not greater than 1 percent by weight of common weed seeds. Inoculants shall consist of the proper bacteria applied in the amount and manner recommended by the manufacturer to all legumes in the seed mix.

2.1.3 Seasonal Limitations

For Zones 1, 2, 4, and 5, plant permanent seed mix between April 20 and July 1 or after September 1 and before the ground freezes. For Zone 3, plant permanent seed in accordance with NDDOT 251. If seeding is required before April 20 or between July 2 and August 31, plant a temporary cover crop as specified in Paragraph TEMPORARY COVER CROP. Re-seed the area with the specified seed mixture between April 20 and July 1 or after September 1 and before the ground freezes.

2.2 TEMPORARY GROUND COVER

As required by other sections of this specification, methods for a temporary ground cover may be temporary cover crop or mulch.

Stabilization of all exposed soils must occur when construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.

2.2.1 Temporary Cover Crop

Before September 1, use 100 pounds PLS per acre of oats after the ground has thawed and is conducive to seeding. After September 1, use 100 pounds PLS per acre of winter wheat and before the ground freezes.

2.2.2 Mulch for Temporary Ground Cover

Temporary ground cover may be straw or hydraulic mulch prior to ground freeze. After ground freeze and prior to snow fall, temporary ground cover will only be hydraulic mulch.

2.3 MULCH

Straw mulch shall be used with permanent seed mix in locations without TRM. Hydraulic mulch shall be used on permanent seed mix with TRM. Hydraulic mulch may be used in place of straw mulch for temporary cover crop or ground cover.

2.3.1 Straw Mulch

Mulches shall be free from weeds, mold, and other deleterious materials. Mulch shall meet the requirements of NDDOT 253, and consist of native hay or straw from cereal grain (i.e., oats, wheat) and shall be seed free to prevent introduction of weeds as defined by the rules and regulations of the North Dakota Department of Agriculture. All mulch bales shall be in an air-dried condition at the time of delivery and be relatively dry when applied. Dry mulching material which breaks and does not bend is unacceptable. Mulch shall have a consistency for placing with commercial mulch blowing equipment.

2.3.2 Hydraulic Mulch

Hydraulic mulch shall meet the requirements of MNDOT 3882, Type 4.

2.4 WATER

Water shall be the responsibility of the Contractor, unless otherwise noted. Water shall not contain elements in concentrations toxic to plant life.

2.5 SPECIAL SEEDING AND MULCHING EQUIPMENT

2.5.1 Equipment

Only pneumatic-tired tractors shall be permitted on areas having topsoil. Special equipment such as mulch spreaders may be used if approved by the Contracting Officer. The request for approval shall be made well in advance of the planned planting date and shall include full information on equipment and materials.

2.6 TOPSOIL

See Section 31 00 00.00 13 EARTHWORK.

PART 3 EXECUTION

3.1 INSTALLING SEED TIME AND CONDITIONS

3.1.1 Notification

The Contractor shall notify the Contracting Officer 48 hours in advance of beginning seeding or any changes in turf establishment operations.

3.1.2 Seeding Time

Seeding shall take place within 48 hours of topsoil placement.

3.2 SITE PREPARATION

The Contractor shall verify that the finished grades are as indicated on the drawings.

3.2.1 Subsoil Decomaction

Seeding areas identified as Zone X shall undergo subsoil decomaction prior to topsoil placement or topsoil tilling. Appropriate subsoil decomaction equipment shall be selected based on soil type, compaction

depth, and presence or absence of topsoil. Shanks shall be capable of reaching a minimum depth of 24 inches. Shank spacing shall be based on soil moisture, soil type, degree and depth of compaction, and shall be approved by the Contracting Officer. Shanks shall be spaced such that they run in the tracks of the tow vehicle.

In areas where topsoil is present prior to subsoil decompaction, decompaction shall occur in a manner that preserves subsoil and topsoil stratification. If topsoil and subsoil stratification cannot be maintained, topsoil shall be removed prior to subsoil decompaction. Topsoil shall be replaced or tilled after subsoil decompaction is complete.

Subsoil decompaction shall consist of at least three separate series of passes with the following patterns or movements:

1. The first series shall be run lengthwise, parallel with the longest spread of the site, gradually progressing across the site's width with successive passes.
2. The second pass shall run obliquely, crossing the first series at an angle of about 45 degrees.
3. The third series of passes shall run 90 degrees to the first series.

Subsoil decompaction shall not occur during wet soil conditions, or when doing so may amplify soil compaction. Equipment shall be operated at speeds that adequately decompact subsoils, while preventing the creation of ruts or furrows.

3.2.2 Topsoil

Topsoil shall be placed in accordance to Section 31 00 00.00 13 EARTHWORK.

Any topsoil compacted by construction equipment shall be tilled to a minimum depth of four inches by disking or tilling before applying seed. Foreign material, including gravel, trash, and debris, shall be removed from topsoil prior to tilling. Cohesive soils shall not be tilled when wet to prevent cloddy or puddle conditions. Topsoil shall be tilled in a manner that prevents mixing with subsoils.

3.3 SEEDING

The seedbed soil density shall be checked for appropriate compaction to ensure sufficient seed/soil contact. Seeding shall not occur on a seedbed that is too loose or too compact. The seedbed shall have a friable structure that allows infiltration of moisture; does not puddle or become compacted by seeding equipment or rainfall; can be easily worked to incorporate seed into the soil; and has a firm soil beneath the seeding depth. When preparing for drop or drill seeding, footprints shall not leave an indentation of more than one inch deep. Soil can be firmed with a cultipacker or roller to prevent seed from being buried too deep. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution. All seeding operation atop TRM to follow the requirements of paragraph HYDRAULIC SEEDING.

3.3.1 Equipment

Gravity feed applicators, which drop seed directly from a hopper onto the

prepared soil, shall not be used because of the difficulty in achieving even coverage. Contractor Quality Control must inspect and verify the cleanliness of the seeding equipment to verify no remnants of the previously used seed mixes remain in the equipment. The Government reserves the right to further inspect upon completion of the quality control inspection.

3.3.2 Standard Seeding

Seed with a native seed drill uniformly at the adjusted bulk application rate of each mixture. Use a drill capable of accurately metering the types of seed planted and capable of maintaining a uniform mixture of seeds during drilling. Use a drill with disc furrow openers and a packer assembly to compact the soil directly over the drill row. Seed native mixes in rows spaced no greater than 8 inches apart. Place seeds to a final planting depth from 1/8 inch to 3/8 inch. Perform drill seeding at a right angle to surface drainage. A drop type seeder equipped with a separate seed box for the fluffy seed and a soil packer assembly may be used in lieu of a drill with disc openers. Use a cyclone or spinner type seeder on areas no greater than 1 acre or on areas inaccessible to other equipment, as approved by the contracting officer.

3.3.3 Drill Seeding into Temporary Cover Crops

In areas that have been seeded with temporary cover crop, do not cultivate or disk topsoil if temporary cover crop has achieved greater than 25 percent vegetative coverage as determined by the Contracting Officer. The site may require mowing if the temporary cover has grown taller than 12 inches and is still actively growing. Optimal height for existing vegetation to be drilled into is 4-6 inches.

The seed mixture (minus the oats or winter wheat) shall be installed with a seed drill that will accurately meter the types of seed to be planted and keep all seeds uniformly mixed during the drilling. The drill shall contain a minimum of two seed boxes; a fine seed box and a box for large/fluffy seeds, and it shall be equipped with disc furrow openers and packer assembly to compact the soil directly over the drill rows. Maximum row spacing shall be 6 inches. The inter-seeder drill must be outfitted with trash rippers, which will slice through the vegetative mat and make a furrow into the underlying soil approximately 1 inch wide by 1/2 to 1 inch deep. These furrows shall be directly in line with the drill seed disc seed box, and large/fluffy seed shall be placed to obtain a final planting depth of 1/4 to 1/2 inch. All drill seeding shall be done at a right angle to surface drainage.

3.3.4 Broadcast Seeding

In areas inaccessible to drill seeding and less than 1 acre in area, seeding shall be accomplished with approved broadcast equipment. If broadcast seeding is necessary, seeding rates shall be increased by 15 percent. Seed shall be uniformly broadcast at the rate specified for the mix. Half the total rate of seed application shall be broadcast moving in one direction, and the remainder broadcast moving at right angles to first. Seed shall be covered a maximum 1/4 inch depth by disc harrow, steel mat drag, cultipacker, or other approved device. Seed shall not be broadcast when wind speed exceeds 15 miles per hour.

3.3.5 Hydraulic Seeding

In areas inaccessible to drill seeding or when seeding on top of TRM, Hydraulic seeding may be used. Use a hydro-seeder capable of continuous agitation action to uniformly distribute the seed at the adjusted bulk application rate of each mixture. Add 50 pounds of Hydraulic Mulch as a tracer for each 500 gallons of water in the hydro-seeder tank. Use flood type nozzles and manufacture's recommended water volume. Once the seed has been added to the tank mixture a one hour time limit is set for spreading the mixture on the soil. Once the one hour is passed the excess mixture must be discarded. Perform hydro-seeding separate from placing hydro-mulch.

3.3.6 Applying and Anchoring Straw Mulch

Immediately after the seeding has been completed in areas where no TRM has not been installed, straw mulch shall be spread uniformly in a continuous blanket at a rate of 1-1/2 tons per acre. Straw mulch shall be spread by hand, manure spreader, modified grain combine with straw-spreader attachment, or a blower-type mulch spreader. Mulching shall be started at the windward side of relatively flat areas, or at the upper part of a steep slope, and continued uniformly until the area is covered. Straw mulch shall not be bunched. Immediately following the spreading, the mulch shall be anchored to the soil by a V-type wheel land packer, a scalloped-disk land packer designed to force mulch into the soil surface, or other suitable equipment. The number of passes needed, not to exceed three, will be determined by the Contracting Officer. All areas seeded on any given day must be mulched on that same day.

3.3.7 Applying Hydraulic Mulch

In TRM seeded areas, apply MNDOT Hydraulic Mulch Type 4 as a dual operation with the straw mulch blown on the soil surface at 1 1/2 tons per acre and immediately over-spray with stabilized fiber matrix per MNDOT 3884, "Hydraulic Erosion Control Products," at 750 pounds per acre. The Contracting Officer may inspect the tank loading and spray application to verify that the applied materials meet the manufacturer recommendations and the soil is 100 percent covered.

3.4 RESTORATION AND CLEAN UP

Immediately upon completion of the seeding operation in an area, the area shall be protected against traffic or other use by erecting barricades or providing signage. Excess and waste material shall be removed from the seeded areas and shall be disposed offsite.

3.5 TURF ESTABLISHMENT PERIOD

The Contractor shall be responsible for the proper care of seeded areas during the turf establishment period. The turf establishment period shall extend for one year after completion of the seeding operations on the entire project, unless the desired growth is established in a shorter period of time and shortening the period of Contractor's responsibility for acceptably established turf areas is authorized by the Contracting Officer.

3.5.1 Watering During Turf Establishment Period

The Contractor shall be responsible for watering after planting to promote adequate growth and development. Watering shall be started immediately after completing the seeding of an area or if using hydro-seed, watering shall commence 2 days after the first hydro-seeding unless a rainfall event had occurred within 2 days of the hydro-seed application. The site shall be watered as necessary to supplement natural rainfall. Sufficient natural rainfall will be measured with project rain gage data and is defined as a 1/3 inch or greater rainfall event. The rain gauge shall be spaced no further than 5000 feet apart and placed at the center of the 5,000 feet reach. It is estimated that 10,000 gal/acre is equivalent to 1/3 inch of water for each watering event. After this initial watering operation, the contractor shall manage the watering operation to ensure the seeded areas receive adequate water for a period of 45 days. unless the site receives acceptable levels from precipitation as determined in consultation with the Contracting Officer. The application of water shall sufficiently moisten at least the top 3 inches of soil with each watering event. The Contractor is required to have a device or tool to measure and verify the soil is sufficiently moistened. The contractor shall ensure watering operations do not cause damage. Damage caused by watering operations or precipitation shall be repaired at the contractor's expense.

3.6 MAINTENANCE

3.6.1 Mowing

Mowing will be used to control pioneering weeds and other competition. For the purposes of this project a weed is defined as any plant not native to prairies in this part of North Dakota. Following seeding, mowing shall be conducted before the weed height is 14 inches, or when the weed species begin to flower, whichever is earlier. Mowing shall occur before the weed species set seed. Mowing shall be conducted as needed, depending on weed growth. Multiple mowings may be necessary. Mowing shall be at a height of 6 to 12 inches, depending on conditions and species of the weeds. The site shall be mowed additional times for weed control, as needed. The Contractor shall perform periodic and final grass mowing within the limits of work until final inspection and acceptance.

3.6.2 Herbicide

Perennial or aggressive invasive species and noxious weeds shall be spot treated with herbicide. If aggressive perennial weed cover is greater than 50 percent, large-scale herbicide treatments will be necessary.

3.6.3 Maintenance During Establishment Period

Seeded and mulched areas shall be maintained until all work or designated portions thereof have been completed and accepted. Any damage shall be repaired, and mulch material that has been removed by wind or other causes shall be replaced and secured. Maintenance shall include protecting the site from erosion and maintaining erosion control material. Maintenance shall include spot treatment herbicide sprays if necessary to control invasive species and noxious weeds. Multiple sprays may be required. The maintenance period is defined as beginning when seed/mulch have been placed onto the site and terminating at the end of the Contract performance period.

3.6.4 Erosion Control

Control erosion during the maintenance period in accordance with the Stormwater Pollution Prevention Plan, defined in Section 01 41 26.00 13 NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM and Section 01 57 13 TEMPORARY EROSION CONTROL.

3.6.4.1 Repair

If any portion of the surface becomes rilled, gullied, damaged, or destroyed, that portion shall be repaired to re-establish the area without additional cost to the Government.

3.7 QUALITY CONTROL

Establish and maintain a quality control system for the work under this section, in accordance with Section 01 45 04.00 13, CONTRACTOR QUALITY CONTROL, including but not limited to the following:

- (1) Materials:
 - (a) Seed
 - (b) Mulch
- (2) Seeding and Mulching
- (3) Watering
 - (a) Area where water was applied
 - (b) Quantity of water applied
 - (c) Method of application
- (4) Turf Establishment and Maintenance
- (5) Repair of Damaged Areas.
- (6) Soil Erosion Control

A copy of the records of inspections and tests, as well as the records of corrective action taken, shall be furnished to the Government.

3.8 FINAL ACCEPTANCE

3.8.1 Preliminary Inspection

Prior to the completion of the turf establishment period, a preliminary site inspection will be held by the Contracting Officer. The date for the inspection(s) will be established in writing. A well-established stand of the specified seeded species as determined by the Contracting Officer will be required for Final Acceptance. The expectation is that an acceptable number and variety of the desired permanent seeded species will be visible. Minimal acceptability requirements are as follows:

A minimum of 75% coverage of total seeded species after one growing season. Of that percentage, generally, depending on the mix species:

At least 3 types of the permanent seeded grass species shall be visible.

At least 3 species of wildflowers shall be visible.

There will be no significant gaps or bare soil (generally 2-3 feet in diameter or greater).

All soil shall be stabilized and there shall be no channeling or erosion.

There shall be no evidence of seed from non-native mixes (i.e., clover) due to failure to clean the hydroseeding tank or using incorrect mix.

No more than 15 percent of the site area shall be occupied by invasive species. No more than 5 percent of the site shall be occupied by noxious weeds.

Invasive and aggressive weeds must be cut or treated prior to going to seed for Acceptance. Herbicide treatment must be coordinated with the Contracting Officer.

A warm-season grass mix with forbs will not have uniform growth. A uniform stand of grass may indicate use of an incorrect mix.

The acceptability period of the established turf shall be determined in accordance with PARAGRAPH: TURF ESTABLISHMENT PERIOD. All unacceptable stands of turf shall be repaired as soon as turfing conditions permit and repaired section will be accepted upon meeting the criteria of one seeded perennial plant per square foot. No more than 15 percent of the site area shall be occupied by invasive species. No more than 5 percent of the site shall be occupied by noxious weeds.

3.8.2 Final Inspection

A final inspection will be held by the Contracting Officer in order to determine that deficiencies noted in the above preliminary inspection(s) have been acceptably corrected. The time for the inspection will be established in writing.

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SECTION 33 05 97

IDENTIFICATION AND SIGNAGE FOR UTILITIES

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include installation of trace wire along buried utilities and installation of above-ground utility markers. Work shall be completed in compliance with Section 31 00 00.00 13 EARTHWORK, Section 33 11 00 Water Utility Distribution Piping, and Section 33 31 23.00 10 Sanitary Sewer Force Main Piping.

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 B910/B910M	(2018) Standard Specifications for Annealed Copper-Clad Steel Wire
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1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Testing Schedule; G

SD-03 Product Data

Trace Wire; G

Splice Connectors; G

Terminal Boxes; G

Ground Rod ; G

Utility Markers; G

SD-07 Certificates

Manufacturer's Certificate

Manufacturer Qualification

SD-10 Operation and Maintenance Data

Maintenance Materials

SD-11 Closeout Submittals

Project Record Documents

1.4 QUALITY CONTROL

For Trace Wire, verify all installed trace wire is operational using locating equipment.

1.5 QUALIFICATIONS

The Manufacturer and Installer must have specialized experience with the work and products specified in this section with a minimum of three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

Accept materials on site in undamaged, unopened container, bearing manufacturer's original labels. Inspect for damage.

Protect materials from damage by storing in a secure location.

1.7 COORDINATION

Furnish testing schedule for products requiring owner testing.

PART 2 PRODUCTS

2.1 TRACE WIRE

Trace wire for direct bury applications must meet the following requirements and requirements of ASTM B910/B910M:

- a. High-strength copper clad steel (CCS) wire.
- b. 450-pound minimum rated break strength.
- c. 30 mil HDPE insulation.

Trace wire for directional drilling applications must meet the following requirements and requirements of ASTM B910/B910M:

- a. Extra high-strength copper clad steel (CCS) wire.
- b. 1150-pound minimum rated break strength.
- c. 45 mil HDPE insulation.

Trace wire for pipe bursting applications must meet the following requirements and requirements of ASTM B910/B910M:

- a. 3/16" high-strength stranded copper clad steel (CCS) wire.
- b. 4700-pound minimum rated break strength.
- c. 50700 mil HDPE insulation.

Insulation must be color coded to marked utility in accordance with the American Public Works Association (APWA) uniform color standards.

2.2 SPLICE CONNECTIONS

Trace wire splices must be made using a sealant-filled splice connector designed for direct bury installation in damp, wet, or submersible locations.

2.3 TERMINAL BOXES

2.3.1 Flush Mount Terminal Boxes

Flush mount terminal boxes must meet the following requirements:

- a. Minimum 12 inches long, 2-1/2 inches diameter ABS shaft.
- b. Flared shaft bottom.
- c. Encapsulated magnet or made of ferrous material.
- d. Variable size wire terminal blocks beneath lid.
- e. Integral direct connection terminal to allow connection of locator without removing the lid.
- f. Two terminals with ground switch capable of disengaging the ground connection without removing the lid.
- g. Locking cover with pentagonal nut.
- h. Lid stamped with utility type and color coded to marked utility according to the American Public Works Association (APWA) uniform color standards.

2.3.2 Above Grade Terminal Boxes for Hydrants

Above grade terminal boxes for hydrants must meet or include the following:

- a. PVC terminal box with 1" diameter conduit connection.
- b. 2 terminals with removable jumper.
- c. Minimum 12" flexible liquid-tight, UV resistant, electrical conduit.
- d. Three built in anchors.
- e. Color coded to marked utility according to the American Public Works Association (APWA) uniform color standards.

2.3.3 Above Grade Terminal Boxes for Pipelines

Above grade terminal boxes for pipelines must meet or include the following:

- a. Triangular shaped thermoplastic UV stabilized terminal box.

- b. Contain 2 internal terminals with removable jumper.
- c. 72-inch length with 24-inch bury depth.
- d. Warning decal describing marked utility per plan details.
- e. Color coded to marked utility according to the American Public Works Association (APWA) uniform color standards.

2.4 GROUND ROD

The ground rod must be a magnesium drive-in type with the following:

- a. Minimum 1.5 pound magnesium.
- b. Minimum 20 feet of factory installed copper clad steel wire.

2.5 UTILITY MARKERS

Provide a protruded fiberglass composite with a Poly coating post per plan detail, capable of being driven into soil. Must be fire resistant and withstand impacts and return to a standing position. Minimum width of 4 inches, includes location for decals. Colored per standard utility codes. Shall have a warranty consistent with manufactures standard warranty.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Trace Wire

Install trace wire in such a manner that allows proper access for connection of line tracing equipment and successful signal reception of 512Hz frequency without distortion or loss of signal.

Install trace wire system as a continuous single wire. Attach trace wire to utility pipes and services at 10-foot intervals using tape or plastic zip ties installed all the way around the utility pipe. Allow for 1 to 3 inches of slack between the pipe and trace wire at connections to branch lines and service lines.

Install mainline pipe trace wire continuously on the south or east side of utility pipes below the spring line, running around or through valves, manholes, or other structures as shown on the details. Make all connections between individual trace wires with approved waterproof splice connectors only.

Connect the new and existing trace wires using approved splice connectors where existing trace wire is encountered on an existing utility to be tied into or extended. Leave a 3-foot pigtail of trace wire lay horizontally beyond the pipe where trace wire is to be terminated at a mainline dead end/stub. Terminate the line by installing an approved splice connector with magnesium ground rod.

Install branching mainline, service line, or hydrant lead trace wire as a single continuous wire between the mainline wire and a terminal box as shown in the details. Connect to the mainline wire with an approved waterproof splice connector without cutting the mainline trace wire. Install trace wire for boring, directional drilling, and pipe bursting

applications as one single continuous wire.

Install ground rod whenever the line is terminated. Install ground rod vertically and penetrating undisturbed soil. Ground rods not driven into undisturbed soil will be considered defective work. At dead ends, connect the ground rod leader wire to the trace wire and trim the ground rod leader wire to length. At terminal boxes, connect the ground rod leader wire directly to one of the terminals. Do not connect the ground rod leader wire directly to the trace wire.

Repair immediately any damage occurring during installation of the trace wire using an approved waterproof method. No excess trace wire shall be left in the trench.

3.1.2 Flush Mount Terminal Boxes

Install flush-mount terminal boxes at finished ground elevations as shown in the drawings and details.

Provide 3 feet of extra trace wire in the flush mount terminal box to allow for connection of line tracing equipment. Connect trace wire to flush-mount terminal box cap according to manufacturer's instructions.

3.1.3 Above Grade Terminal Boxes

Install above grade terminal boxes as shown in the drawings and details.

Provide 12 inches of extra trace wire in the terminal box to allow for connection of line tracing equipment. Connect trace wire to the terminal post according to manufacturer's instructions.

3.1.4 Utility Markers

Install marker per plan detail at locations designated on plan.

Verify with Contracting Officer if flexible or U-channel is to be used. The "BEFORE DIGGING" message and contact information to be coordinated with each utility owner.

3.2 FIELD QUALITY CONTROL

3.2.1 Prohibited Products and Methods

The following products and methods are prohibited from use during the installation and testing of utility identification and signage:

- a. Uninsulated trace wire or insulated trace wire using any insulation other than HDPE.
- b. Twist on wire nuts or other unapproved connectors.
- c. Tape or spray on waterproofing.
- d. Any installation involving multiple instances of wire twisted together or in close proximity to one another.
- e. Connecting the trace wire to any conductive utilities.
- f. Looping, coiling, or kinking the trace wire.

g. Using any other HDPE jacket color than specified by the American Public Works Association (APWA) uniform color standards.

h. Leaving excess wire in the trench.

i. Use of connectors in boring, directional drilling, and pipe bursting applications.

3.2.2 Post-Installation Test

Locate all new trace wire installations using line tracing equipment, witnessed by the Contractor and Contracting Officer and utility owner as applicable.

Perform this verification upon completion of rough grading and again prior to final acceptance of the project. Continuity testing in lieu of line tracing shall not be accepted.

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SECTION 33 11 00

WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.1 GENERAL

This section includes pipe and fittings for public line, including potable water lines, and transmission lines, tapping sleeves and valves, positive-displacement meters, pipe support systems, and bedding and cover materials.

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 SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B16.1 (2020) Gray Iron Pipe Flanges and Flanged Fittings Classes 25, 125, and 250

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA B300 (2018) Hypochlorites

AWWA C500 (2019) Metal-Seated Gate Valves for Water Supply Service

AWWA C502 (2018) Dry-Barrel Fire Hydrants

AWWA C509 (2015) Resilient-Seated Gate Valves for Water Supply Service

AWWA C515 (2020) Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service

AWWA C550 (2017) Protective Interior Coatings for Valves and Hydrants

AWWA C600 (2017) Installation of Ductile-Iron Mains and Their Appurtenances

AWWA C651 (2014) Standard for Disinfecting Water Mains

AWWA C655 (2009) Field Dechlorination

AWWA C800 (2021) Underground Service Line Valves and Fittings

AWWA C906 (2021) Polyethylene (PE) Pressure Pipe and Fittings, 4 In. through 65 In. (100 mm Through 1,650 mm), for Waterworks

AWWA M9 (2008; Errata 2013) Manual: Concrete Pressure Pipe

AWWA M23 (2020) Manual: PVC Pipe - Design and Installation - Third Edition

AWWA M55 (2020; 2nd Ed) PE Pipe - Design and Installation

ASTM INTERNATIONAL (ASTM)

ASTM A536 (1984; R 2019; E 2019) Standard Specification for Ductile Iron Castings

ASTM B62 (2017) Standard Specification for Composition Bronze or Ounce Metal Castings

ASTM D1784 (2020) Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

ASTM D2683 (2020) Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing

ASTM D2774 (2021) Underground Installation of Thermoplastic Pressure Piping

ASTM D3261 (2016) Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

ASTM D3350 (2021) Polyethylene Plastics Pipe and Fittings Materials

ASTM F1962 (2020) Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings

ASTM F2164 (2018) Standard Practice for Field Leak Testing of Polyethylene (PE) and Crosslinked Polyethylene (PEX) Pressure Piping Systems Using Hydrostatic Pressure

ASTM F3190 (2021) Standard Practice for Heat Fusion Equipment (HFE) Operator Qualification on Polyethylene (PE) and Polyimide (PA) Pipe and Fittings

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 24 (2022) Standard for the Installation of Private Fire Service Mains and Their Appurtenances

NSF INTERNATIONAL (NSF)

NSF/ANSI 14 (2022) Plastics Piping System Components and Related Materials

NSF/ANSI 61 (2022) Drinking Water System Components - Health Effects

UNDERWRITERS LABORATORIES (UL)

UL 262 (2004; Reprint Oct 2011) Gate Valves for Fire-Protection Service

1.3 DEFINITIONS

1.3.1 Water Transmission Mains

Water transmission mains include water piping having diameters greater than 14 inch, specific materials, methods of joining and any appurtenances deemed necessary for a satisfactory system.

1.3.2 Water Mains

Water mains include water piping having diameters 4 through 14 inch, specific materials, methods of joining and any appurtenances deemed necessary for a satisfactory system.

1.3.3 Water Service Lines

Water service lines include water piping from a water main to a building service at a point approximately 5 feet from building or the point indicated on the drawings, specific materials, methods of joining and any appurtenances deemed necessary for a satisfactory system.

1.3.4 Additional Definitions

For additional definitions refer to the definitions in the applicable referenced standard.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Connections; G

Qualification Of Installer

Qualification Of Manufacturer

Disinfection Procedures; G

SD-03 Product Data

Pipe, Fittings, Joints and Couplings; G

Valves; G

Pipe Restraint; G

Precast Concrete Thrust Blocks; G

Disinfection Chemicals and Treatment; G

Fusion Joining

Restrained Joint Coupling

Curb Stops

Combination Air Release Valve

Markers, Tape, Trace Wire, Trace Wire Terminals; G

SD-06 Test Reports

Bacteriological Samples; G

Post-Construction Fusion Report; G

Leakage Test

Hydrostatic Test

Field Quality Control

SD-07 Certificates

Pipe, Fittings, Joints and Couplings

Lining for Fittings

Lining for Ductile Iron Fittings

Valves

Fusion Technician Qualifications; G

Manufacturers Certificate

SD-08 Manufacturer's Instructions

Polyethylene (PE) Pipe

Polyethylene (PE) Piping And Tubing For Service Lines

Air Release Valve Enclosure ; G

Combination Air Release Valves; G

SD-11 Closeout Submittals

Project Record Documents

Subsoil Conditions

Disinfection Report; G

Bacteriological Report; G

1.5 COORDINATION

Coordinate Work of this Section and the water main connection at Site boundary with Cass Rural Water District.

1.6 QUALITY CONTROL

1.6.1 Valves

Valves shall be marked with the Manufacturer's name and pressure rating

1.6.2 Regulatory Requirements

Use NSF/ANSI 61 or NSF/ANSI 14 materials for potable water systems to comply with lead free content requirements as defined by the U.S. Safe Drinking Water Act effective January 2014.

Materials in Contact with Potable Water must be certified according to NSF 60 and 61 and NSF 372. A product will be considered as meeting these standards if so certified by NSF, the Underwriters Laboratories, or other organization accredited by ANSI to test and certify such products.

1.6.2.1 Testing

All bacteriological tests must be analyzed by a North Dakota State Department of Health certified lab.

1.6.3 Qualifications

1.6.3.1 Fusion Technician Qualifications

Submit a certificate from the manufacturer of the fusible pipe that shows the fusion technician is fully qualified to install fusible pipe of the types and sizes being used. Qualification must be current as of the actual date of fusion performance on the project.

1.6.3.1.1 Fusion Technician Qualification on Polyethylene (PE) Pipe and Fittings

Provide certification for PE Pipe heat fusion in accordance with ASTM F3190.

1.6.3.2 Liner Materials

Company specializing in performing Work of this Section with minimum three years documented experience in installation of liner materials.

1.6.3.3 Manufacturer

Company specializing in manufacturing products specified in this Section with minimum three years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

1.7.1 Delivery and Storage

Inspect materials delivered to site for required pipe markings and damage. Unload and store with minimum handling and in accordance with manufacturer's instructions to prevent cuts, scratches and other damage. Store materials on site in enclosures or under protective covering. Store plastic piping, jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes, fittings, valves, and other accessories free of dirt and debris or other contaminants. Block individual and stockpiled pipe lengths to prevent moving. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.

1.7.2 Handling

Handle pipe, fittings, valves, and other accessories in accordance with applicable AWWA standard, manufacturer's instructions and in a manner to ensure delivery to the trench in sound undamaged condition. Avoid injury to coatings and linings on pipe and fittings; make repairs if coatings or linings are damaged. Do not place other material, hooks, or pipe inside a pipe or fitting after the coating has been applied. Inspect the pipe for defects before installation. Carry, do not drag pipe to the trench. Use of pinch bars and tongs for aligning or turning pipe will be permitted only on the bare ends of the pipe. Clean the interior of pipe and accessories of foreign matter before being lowered into the trench and keep them clean during laying operations by plugging. Replace defective material without additional expense to the Government. Store rubber gaskets, not immediately installed, under cover or out of direct sunlight.

Handle PE pipe, fittings, and accessories in accordance with AWWA M55.

1.8 EXISTING CONDITIONS

Verify field measurements prior to fabrication and indicate field measurements on Shop Drawings.

PART 2 PRODUCTS

2.1 MATERIALS

All materials are intended for potable water use unless otherwise indicated. Provide all materials in accordance with AWWA C800 and as indicated herein. Provide valves and fittings with pressure ratings equivalent to the pressure ratings of the pipe.

All steel Rods, Bolts, Nuts and brackets shall be 304 Stainless Steel.

Cover and soil backfill from above pipe to Finish Grade shall be applied in accordance with Section 31 00 00.00 13 EARTHWORK.

2.1.1 Finishes

Any protective coatings applied shall be epoxy based

2.2 DISINFECTION CHEMICALS

Hypochlorite used for disinfection shall comply with AWWA B300.

2.3 THRUST RESTRAINT FOR UTILITY PIPING

Provide pressure pipeline with restrained joints at each bend, tee, and change in direction. Provide concrete thrust blocking as indicated on the Drawings. Provide restraint devices for mechanical joint fitting and appurtenances

2.3.1 Tie Bolts

Tie Bolts for Mechanical and Flanged Joints on 4 to 12 inch pipe shall be type 304 stainless steel. The tensile strength of full-body threaded section requirement shall be increased to 40,000 lb. minimum for 5/8 inch and 60,000 lb. minimum for 3/4 inch by heat-treating (quenching and tempering) to manufacturer's reheat and hardness specifications. Tie bolts shall be 3/4 inch in size.

2.3.2 Tie Nut

The Tie Nut for each Tie Bolt and Tie Rod shall be type 304 stainless steel.

2.3.3 Tie Pin

Pins for bends and hydrants shall be 3/4 inch round bar stock and be 6 inch hair pin size and shape and be type 304 stainless steel.

2.3.4 Tie Coupling

Tie Couplings for the extension of continuous threaded rods shall include center stops for installation. All tie couplings shall be type 304 stainless steel.

2.3.5 Tie Clamp

Tie Retainer Clamps for ductile iron, asbestos-cement, and PVC push on pipe for installation at the front of the pipe bell shall be 304 Stainless Steel.

2.3.6 Tie Rod

Continuous-threaded tie rods shall be 304 Stainless Steel.

2.3.7 Tie Bar

Tie bars used to restraining push-in plugs shall be 304 Stainless Steel.

2.3.8 Tie Washers

Tie Washers shall be round and flat and shall be 304 Stainless Steel.

2.4 MECHANICAL JOINT RESTRAINTS

2.4.1 Mechanical Joint Restraints

Install integral, full circumferential, extended range, stab-fit,

segmented, and serrated mechanical restraint system to provide a fully restrained and pressure rated connection on plain end pipe(s). Connection shall maintain a restrained, bubble tight seal under applied operating pressure(s), without the need for continuous bolt torque. For multipurpose use on similar or dissimilar pipe diameters on a variety of acceptable pressure class pipe materials; DI, CI, PVC (C900, C909 & IPS) and HDPE (DR 9 thru 17 pipe stiffeners not required). Center Ring, End Ring(s), Bolt Guide(s) and Grippers shall be cast ductile iron, meeting or exceeding ASTM A536, Grade 65-45-12. Center Ring is fusion bonded epoxy certified and listed to ANSI/NSF 61 & 372. End Ring(s) and Bolt Guide(s) shall be polyester. Segmented grippers shall be machine sharpened, heat treated, and waterborne, resin bonded high temperature resistant dry film coated. Gaskets shall be SBR (or optional NBR) compounded for water and sewer service to ASTM D2000, certified & listed ANSI/NSF 61 & 372. Draw Hooks, Bolt(s) and Nut(s) shall be Type 304 stainless steel (or optional 316 B&N), with heavy hex nut(s) E-Coat epoxy. Ramp Runners shall be Nylon 66, Black, 14% Glass filled.

2.4.2 Design

Mechanical Joint Restraints consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ASNI C110 and AWWA A21.10 for nominal pipe sizes 3 inch through 36 inch. Include a minimum safety factor of 2:1 in all sizes for rating for water pressure.

2.4.3 Material

Mechanical Joint Restraints shall be cast from grades 65-45-12 ductile iron material in accordance with ASTM A536 for gland body, wedges and wedge actuating components.

2.4.4 Coating

Coatings shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat. The surface shall be pretreated with a phosphate wash, rinse and sealer before drying. Coatings shall be electrostatically applied and heat cured. Coatings shall be polyester based powder to provide corrosion, impact and UV resistance.

2.4.5 Approvals

Approvals shall be listed by Underwriters Laboratories in the 4 inch through 12 inch sizes. Meet or exceed the requirements of ASTM F1674 of the latest revision for Mechanical Joint Restraints, 4 inch through 24 inch.

2.5 EXPANSION JOINTS

All Expansion/Contraction Joints shall be telescoping design with triple (3) EPDM O-ring seals, including center pressure seal and outer debris seals. The minimum joint travel length shall be 12" in either direction. All Joints shall be pressure rated to a min of 200 psi and constructed of PVC material conforming to ASTM D1784 or HDPE SDR 17 material conforming to ASTM D3261. Internal pipe edges to be chamfered to allow smooth transition for pulling conductors or communication lines.

2.6 PRESSURE PIPING

Pipe shall be HDPE Pipe and comply with ASTM D3350, PE 4710, DR 11 IPS for 200-psig pressure rating.

2.6.1 Fittings

Fittings shall comply with ASTM D2513, ASTM D2683, and ASTM D3261.

2.6.2 Joints

All joints shall be butt fusion type.

2.7 TAPPING SLEEVES

Tapping Sleeves shall be stainless steel of fused type.

2.8 VALVES AND HYDRANTS

2.8.1 Valves

Valves shall be resilient-wedge gate valves and comply with AWWA C515. The body of the valves shall be ductile iron with resilient seats. The valve stem shall be bronze and non-rising. The operating nut shall be square and operate in the counterclockwise direction. End connections shall be push on or mechanical joints. The interior and exterior coating of the valves shall comply with AWWA C550. Valves shall have a pressure rating of 200 psig for 12 inch diameter and larger and 150 psig for 16 inch diameter and larger.

All steel Rods, Bolts, Nuts and brackets shall be 304 Stainless Steel. All valves shall be epoxy coated and wrapped with 8 mil polyethylene plastic.

2.8.2 Fire Hydrants

Hydrants shall be dry-barrel breakaway type and comply with AWWA C502. The body of the hydrant shall be cast iron or ductile iron. The valve shall be compression type and the burial depth shall be as indicated on drawings. Inlet connections shall be 6 inch diameter and valve openings shall be 5-1/4 inch diameter. End connections shall be push on or mechanical joints. Bolts and nuts shall be 304 stainless steel. The interior coating shall comply with AWWA C550 and the opening direction shall be counter clockwise unless otherwise indicated. Finishes shall be primer and two coats of enamel as recommended by manufacturer in a red color.

One Pumper hose connections shall be National Standard Thread 40524. Two hose nozzles shall be National Standard Thread 7532. Nozzle caps shall be attached by separate chains.

Valve seat, and all operating parts, shall be removable as a single unit through the barrel, without digging. Main valve shall close with the water pressure, leaving no pressure on lower joint and flange when shut off. Stuffing box shall be of conventional "O" ring type, shall be fully accessible and sealed from water, moisture and foreign matter. Valve rod or operating nut shall be brass or brass bushed where it passes through packing. The drain shall be positively actuated by the valve rod when opening or closing. Drain shall not depend upon gravity when opening and closing. Drain weep holes shall be plugged with brass screws if the water table is above the bottom of the hydrant. Hydrant design shall allow for

installation of a barrel top extension. Utilize stainless steel bolts on bottom flange. Wrap all portions of hydrant below finished grade with 8 mil polyethylene plastic. Hydrant Markers shall be provided and installed as shown on the Drawings.

2.8.3 Valve Boxes

Valve boxes for 12-inch Diameter Valves and Smaller shall be cast iron two piece, screw valves. Valves Larger than 12-inch Diameter shall be cast iron three piece, screw valves with round bases. Valve box lids shall have the inscription "WATER".

2.8.3.1 Valve Box Aligners

High-strength plastic device designed to automatically center valve box base and to prevent it from shifting off center during backfilling.

2.8.3.2 Valve Stem Extension

Carbon steel tubing with centering plate, socket, and nut.

2.8.4 Curb Stops

Curb stop bodies shall be brass or red brass alloy and comply with ASTM B62. Valves shall be ball type valves. Curb stops shall be positive pressure sealing and use of proper size of insert stiffeners is required for compression joints for polyethylene. The stationary operating rod shall be stainless steel, Type 304, ASTM A484 with black dip coating and the appropriate length needed to achieve final grade. The stationary rod key shall be 22 inch. Curb Boxes and Covers shall be cast iron extension type with a WATER inscription and a pentagonal plug shape.

2.8.5 Combination Air Valves for Wastewater Service

2.8.5.1 Description

Combination Air Valves shall be an automatic float operated valve designed to exhaust large quantities of air during start-up, admits air in negative pressure situations and release air continuously during operation. Valve bodies shall be Single, Glass-Reinforced Nylon Body and shall have 4" flanged joints. Valves shall be suitable for water service and have a pressure rating of 150 psig with minimum operating pressure of 0.8 psi. Valves shall contain surge protection and have a media and operating temperature of 33 - 140 degrees F.

2.8.5.2 Materials

The valve body and cover shall be nylon glass reinforced. Floats shall be polypropylene, glass reinforced nylon. Float rods shall be Type 316 Stainless Steel. All Elastomers shall be EPDM and bolts and nuts shall be Type 304 or Type 316 stainless steel.

2.8.5.3 End Connections

End connections size 4 inches and larger shall be flanged, ASME B16.1.

2.8.5.4 Valve Body Connections

Inlets shall be glass-reinforced nylon, flanged 4" and outlets shall be

sideways, female 2".

2.8.5.5 Accessories

Accessories shall include backwash accessories, including inlet shutoff valve, blowoff valve, supply hose, and quick-disconnect couplings.

2.8.6 Water Air Release Pit

Pit Construction shall provide manufactured " Meter Pit" style structure with coiled line to allow lowering and raising of the combination air and vacuum valve per plan details. The body of the pit shall be PVC2, the internal coil shall be polybutylene, the lid shall be water tight, lockable, cast iron and be able to withstand 1560 PSF live loads, and be marked "WATER". The pit insulation shall be high density polyurethane.

2.9 ACCESSORIES

Tracer Wire shall comply with Section 33 05 97 Identification and Signage for Utilities. Rods, bolts, Lugs, Nuts, and Brackets shall be 304 stainless steel.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Connections to Existing System

Perform all connections to the existing water system in the presence of the Contracting Officer. Remove scale and dirt on inside and outside before assembly. Prepare pipe connections to equipment with flanges or unions.

3.1.2 Operation of Existing Valves

Do not operate valves within or directly connected to the existing water system unless expressly directed to do so by the Contracting Officer.

3.1.3 Pipe Cutting

Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted. Grind edges smooth with beveled end for push-on connections.

3.1.4 Earthwork

Perform earthwork operations in accordance with Section 31 00 00.00 13 EARTHWORK.

3.2 INSTALLATION

Install all materials in accordance with the applicable reference standard, manufacturers instructions and as indicated herein.

3.2.1 Bedding

For all excavation, hand trim for accurate placement of pipe to elevations as indicated on Drawings. Dewater excavations to maintain dry conditions

and to preserve final grades at bottom of excavation. Place bedding material at trench bottom up to the spring line of the pipe per plan details, level fill materials in one continuous layer not exceeding 6 inches of compacted depth, and compact to 95 percent of maximum density. Pipe to be encased in CLSM material shall be anchored to prevent floating.

3.2.2 Piping

3.2.2.1 General Requirements

All piping shall comply with ASTM D3350

Install pipe, fittings, joints and couplings in accordance with the applicable referenced standard, the manufacturer's instructions and as specified herein. Install pipe to indicated elevation within tolerance of 5/8 inch.

3.2.2.1.1 Backfilling

Backfill around sides and to top of pipe with cover fill in minimum lifts of 6 inches, tamp in place, and compact to 95 percent of maximum density. Place and compact material immediately adjacent to pipes to avoid damage to pipe and prevent pipe misalignment. Maintain optimum moisture content of bedding material to attain required compaction density.

3.2.2.1.2 Termination of Water Lines

Terminate the work covered by this section at a point approximately 5 feet from the building, unless otherwise indicated.

Do not lay water lines in the same trench with gas lines, fuel lines, electric wiring, or any other utility. Where nonferrous metallic pipe (i.e., copper tubing) crosses any ferrous piping, provide a minimum vertical separation of 12 inches between pipes.

3.2.2.1.3 Pipe Laying and Jointing

Remove fins and burrs from pipe and fittings. Before placing in position, clean pipe, fittings, valves, and accessories, and maintain in a clean condition. Prevent foreign material from entering pipe during placement. Provide proper facilities for lowering sections of pipe into trenches. Under no circumstances is it permissible to drop or dump pipe, fittings, valves, or other water line material into trenches. Cut pipe cleanly, squarely, and accurately to the length established at the site and work into place without springing or forcing. Allow for expansion and contraction without stressing pipe or joints. Replace a pipe or fitting that does not allow sufficient space for installation of jointing material. Blocking or wedging between bells and spigots is not permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying. Grade the pipeline in straight lines; avoid the formation of dips and low points. Support pipe at the design elevation and grade. Install pipe with no high points, other than as indicated on Drawings. If unforeseen field conditions arise that necessitate high points, installation of additional air-release valves shall not occur without approval from the Contracting Officer. Secure firm, uniform support. Wood support blocking is not permitted. Lay pipe so that the full length of each section of pipe and each fitting rests solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings. Maintain bearing along entire length of pipe. Do not lay pipe

in wet or frozen trench. Provide anchors and supports for fastening work into place. Make provision for expansion and contraction of pipelines. Keep trenches free of water until joints have been assembled. At the end of each work day, close open ends of pipe temporarily with wood blocks or bulkheads. Do not lay pipe when conditions of trench or weather prevent installation.

3.2.2.1.4 Tracer Wire

Install Tracer Wire as specified in Section 33 05 97 Identification and Signage for Utilities.

3.2.2.1.5 Connections to Existing Water Lines

Make connections to existing water lines after coordination with the owner and with a minimum interruption of service on the existing line. Make connections to existing lines under pressure in accordance with the recommended procedures of the manufacturer of the pipe being tapped and as indicated, except as otherwise specified, tap concrete pipe in accordance with AWWA M9 for tapping concrete pressure pipe.

3.2.2.1.6 Sewer Manholes

No water piping is to pass through or come in contact with any part of a sewer manhole.

3.2.2.1.7 Water Piping Parallel With Sewer Piping

Maintain 10 feet of horizontal separation between water main and sewer piping.

3.2.2.1.8 Water Piping Crossing Sewer Piping

3.2.2.1.9 Penetrations

Provide ductile-iron or Schedule 40 steel wall sleeves for pipe passing through walls of valve pits and structures. Fill annular space between walls and sleeves with rich cement mortar. Fill annular space between pipe and sleeves with mastic.

3.2.2.2 Polyethylene (PE) Piping

Install PE pipes in accordance with AWWA M55, ASTM D2774 and the manufacturer's installation instructions.

3.2.2.3 Metallic Piping for Service Lines

Install pipe and fittings in accordance with the paragraph GENERAL REQUIREMENTS and with the applicable requirements of AWWA C600 for pipe installation, unless otherwise specified.

3.2.2.3.1 Screwed Joints

Make screwed joints up tight with a stiff mixture of graphite and oil, inert filler and oil, or graphite compound; apply to male threads only or with PTFE Tape, for use with threaded pipe. Threads are to be full cut; do not leave more than three threads on the pipe exposed after assembling the joint.

3.2.2.3.2 Flanged Joints

Make flanged joints up tight, avoid undue strain on flanges, valves, fittings, and accessories.

3.2.2.4 Trenchless Piping

3.2.2.4.1 Butt Fusion

Fusible pipe will be fused by qualified fusion technicians, as required by manufacturer of the fusion equipment. Record and log each fusion joint by an electronic monitoring device (data logger) connected to the fusion machine. Log fusion data and create Post-Construction Fusion Report with software specifically developed for the pipe material being fused. Software must record the parameters required by the fusion equipment manufacturer and these specifications. Manual log data not logged by the data logger and be included in the Post-Construction Fusion Report. Assemble fusible PVC and PE pipe lengths in the field with butt-fused joints. Follow the manufacturer's fusion equipment procedures.

3.2.2.4.1.1 Polyethylene Pipe

Install butt fused PE Pipe in accordance with AWWA M55 and ASTM F1962.

3.2.2.4.2 Post-Construction Fusion Report

Include the following data for each fusible connection in the report:

- a. Pipe Size and Thickness
- b. Machine Size
- c. Fusion Technician Identification
- d. Job Identification
- e. Fusion Joint Number
- f. Fusion, Heating, and Drag Pressure Settings
- g. Heat Plate Temperature
- h. Time Stamp
- i. Heating and Cool Down Time of Fusion
- j. Ambient Temperature

3.2.3 Disinfection

Prior to disinfection, provide disinfection procedures, proposed neutralization and disposal methods of waste water from disinfection as part of the disinfection submittal. Disinfect new water piping and existing water piping affected by Contractor's operations in accordance with AWWA C651 and the requirements provided in this section. Disinfect new water piping using the AWWA C651 continuous-feed method of chlorination.

3.2.3.1 Disinfection Procedures

Introduce treatment into piping system and maintain for 24 hrs. Flush, circulate and clean the system until the required disinfectant quality standard has been achieved using domestic water. Replace any permanent system devices that were removed for disinfection.

3.2.4 Flushing

Perform bacteriological tests prior to flushing. Flush solution from the systems with domestic water until maximum residual chlorine content is within the range of 0.2 to 0.5 parts per million, the residual chlorine content of the distribution system, or acceptable for domestic use. Use AWWA C655 neutralizing chemicals.

3.2.5 Pipe Restraint

3.2.5.1 Concrete Thrust Blocks

Install concrete thrust blocks where indicated.

3.2.5.2 Restrained Joints

Install restrained joints in accordance with the manufacturer's instructions where indicated.

3.2.6 Valves

3.2.6.1 Gate Valves

Install gate valves, AWWA C500 and UL 262, in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix ("Installation, Operation, and Maintenance of Gate Valves") to AWWA C500. Install gate valves, AWWA C509 or AWWA C515, in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix ("Installation, Operation, and Maintenance of Gate Valves") to AWWA C509 or AWWA C515. Install gate valves on PVC and PVC-O water mains in accordance with the recommendations for appurtenance installation in AWWA M23, Chapter 7, "Installation." Make and assemble joints to gate valves as specified for making and assembling the same type joints between pipe and fittings.

3.2.6.2 Check Valves

Install check valves in accordance with the applicable requirements of AWWA C600 for valve-and-fitting installation[, except as otherwise indicated]. Make and assemble joints to check valves as specified for making and assembling the same type joints between pipe and fittings.

3.2.6.3 Air Release, Air/Vacuum, and Combination Air Valves

Install pressure vacuum assemblies of type, size, and capacity indicated. Include valves and test cocks. Install according to the requirements of plumbing and health department and authorities having jurisdiction. Do not install pressure vacuum breaker assemblies in vault or other space subject to flooding. Install structures per plan details, including curbstops.

3.2.7 Blowoff Valve Assemblies

Install blowoff valve assemblies as indicated on the drawings or in accordance with the manufactures recommendations. Install discharge fitting on the end of riser pipe to direct the flow of water so as to minimize damage to surrounding areas.

3.3 FIELD QUALITY CONTROL

3.3.1 Tests

Notify the Contracting Officer a minimum of five days in advance of hydrostatic testing. Coordinate the proposed method for disposal of waste water from hydrostatic testing. Perform field tests, and provide labor, equipment, and incidentals required for testing. Provide documentation that all items of work have been constructed in accordance with the Contract documents.

3.3.1.1 Compaction Tests

Compaction testing shall comply with ASTM D6938. Frequency of Compaction Tests shall be every 300' per 3' of vertical lift. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

3.3.1.2 Hydrostatic Test

Test system in accordance with AWWA C906 and ASTM F2164. Testing shall be conducted after installation, CLSM placement, and backfilling have been completed. Submit a Hydrostatic Test Plan for approval and include, testing procedure, test equipment, testing schedule, provisions for disposal of flushing and test water, and certification of test gage calibration. Notify the Contracting Officer at least 7 days in advance of equipment tests. Submit the final test report to the Contracting Officer within 30 days after the test.

a. Initial Expansion Phase

1. Slowly fill a portion of piping to be tested with water, expelling air from piping at high points.
2. Temperature of pipeline section and test water should be less than 80 degrees Farenheit. Consult with pipe manufacturer for technical assistance with elevated temperature pressure reduction. Allow test water and the pipeline section to equalize before applying test pressure.
3. Pressure test section to 170 psi. Do not test at a pressure that exceeds the design pressure of the pipe.
4. Maintain test pressure for four (4) hours, adding make-up water hourly as needed to maintain maximum test pressure. Measurement of make-up water during the initial expansion phase is not required.

b. Test Phase

1. After initial expansion phase is complete, maintain test pressure for three (3) hours.
2. After the test duration is complete, any water deficiency must

be replaced and measured. Add and measure the amount of make-up water required to return to the test pressure and compare this to the maximum allowance in the table below.

ALLOWANCE FOR EXPANSION UNDER TEST PRESSURE			
NOMINAL PIPE SIZE	US GALLONS/100 FT of PIPE		
	1 HOUR	2 HOURS	3 HOURS
2"	0.08	0.12	0.15
3"	0.10	0.15	0.25
4"	0.13	0.25	0.40
6"	0.30	0.60	0.90
8"	0.50	1.00	1.50
10"	0.75	1.30	2.10
12"	1.10	2.30	3.40
14"	1.40	2.80	4.20
16"	1.70	3.30	5.00
18"	2.20	4.30	6.50
20"	2.80	5.50	8.00
24"	4.50	8.90	13.30

3. Do not Exceed a during of eight (8) hours at 1.5 times the system pressure rating between the initial expansion and test phases combined.

c. Correction

1. If pressure test fails due to leakage, equipment failure, etc., depressurize and make repairs as needed. Allow test section to remain depressurized for a minimum of eight (8) hours before retesting.

2. Leaks at fusion joints must be cut out and re-fused.

3. Repair and retest as required until the leakage is below the maximum allowance.

4. Adjust valve equipment under the direction of the manufacturer. Repair damaged coatings with material equal to original coating.

5. Repair and retest as required until the results of the tests are within specified allowances, without additional cost to the Government.

3.3.1.3 Leakage Test

For leakage test, use a hydrostatic pressure not less than the maximum working pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test.

For PE pipe perform leak testing in accordance with AWWA M55, ASTM F2164.

3.3.1.4 Bacteriological Testing

Perform bacteriological tests in accordance with AWWA C651 Option A and any additional requirements described in this section. For new water mains use Option A and obtain two sets of samples for coliform analysis, each sample being collected at least 16 hours apart. Take samples every 1,200 ft plus one set from the end of the line and at least one from each branch greater than one pipe length. Analyze samples by a certified laboratory, and submit the results of the bacteriological samples.

Treatment shall be introduced into the piping and maintained for 24 hours. After 24 hours the system shall be flushed and circulated until the required disinfectant quality standard has been achieved using domestic water. Any permanent system devices that were removed for disinfection shall be replaced.

Use of liquid chlorine is not permitted. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use. Chlorinated water shall be legally disposed after disinfection. Provide sampling in accordance with the latest AWWA C651 standard with the frequency of one of the following options

Option A. Take an initial sample and then resample again after a minimum of 16 hours per 1,200 feet of new water main, plus one set from the end of the line and at least one set from each branch greater than one pipe length. All sets of samples must pass for the main to be approved for release.

Option B: Let the water main site for a minimum of 16 hours without any water use. Collect two sets of samples a minimum of 15 minutes apart while the sampling taps are left running and without flushing the main. Sets of samples shall be collected every 1,200 feet of the new water main plus one set from the end of the line and at least one set from each branch greater than one pipe length. All sets of samples must pass for the main to be approved for release.

3.3.1.5 Special Testing Requirements for Fire Service

Test water mains and water service lines providing fire service or water and fire service in accordance with NFPA 24. The additional water added to the system must not exceed the limits given in NFPA 24

3.3.1.6 Tracer Wire Continuity Test

Test tracer wire for continuity after service connections have been

completed and prior to final pavement or restoration. Verify that tracer wire is locatable with electronic utility locating equipment. Repair breaks or separations and re-test for continuity.

3.4 SYSTEM STARTUP

Water mains and appurtenances must be completely installed, disinfected, flushed, and satisfactory bacteriological sample results received prior to permanent connections being made to the active distribution system. Obtain approval by the Contracting Officer prior to the new water piping being placed into service.

3.5 CLEANUP

Upon completion of the installation of water lines and appurtenances, remove all debris and surplus materials resulting from the work.

3.6 RECORD DRAWINGS

Verify that existing utility water main size, location, and invert are as indicated on Drawings.

-- End of Section --

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SECTION 33 31 23.00 10

SANITARY SEWER FORCE MAIN PIPING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C105/A21.5

(2018) Polyethylene Encasement for
Ductile-Iron Pipe Systems

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Connections Plan; G

SD-03 Product Data

Pipe, Fittings, Joints, Couplings; G

Valves; G

Pipe Restraints; G

Precast Concrete Thrust Blocks; G

Fusion Joining; G

Restraint Joint Coupling; G

Combination Air Release Valve; G

Polymer Concrete Manholes; G

Manhole Hatches; G

SD-06 Test Reports

Final Test Report

Post Construction Fusion Report; G

Leakage Test; G

Hydrostatic Test; G

Field Quality Control; G

SD-07 Certificates

Pipe, Fittings, Joints And Couplings

Lining For Fittings

Lining For Ductile Iron Fittings

Valves

Fusion Technician Qualifications; G

Manufacturer's Certificate; G

SD-08 Manufacturer's Instructions

Polyethylene (Pe) Pipe

Combination Air Release Valves; G

Polymer Concrete Manholes; G

Manhole Hatches; G

SD-11 Closeout Submittals

Project Record Documents; G

Subsoil Conditions; G

1.3 DELIVERY, STORAGE, AND HANDLING

Do not damage pipe, fittings and accessories, and pipe coatings during delivery, handling, and storage.

PART 2 PRODUCTS

2.1 MATERIALS

Cover shall be applied in accordance with Section 31 00 00.00 13 EARTHWORK. Soil Backfill from above Pipe to Finish Grade shall comply with Section 31 00 00.00 13 EARTHWORK.

All steel Rods, Bolts, Nuts and brackets shall be 304 Stainless Steel.

2.1.1 Finishes

Any protective coatings applied shall be epoxy based

Encase piping in 10 mil polyethylene on all ductile iron pipe and fittings to prevent contact with surrounding backfill material.

Valves shall be epoxy coated and wrapped with 10 mil polyethylene.

2.2 THRUST RESTRAINT FOR UTILITY PIPING

Provide pressure pipeline with restrained joints at each bend, tee, and change in direction. Provide concrete thrust blocking as indicated on the Drawings. Provide restraint devices for mechanical joint fitting and appurtenances.

All steel Rods, Bolts, Nuts and brackets shall be 304 stainless steel.

2.2.1 Tie Bolts

Tie Bolts for Mechanical and Flanged Joints on 4 to 12 inch pipe shall be 304 stainless steel. Tie Bolts shall also be 304 stainless steel. The tensile strength of full-body threaded section requirement shall be increased to 40,000 lb. minimum for 5/8 inch and 60,000 lb. minimum for 3/4 inch by heat-treating (quenching and tempering) to manufacturer's reheat and hardness specifications. Tie bolts shall be 3/4 inch in size.

2.2.2 Tie Nut

The Tie Nut for each Tie Bolt and Tie Rod shall be type 304 stainless steel.

2.2.3 Tie Pin

Pins for bends and hydrants shall be 3/4 inch round bar stock and be 6 inch hair pin size and shape. Pins shall be 304 stainless steel.

2.2.4 Tie Coupling

Tie Couplings for the extension of continuous threaded rods shall include center stops for installation. All tie couplings shall be 304 stainless steel.

2.2.5 Tie Clamp

Tie Retainer Clamps for ductile iron, asbestos-cement, and PVC push on pipe for installation at the front of the pipe bell shall be 304 stainless steel.

2.2.6 Tie Rod

Continuous-threaded tie rods shall be 304 stainless steel.

2.2.7 Tie Bar

Tie bars used to restraining push-in plugs shall be 304 stainless steel.

2.2.8 Tie Washers

Tie Washers shall be round and flat and be 304 stainless steel.

2.3 MECHANICAL JOINT RESTRAINTS

2.3.1 Mechanical Joint Restraints

Install integral, full circumferential, extended range, stab-fit, segmented, and serrated mechanical restraint system to provide a fully restrained and pressure rated connection on plain end pipe(s). Connection

shall maintain a restrained, bubble tight seal under applied operating pressure(s), without the need for continuous bolt torque. For multipurpose use on similar or dissimilar pipe diameters on a variety of acceptable pressure class pipe materials; DI, CI, PVC (C900, C909 & IPS) and HDPE (DR 9 thru 17 pipe stiffeners not required). Center Ring, End Ring(s), Bolt Guide(s) and Grippers shall be cast ductile iron, meeting or exceeding ASTM A536, Grade 65-45-12. Center Ring is fusion bonded epoxy certified and listed to ANSI/NSF 61 & 372. End Ring(s) and Bolt Guide(s) shall be polyester. Segmented grippers shall be machine sharpened, heat treated, and waterborne, resin bonded high temperature resistant dry film coated. Gaskets shall be SBR (or optional NBR) compounded for water and sewer service to ASTM D2000, certified & listed ANSI/NSF 61 & 372. Draw Hooks, Bolt(s) and Nut(s) shall be Type 304 stainless steel (or optional 316 B&N), with heavy hex nut(s) E-Coat epoxy. Ramp Runners shall be Nylon 66, Black, 14% Glass filled.

2.3.2 Design

Mechanical Joint Restraints consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ASNI C110 and AWWA A21.10 for nominal pipe sizes 3 inch through 36 inch. Include a minimum safety factor of 2:1 in all sizes for rating for water pressure.

2.3.3 Material

Mechanical Joint Restraints shall be cast from grades 65-45-12 ductile iron material in accordance with ASTM A536 for gland body, wedges and wedge actuating components.

2.3.4 Coating

Coatings shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat. The surface shall be pretreated with a phosphate wash, rinse and sealer before drying. Coatings shall be electrostatically applied and heat cured. Coatings shall be polyester based powder to provide corrosion, impact and UV resistance.

2.3.5 Approvals

Approvals shall be listed by Underwriters Laboratories in the 4 inch through 12 inch sizes. Meet or exceed the requirements of ASTM F1674 of the latest revision for Mechanical Joint Restraints, 4 inch through 24 inch.

2.4 EXPANSION JOINTS

All Expansion/Contraction Joints shall be telescoping design with triple (3) EPDM O-ring seals, including center pressure seal and outer debris seals. The minimum joint travel length shall be 12" in either direction. All Joints shall be pressure rated to a min of 200 psi and constructed of PVC material conforming to ASTM D 1784 or HDPE SDR 17 material conforming to ASTM D3261. Internal pipe edges to be chamfered to allow smooth transition for pulling conductors or communication lines.

2.5 PRESSURE PIPE

Pipe Shall be PE4710, DR 11 IPS for 200-psig pressure rating.

2.6 AIR RELEASE VALVE PIPE

Pipe for Air Release Valves shall be ductile iron pipe.

2.7 VALVES

2.7.1 Combination Air Valves for Wastewater Service

2.7.1.1 Description

Combination Air Valves shall be an automatic float operated valve designed to exhaust large quantities of air during start-up, admits air in negative pressure situations and release air continuously during operation. Valve bodies shall be Single, Glass-Reinforced Nylon Body and shall have 4" flanged joints. Valves shall be suitable for sewage service and have a pressure rating of 150 psig with minimum operating pressure of 0.8 psi. Valves shall contain surge protection and have a media and operating temperature of 33 - 140 degrees F.

2.7.1.2 Materials

The valve body and cover shall be nylon glass reinforced. Floats shall be polypropylene, glass reinforced nylon. Float rods shall be Type 316 Stainless Steel. All Elastomers shall be EPDM and bolts and nuts shall be Type 304 or Type 316 stainless steel. All valves shall be epoxy coated and wrapped with 8 mil polyethylene plastic.

2.7.1.3 End Connections

End connections size 4 inches and larger shall be flanged, ASME B16.1.

2.7.1.4 Valve Body Connections

Inlets shall be glass-reinforced nylon, flanged 4" and outlets shall be sideways, female 2".

2.7.1.5 Accessories

Accessories shall include backwash accessories, including inlet shutoff valve, blowoff valve, supply hose, and quick-disconnect couplings.

2.8 PLUG VALVES

Provide self lubricating, eccentric type gearbox with 2" stainless steel operating nut, for buried service. Ductile Iron body, epoxy coated, Buna-N plug, V type packing. Type 316 Stainless Steel thrust bearing. Mechanical joints comply with ANSI/AWWA C111/A21.11 Max Pressure 200 psi. All bolts Stainless Steel, operation OPEN left (Counter Clockwise).

2.9 MANHOLES

Manholes shall comply with paragraph Polymer Concrete Manholes and related sub paragraphs in Section 03 42 13.00 10 PLANT PRECAST CONCRETE PRODUCTS FOR BELOW GRADE CONSTRUCTION.

2.9.1 Structure Hatch

Provide a watertight (flood-tight) angle frame floor access door designed for exterior applications per plan details.

Cover: 1/4" diamond plate reinforced for 1560 PSF live loads (capable of holding up to 25 ft head of water)
Frame: Angle type with strap anchors Hardware: All 316 SS nuts, bolts and washers Security: SS flood tight cam locks, lockable.
Finish: Aluminum cover and frame have mill finish which is protected during shipping and installation by an attached adhesive-backed vinyl material. All parts of the frame in contact with concrete have a coating of bituminous paint
Hold-Open Device: 316 SS Hold-open arm with secondary latch mechanism
Lift Handle: Flush and flood-tight lift handle
Provide a hinged and lockable aluminum grating panel installed beneath access covers. Grate shall provide protection against fall through accidents when the cover is left in the open position. The unit shall be lockable and incorporates a spring assisted lifting handle that positions the handle near the slab level when the existing access cover is in the open position. The grate shall utilize a T-316 stainless steel hold open arm with aluminum latch and T-316 stainless steel mounting hardware for either concrete or frame only installations.
Installation: Installation shall be in accordance with the manufacturer's instructions

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Coordination

Refer to the Volume 2 project plans for notes regarding connections, lift station shutdown requirements, and coordination with the City of Fargo.

3.1.2 Earthwork

Correct over-excavation with suitable backfill material or CSLM if in area as indicated on plans and in accordance with Section 31 00 00.00 13 EARTHWORK. Remove large stones or other hard matter capable of damaging pipe or of impeding consistent backfilling or compaction.

Verify that trench cut is ready to receive Work and verify that excavations, dimensions, and elevations are as indicated on Drawings.

3.1.3 Installation Drawings

Submit Installation Drawings showing complete detail, both plan and side view details with proper layout and elevations.

3.2 INSTALLATION

Excavate pipe trench as specified in Section 31 00 00.00 13 EARTHWORK. Place CLSM in area as indicated on plans and per detail. Pipe to be encased in CLSM material shall be anchored to prevent floating. Level materials in continuous layers not exceeding 9 inches in depth. Maintain optimum moisture content of bedding material to attain required compaction density.

Backfill after inspection by the Contracting Officer. Place bedding material at trench bottom up to the spring line of the pipe per plan details, level fill materials in one continuous layer not exceeding 6 inches of compacted depth, and compact to 95 percent of maximum

density. Before, during, and after installation, protect plastic pipe and fittings from any environment that would result in damage or deterioration to the material. Keep a copy of the manufacturer's instructions available at the construction site at all times and follow these instructions unless directed otherwise by the Contracting Officer.

3.2.1 Connections to Existing Lines

Obtain approval from the Contracting Officer before making connection to existing line. Conduct work so that there is minimum interruption of service on existing line and according to plan details.

3.2.2 General Requirements for Installation of Pipelines

These general requirements apply except where specific exception is made in the following paragraphs entitled "Special Requirements."

3.2.2.1 Location

Terminate the work covered by this section at a point approximately 5 feet from the building, unless otherwise indicated.

3.2.2.1.1 Sanitary Sewer Manholes

No water piping must pass through or come in contact with any part of a sanitary sewer manhole.

3.2.2.2 Earthwork

Perform earthwork operations in accordance with Section 31 00 00.00 13 EARTHWORK.

3.2.2.3 Pipe Laying and Jointing

Inspect each pipe and fitting before and after installation; replace those found defective and remove from site. Provide proper facilities for lowering sections of pipe into trenches. Replace by one of the proper dimensions, pipe or fittings that do not allow sufficient space for installation of joint material. At the end of each work day, close open ends of pipe temporarily with wood blocks or bulkheads. Provide batterboards not more than 25 feet apart in trenches for checking and ensuring that pipe invert elevations are as indicated. Laser beam method may be used in lieu of batterboards for the same purpose. Construct branch connections by use of regular fittings or solvent cemented saddles as approved.

Before lowering and while suspended, inspect the pipe for defects. Reject defective material. Lay PE pipe in compliance with ASTM D2774. Pipe bends shall have a minimum 50-foot radius.

Provide heat fusion joints that comply with the manufacturer's instructions concerning equipment, temperature, melt time, heat coat, and joining time. Make flanged and mechanical joints in compliance with the manufacturer's instructions.

Install Expansion / Contraction Joints as indicated on plans and per detail.

Install Tracer Wire as specified in Section 33 05 97 Identification and

Signage for Utilities.

Provide pressure pipeline with restrained joints or concrete thrust blocking at pumps, bends, tees, and changes in direction.

3.2.3 Special Requirements

3.2.3.1 PE Pipe Encasement

Encase all ductile iron pipe and fittings with polyethylene in accordance with AWWA C105/A21.5.

3.2.4 Valve Installation

Prior to installation, inspect existing flanges for nonstandard bolt hole configurations or design and verify that new pipe and flanges mate properly. Clean valves and connections of all foreign matter and inspect for damage and then fully open and close valves to ensure that all parts are properly operating. Close pipes and equipment openings with caps and plugs during installation. Install valves with the stem in the vertical position.

3.2.5 Concrete Work

Cast-in-place concrete is included in Section 03 22 70.01 CONTROLLED LOW-STRENGTH MATERIAL (CLSM) . Support the pipe on a concrete cradle, or encased in concrete where indicated or directed.

3.2.6 Manhole Construction

Construct base slab of cast-in-place concrete or use precast concrete base sections. Make inverts in cast-in-place concrete and precast concrete bases with a smooth-surfaced semi-circular bottom conforming to the inside contour of the adjacent sewer sections. For changes in direction of the sewer and entering branches into the manhole, make a circular curve in the manhole invert of as large a radius as manhole size will permit. For cast-in-place concrete construction, either pour bottom slabs and walls integrally or key and bond walls to bottom slab. No parging will be permitted on interior manhole walls. For precast concrete construction, make joints between manhole sections with the gaskets specified for this purpose; install in the manner specified for installing joints in concrete piping. Parging will not be required for precast concrete manholes. Perform cast-in-place concrete work in accordance with the requirements specified under paragraph entitled "Concrete Work" of this section. Make joints between concrete manholes and pipes entering manholes with the resilient connectors specified for this purpose; install in accordance with the recommendations of the connector manufacturer. Where a new manhole is constructed on an existing line, remove existing pipe as necessary to construct the manhole. Cut existing pipe so that pipe ends are approximately flush with the interior face of manhole wall, but not protruding into the manhole. Use resilient connectors as previously specified for pipe connectors to concrete manholes.

3.2.7 Miscellaneous Construction and Installation

3.2.7.1 Connecting to Existing Manholes

Connect pipe to existing manholes such that finish work will conform as nearly as practicable to the applicable requirements specified for new

manholes, including all necessary concrete work, cutting, and shaping. Center the connection on the manhole. Holes for the new pipe are to be of sufficient diameter to allow packing cement mortar around the entire periphery of the pipe but no larger than 1.5 times the diameter of the pipe. Cut the manhole in a manner that will cause the least damage to the walls.

3.2.7.2 Metal Work

3.2.7.2.1 Workmanship and Finish

Perform metal work so that workmanship and finish will be equal to the best practice in modern structural shops and foundries. Form iron to shape and size with sharp lines and angles. Do shearing and punching so that clean true lines and surfaces are produced. Make castings sound and free from warp, cold shuts, and blow holes that may impair their strength or appearance. Give exposed surfaces a smooth finish with sharp well-defined lines and arises. Provide necessary rabbets, lugs, and brackets wherever necessary for fitting and support.

3.2.7.2.2 Field Painting

After installation, clean cast-iron frames, covers, gratings, and steps not buried in concrete to bare metal, remove mortar, rust, grease, dirt, and other deleterious materials and apply a coat of bituminous paint. Do not paint surfaces subject to abrasion.

3.3 FIELD QUALITY CONTROL

The Contracting Officer will conduct field inspections and witness field tests specified in this section. Be able to produce evidence, when required, that each item of work has been constructed in accordance with the drawings and Section 01 45 04 CONTRACTOR QUALITY CONTROL.

Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

3.3.1 Tests

Perform field tests and provide labor, equipment, and incidentals required for testing.

3.3.1.1 Compaction Tests

Compaction testing shall comply with ASTM D6938. Frequency of Compaction Tests shall be every 500' per 3' of vertical lift, or as directed by Contracting Officer. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

3.3.1.2 Hydrostatic Sewer Test

Test system in accordance with AWWA C906 and ASTM F2164. Testing shall be conducted after installation, CLSM placement, and backfilling have been completed. Submit a Hydrostatic Test Plan for approval and include, testing procedure, test equipment, testing schedule, provisions for disposal of flushing and test water, and certification of test gage calibration. Notify the Contracting Officer at least 7 days in advance of equipment tests. Submit the final test report to the Contracting Officer within 30 days after the test.

a. Initial Expansion Phase

1. Slowly fill a portion of piping to be tested with water, expelling air from piping at high points.
2. Temperature of pipeline section and test water should be less than 80 degrees Fahrenheit. Consult with pipe manufacturer for technical assistance with elevated temperature pressure reduction. Allow test water and the pipeline section to equalize before applying test pressure.
3. Pressure test section to 170 psi. Do not test at a pressure that exceeds the design pressure of the pipe.
4. Maintain test pressure for four (4) hours, adding make-up water hourly as needed to maintain maximum test pressure. Measurement of make-up water during the initial expansion phase is not required.

b. Test Phase

1. After initial expansion phase is complete, maintain test pressure for three (3) hours.
2. After the test duration is complete, any water deficiency must be replaced and measured. Add and measure the amount of make-up water required to return to the test pressure and compare this to the maximum allowance in the table below.

ALLOWANCE FOR EXPANSION UNDER TEST PRESSURE			
NOMINAL PIPE SIZE	US GALLONS/100 FT of PIPE		
	1 HOUR	2 HOURS	3 HOURS
2"	0.08	0.12	0.15
3"	0.10	0.15	0.25
4"	0.13	0.25	0.40
6"	0.30	0.60	0.90
8"	0.50	1.00	1.50
10"	0.75	1.30	2.10
12"	1.10	2.30	3.40
14"	1.40	2.80	4.20
16"	1.70	3.30	5.00
18"	2.20	4.30	6.50

ALLOWANCE FOR EXPANSION UNDER TEST PRESSURE			
20"	2.80	5.50	8.00
24"	4.50	8.90	13.30

3. Do not Exceed a during of eight (8) hours at 1.5 times the system pressure rating between the initial expansion and test phases combined.

c. Correction

1. If pressure test fails due to leakage, equipment failure, etc., depressurize and make repairs as needed. Allow test section to remain depressurized for a minimum of eight (8) hours before retesting.

2. Leaks at fusion joints must be cut out and re-fused.

3. Repair and retest as required until the leakage is below the maximum allowance.

4. Adjust valve equipment under the direction of the manufacturer. Repair damaged coatings with material equal to original coating.

5. Repair and retest as required until the results of the tests are within specified allowances, without additional cost to the Government.

3.3.1.3 Leakage Test

For leakage test, use a hydrostatic pressure not less than the maximum working pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test.

For PE pipe perform leak testing in accordance with AWWA M55, ASTM F2164.

3.4 CLEANUP

Upon completion of the installation of sewer lines and appurtenances, remove all debris and surplus materials resulting from the work.

3.5 RECORD DRAWINGS

Verify that existing utility water main size, location, and invert are as indicated on Drawings.

-- End of Section --

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SECTION 33 40 00

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-- End of Section Table of Contents --

SECTION 33 40 00

STORMWATER UTILITIES - VOLUME 1 PLANS

PART 1 GENERAL

1.1 GENERAL

Work under this Section includes provision and installation of storm drainage utilities in Volume 1 including precast reinforced concrete box culverts and ancillary features. In addition to all other references in this section, all design, materials, and construction must be in accordance to NDAC 89-14.

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 A798/A798M	(2022) Standard Practice for Installing Factory-Made Corrugated Steel Pipe for Sewers and Other Applications
ASTM C443	(2021) Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C990	(2009; R 2019) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	(2020) Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers

STATE OF NORTH DAKOTA LEGISLATIVE BRANCH

NDAC 89-14	(2015) North Dakota Administrative Code Public Highway Stream Crossings
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NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT	(2022) Standard Specifications for Road and Bridge Construction
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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-02 Shop Drawings

Joints For Concrete Pipe; G

Precast Reinforced Concrete Box (PRCB) Culverts; G

PRCB End Sections; G

SD-03 Product Data

Manufacturer's Storage And Handling Instructions; G

SD-05 Design Data

Culvert Design Calculations; G

Concrete Mix Procedures; G

SD-06 Test Reports

Elastomer Tests; G

SD-07 Certificates

Certificates Of Compliance; G

Certificates required for culvert end sections, fasteners, tie-bolts, and manufacturer plant.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Delivery and Storage

Materials delivered to site must be inspected for damage, unloaded, and stored with a minimum of handling. Do not store materials directly on the ground. The inside of pipes and fittings must be kept free of dirt and debris. Before, during, and after installation, plastic pipe and fittings must be protected from any environment that would result in damage or deterioration to the material. Keep a copy of the manufacturer's storage instructions available at the construction site at all times and follow these instructions unless directed otherwise by the Contracting Officer.

1.4.2 Handling

Handle materials in a manner that ensures delivery to the trench in sound, undamaged condition. Pipe must be carried to the trench, not dragged.

PART 2 PRODUCTS

2.1 PRECAST REINFORCED CONCRETE BOX (PRCB) CULVERTS

All products shall meet the requirements specified in NDDOT Section 714 "Culverts, Storm Drains, Edgedrains, and Underdrains", NDDOT Section 606 "Precast Reinforced Concrete Box (PRCB) Culverts", NDDOT Section 836 "Reinforcing Steel, Dowel Bars, and Tie Bars" and all standards referenced therein. The Contractor shall refer to the plan set for specific design elements. Reinforced Precast Concrete Box Culvert sections to be

manufactured in accordance with and conforming to ASTM C1433.

2.2 JOINTS FOR CONCRETE PIPE

Provide rubber gasket joints of a design and physical requirements in accordance with ASTM C443. Gaskets with more than one factory-fabricated splice are prohibited. Provide certified reports of the elastomer tests from which the gaskets were made. Provide backer rod to the inside and outside of each joint to ensure the rubber gasket remains in place during placement of adjacent pipe sections. Provide waterproof mastic membrane in accordance with ASTM C990. Provide filter fabric in accordance with the requirements of Geotextile Type 1 in Section 31 05 19 GEOTEXTILE to be wrapped around the external joints.

PART 3 EXECUTION

3.1 EXCAVATION, BACKFILL, AND COMPACTION

Excavation of trenches, backfilling, and compaction must be in accordance with the applicable portions of Section 31 00 00.00 13 EARTHWORK.

3.2 PLACING PIPE

Each pipe must be thoroughly examined before being laid; do not use defective or damaged pipe. Pipelines must be laid to the grades and alignment indicated. Proper facilities must be provided for lowering sections of pipe into trenches. Lifting lugs in vertically elongated pipe must be placed in the same vertical plane as the major axis of the pipe. Pipe must not be laid in water, and pipe must not be laid when trench conditions or weather are unsuitable for such work. Diversion of drainage or dewatering of trenches during construction must be provided as necessary. Laying must proceed upgrade with spigot ends of bell-and-spigot pipe and tongue ends of tongue-and-groove pipe pointing in the direction of the flow. In addition to the requirements above, CSP must be installed in accordance to ASTM A798/A798M.

For Reinforced Precast Concrete Box sections, All work shall be completed in accordance with the requirements specified in NDDOT Section 714 and NDDOT Section 830 and all standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

3.3 JOINTS

3.3.1 Flexible Watertight Joints

Gaskets and jointing materials must be as recommended by the particular manufacturer in regard to use of lubricants, cements, adhesives, and other special installation requirements. Surfaces to receive lubricants, cements, or adhesives must be clean and dry. Gaskets and jointing materials must be affixed to the pipe not more than 24 hours prior to the installation of the pipe, and must be protected from the sun, blowing dust, and other deleterious agents at all times. Gaskets and jointing materials must be inspected before installing the pipe; any loose or improperly affixed gaskets and jointing materials must be removed and replaced. The pipe must be aligned with the previously installed pipe, and the joint pushed home. If, while the joint is being made the gasket becomes visibly dislocated the pipe must be removed and the joint remade.

3.3.2 Waterproof Mastic Membrane

Use a membrane that is minimum 24 inches wide. Prepare joints according to the waterproof membrane manufacturer's recommendations. Roll the membrane to the surface keeping it free of wrinkles and bubbles. Lap waterproof membrane joints a minimum of 2-1/2 inches. Seal the joints and exposed edges with a joint sealing mastic recommended by the manufacturer of the membrane.

3.3.3 Filter Fabric

Wrap filter fabric to exterior of each joint. Perform completion of installation of exterior filter fabric after the hydrostatic tests are performed and approved by the Contracting Officer. Filter fabric must be assembled such that the joint is centered with 36 inch of total overlap. Ensure the fabric is flush with the pipe such that no voids are created. Place the fabric strip open in the pipes' soil cradle before the pipes are placed. After hydrostatic tests are completed and approved, wrap the fabric strip entirely around the joint with a 36 inch overlap at the seam. The seam must be at the top of the pipe. The fabric strip must be affixed in place so that it does not shift during backfilling and compaction around the culvert.

3.4 PROTECTION

Protect storm drainage piping and adjacent areas from superimposed and external loads during construction.

3.5 REPAIR OF DEFECTS

Replace pipes having cracks and open joints with a width greater than 0.1 inches. Cracks and open joints with a width greater than 0.01 inches but less than 0.10 inches must be repaired.

3.6 WARRANTY PERIOD

Pipe segments found to have defects during the warranty period must be replaced with new pipe and retested.

-- End of Section --

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DIVISION 33 - UTILITIES

SECTION 33 40 00

STORMWATER UTILITIES - VOLUME 2 PLANS

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1.1.1 Definitions and Responsibilities

1.2 MEASUREMENT AND PAYMENT

1.3 SUBMITTALS

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PART 3 EXECUTION

3.1 GENERAL

-- End of Section Table of Contents --

SECTION 33 40 00

STORMWATER UTILITIES - VOLUME 2 PLANS

PART 1 GENERAL

1.1 GENERAL

Work under this section shall include provision and installation of all storm drainage utilities associated with the construction of CR81, including reinforced concrete pipe, precast reinforced concrete box culverts, corrugated steel pipe, and all ancillary features and connections. The intent is to complete construction of CR81 storm sewer in accordance with North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, while adhering to U.S. Army Corps of Engineers (USACE) contract provisions. Should the NDDOT Standard Specifications conflict with the Government contract requirements, the the Government contract requirements shall control.

1.1.1 Definitions and Responsibilities

a. Engineer: "Engineer" as used in the NDDOT Standard Specifications and throughout the plans, indicates the Contracting Officer, unless used in reference to quality control. Within the quality control sections of the NDDOT Standard Specifications, the term Engineer shall mean Contractor.

b. The Contractor shall perform and be responsible for all quality control measures described in the NDDOT Standard Specifications.

1.2 MEASUREMENT AND PAYMENT

The NDDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications shall not be followed when referencing measurements and payments. Deductions for payment referred to in the NDDOT Standards Specifications shall not be followed.

Requirements of the NDDOT Standard Specifications for acceptance of culverts and storm pipes shall be strictly adhered to. Pipe not meeting the minimum requirements of the NDDOT Standard Specifications shall be removed and replaced at the Contractor's expense.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Pipe

Certificates of compliance for each size and type of pipe, end

section, fasteners, tie-bolts, and manufacturer plant.

PART 2 PRODUCTS

2.1 GENERAL

All products shall meet the requirements specified in NDDOT Section 714 "Culverts, Storm Drains, Edgedrains, and Underdrains" and NDDOT Section 830 "Pipe and Drainage Structures", NDDOT Section 606 "Precast Reinforced Concrete Box (PRCB) Culverts", NDDOT Section 836 "Reinforcing Steel, Dowel Bars, and Tie Bars" and all standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

PART 3 EXECUTION

3.1 GENERAL

All work shall be completed in accordance with the requirements specified in NDDOT Section 714 and NDDOT Section 830 and all standards referenced therein. The Contractor shall refer to the plan set for specific design elements.

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SECTION 35 31 19.00 13

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-- End of Section Table of Contents --

SECTION 35 31 19.00 13

STONE PROTECTION (RIPRAP)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C 127	(2015) Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C 136/C 136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75/D 75M	(2019) Standard Practice for Sampling Aggregates
ASTM D 4791	(2019) Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D 4992	(2014; E 2015) Evaluation of Rock to be Used for Erosion Control
ASTM D 6825	(2021) Placement of Riprap Revetments

CORPS OF ENGINEERS (COE)

EM 1110-2-2302	(1990) Construction with Large Stone
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1.2 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

Material Sources; G, GEO

Designate in writing only one source or one combination of sources from which the proposes to furnish stone. State in writing methods of processing and handling riprap, and notify the Contracting Officer when production methods are changed.

SD-06 Test Reports

Gradation Test;

Gradation Test Results for riprap and bedding. Riprap gradation testing results shall be submitted on the WORKSHEET FOR GRADATION ANALYSIS OF RIPRAP and the gradation curve (ENG FORM 4055). Bedding gradation testing results shall be submitted on Contractor's standard laboratory report form and the gradation curve (ENG FORM 2087). A blank copy of each form is included at the end of this section.

SD-07 Certificates

Certified Weight Scale Tickets;

Copies of all certified weight scale tickets shall be furnished to the Contracting Officer at a frequency as directed. The tickets do not need to be formally submitted through the submittal process.

PART 2 PRODUCTS

2.1 STONE SOURCES AND EVALUATION

Stone shall be furnished from any of the sources listed in the attachments 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 herein stated. The rock supplied shall be produced from one rock formation to provide a product of uniform appearance. The Contractor shall not supply rock from various formations, or mix field-stone with quarried rock, unless approved by the Contracting Officer. It is the Contractor's responsibility to determine that the stone source or combination of sources selected is capable of providing the quality, quantities and gradation needed and at the rate needed to maintain the scheduled progress of the work.

2.1.1 Alternate Sources

a. Evaluation by Site Inspection. If the Contractor proposes to furnish stone from an unlisted source, the Government will evaluate the alternate source and reply within 30 calendar days. A quarry or pit investigation shall be performed by a Government geologist or engineer to determine whether or not materials with acceptable durability can be produced from the proposed source. If the source is an undeveloped quarry or if the source is a quarry for which the operation has been dormant for more than one year such that the quarry face is weathered, the Contractor shall expose fresh rock for 20 feet horizontally and for the full height of the face proposed for production, prior to the field evaluation. The Government will consider service records for stone of a similar size, placed in a similar thickness and exposed to weathering under similar conditions as are anticipated for this contract. The Government may choose to accept the source based on rock classification, geologic evaluation, and service records that show that the stone is durable to the satisfaction of the Government.

b. Evaluation by Test Data. If sufficient information is not available, the Government will reconsider the alternate source if evaluation is supplemented by sampling and testing. This will require an additional 60 day evaluation period. If the Contractor wishes to pursue the alternate source, the Government will notify the Contractor of required testing and evaluation criteria. Requirements for acceptance will consider criteria

in EM 1110-2-2302 as well as characteristics of rock found in nearby quarries or pits. Some common test procedures that may be considered include:

Unit Weight and Absorption (ASTM C 127).
Petrographic Examination (ASTM C 295 and ASTM D 4992).
Resistance to Freezing and Thawing (ASTM D 5312).

c. Sampling and Testing. Samples from alternate sources shall be taken by a representative of the quarry or pit under the supervision of the Contracting Officer. Information provided with the samples shall include the location and stratigraphy within the quarry or pit from which the sample was taken. The Contractor shall ship the samples to a laboratory identified by the Contracting Officer. The Government will be responsible for testing costs associated with one quarry or pit per project; and the Contractor shall be responsible for testing costs for additional sources.

2.1.2 Acceptance of Materials

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 or pit, all transfer points, and at the project construction site when such materials are determined to be unsuitable.

2.2 RIPRAP

Riprap gradation shall meet the riprap types as indicated on the attached ENG FORM 4055 at the end of this Section. The stone shall be well graded within the limits specified.

2.2.1 General

All stone shall be durable material. Stone for riprap shall have a specific gravity not less than 2.65. Stone shall be of a suitable quality to ensure permanence in the structure and in the climate in which it is to be used. It shall be free from cracks, blast fractures, bedding, seams and other defects that would tend to increase its deterioration from natural causes. A crack is considered to be detrimental if it is more than

4 mil wide and is continuous for one-third the dimension of at least two sides of the stone. The stone shall be clean and reasonably free from soil, quarry fines, and shall contain no refuse. Any foreign material adhering to or combined with the stone as a result of stockpiling shall be removed prior to placement. The maximum aspect ratio (greatest dimension:least dimension) of any piece of stone for size ranges shall be not greater than 3:1 when measured across mutually perpendicular axis. ASTM D 4791 shall be used as a guide to perform the test.

2.2.2 Production

Riprap shall be handled and selectively loaded onto trucks in a manner to avoid segregation and provide a distribution of stone sizes consistent with the gradation band and test samples. Each truckload shall be representative of the gradation requirements.

2.3 BEDDING MATERIAL

Bedding material shall be composed of tough, durable particles, adequately free from thin, flat and elongated pieces, and shall contain no organic matter nor soft, friable particles in quantities considered objectionable by the Contracting Officer. The aggregates shall meet the quality requirements of ASTM C33/C33M.

The bedding gradation shall meet the bedding types as indicated on the attached ENG FORM 2087 at the end of this section. The stone shall be well graded within the limits specified.

2.4 GEOTEXTILE

Geotextile shall meet the requirements outlined in Section 31 05 19 GEOTEXTILE.

2.5 SOURCE QUALITY CONTROL

Gradation tests shall be performed by the methods and at the frequency listed below. A satisfactory gradation test shall be obtained prior to any hauling and delivery of materials. All tests, including failing tests shall be submitted. Tests performed on material which do not meet gradation and shape requirements will not be counted as part of the tests required. The Contracting Officer shall be informed immediately of test results and draft copies of test results shall be furnished at the Contracting Officer's request.

2.5.1 Sampling Requirements

The Contracting Officer shall direct the time and location of sampling, unless waived. Samples shall be taken from stockpiles or loaded trucks, and not directly from conveyers or chutes.

2.5.2 Riprap Gradation Testing

a. Notification. The Contracting Officer shall be informed 24 hours before each riprap test.

b. Testing Frequency. At least 1 gradation test shall be performed per 5000 cubic yards or portion thereof.

c. Sample Size. The sample shall have a minimum gross weight not less than 25 times the maximum stone size in the specified gradation.

2.5.2.1 Riprap Test Method A

Test method A shall consist of weighing all stones larger than 5 pounds in a sample. Five to seven weight classes shall be selected within the range of stone sizes. Each stone shall be weighed and recorded on the Work Sheet for Gradation Analysis of Riprap Method A; and the calculations on the worksheet shall be performed and recorded. A plot of the gradation shall be completed on ENG FORM 4055 in accordance with accepted practice for soil and aggregate gradations.

2.5.2.2 Riprap Test Method B

Test method B shall consist of separating the stones into 5 to 7 piles, ordered by size. The sample shall be separated on a clean, hard surface

that is free of smaller stones that could become mixed with the sample. The stones shall be visually screened to place them into appropriate piles. All stones shall be separated and placed into piles before weighing. After separating, the smallest and largest rock in each pile shall be weighed and recorded. The stones shall be adjusted as necessary so that the weight classes do not overlap. After adjustment is adequate and weight classes have been established, each pile of stone shall be weighed and recorded on the Work Sheet for Gradation Analysis of Riprap Method B; and the calculations on the worksheet shall be performed and recorded. A plot of the gradation shall be completed on ENG FORM 4055 in accordance with accepted practice for soil and aggregate gradations.

2.5.3 Bedding Gradation Testing

The bedding and filter materials shall be sampled in accordance with ASTM D 75/D 75M and tested in accordance with ASTM C 136/C 136M.

b. Testing Frequency. At least 1 gradation test shall be performed per 5000 tons.

c. Sample Size. Aggregate samples shall have a minimum gross weight not less than 110 pounds per inch of the maximum nominal aggregate size in the specified gradation.

2.6 STOCKPILES

Stockpiles shall be formed by a series of layers or truckload dumps, where the rock essentially remains where it is placed. Subsequent layers shall be started 10 feet from the edge of the previous layer so that the rock will not roll down the edges of the pile. Any stone which has become contaminated with soil or refuse shall not be put into the work unless the contaminating material has been removed prior to placement.

PART 3 EXECUTION

Riprap shall generally be placed in general accordance with ASTM D 6825. Where discrepancies occur, this specification shall govern.

3.1 CONSTRUCTION TOLERANCES

Work shall generally meet the required elevations, slope and grade; and the outer surfaces shall be even and present a neat appearance.

a. Subgrades: Areas on which stone protection will be placed shall be graded and/or dressed to conform to cross sections shown on the Contract drawings within the tolerances specified in Section 31 00 00.00 13 EARTHWORK. The surface shall be reasonably smooth to match tolerances normally obtained by rough grading with bladed equipment.

b. Layer Thickness: Any layers found to be less than 80% of the specified thickness shall be corrected. This tolerance shall only be exceeded on isolated spot checks, and if the tolerance is commonly exceeded, the Contractor shall change construction methods to improve the quality control. If it is necessary to estimate riprap quantities for changes, the volume shall be based on neat line dimensions and the plan dimension for thickness.

c. Surface Tolerances: The finished surface tolerance above the neat line shall not deviate from the lines and grades shown by more than half (1/2) the average stone dimension of the gradation range. Riprap that has a rough and uneven surface shall be reworked by hand to stabilize stones that wobble and are out of tolerance, except where the Contracting Officer approves use of equipment. Rearranging of individual stones shall be required to the extent necessary to obtain a well-graded distribution of stone sizes. The Contracting Officer may elect to use Contractor surveys as defined in Section 01 71 23.05 13 CONTRACTOR SURVEYS paragraph "Surveys for Verification of Design Section" to verify that tolerance requirements have been met.

3.2 FOUNDATION PREPARATION

Foundation areas shall be excavated or filled to the lines and grades shown. Filling shall be with earth similar to the adjacent material and shall be well compacted. Immediately prior to placing riprap, the prepared subgrade will be inspected by the Contracting Officer unless waived; and no material shall be placed thereon until that area has been approved.

3.3 PLACEMENT OF BEDDING LAYERS

Bedding material shall be spread uniformly on the prepared base to the lines and grades indicated and in such manner as to avoid disturbance to the subgrade. Placing by methods which tend to segregate the particle sizes or cause mixing of the separate layers will not be permitted. Placement shall begin at the bottom of the area to be covered and continue up slope. Subsequent loads of material shall be placed against previously placed material in such a manner as to ensure a relatively homogenous mass. Any damage to the surface of the prepared base during placing of the material shall be repaired before proceeding with the work. Compaction of bedding material will not be required, but the surface shall be finished to present an adequately even surface, free from mounds or windrows.

3.4 PLACEMENT OF GEOTEXTILE

Placement of geotextile shall be in accordance with Section 31 05 19 GEOTEXTILE.

3.4.1 Covering Geotextile

Overlying sand and aggregate layers shall be spread uniformly to the full lift thickness on the geotextile by methods that do not tear, puncture, or reposition the fabric. Sudden braking and sharp turning shall be avoided. Tracked equipment shall not turn to prevent tracks from shearing the geotextile. Construction equipment shall not be operated directly upon the geotextile.

3.5 PLACEMENT OF RIPRAP

3.5.1 Layer Requirements

Riprap shall be placed in a manner which will produce a well-graded mass of rock with the minimum practicable percentage of voids. The large stones shall be well distributed. The finished riprap shall be free from objectionable pockets of small stones and clusters of larger stones.

3.5.2 Construction Methods

Unsegregated stone shall be placed in a systematic manner. Riprap shall be placed to its full course thickness in one operation and in such manner as to avoid displacing underlying material. Placement shall typically begin at the bottom of the area to be covered and continue up slope. Subsequent loads of material shall be placed against previously placed material in such a manner as to ensure a relatively homogenous mass. Final finish of slope shall be performed as the material is placed.

Placing riprap in layers will not be permitted. Placing riprap by dumping it into chutes, or by any method likely to cause segregation of the various sizes, shall not be permitted. Placing riprap by dumping it at the top of the slope and pushing it down the slope shall not be permitted. No equipment shall be operated directly on the completed stone protection system. Dump trucks shall be equipped with bottom hinged tailgates if rock is directly placed into position with the trucks.

3.5.3 Riprap Placement on Geotextile

Placement of riprap or bedding material on the geotextile shall be by methods that do not tear, puncture, or reposition the fabric. Equipment shall be operated so as to minimize the drop height of the stone without contacting and damaging the geotextile. Generally this will be about 1 foot of drop from the bucket to the placement surface. Placement shall be such that stones do not roll downhill. No equipment shall be operated directly on top of the geotextile without approval of the Contracting Officer. Use equipment with ground pressures less than 7 psi to place the first lift over the geotextile. A minimum of 8 inches of soil shall be maintained between full-scale construction equipment and the geotextile

3.6 MAINTENANCE

The Contractor shall maintain the stone protection and underlying works until accepted by the Contracting Officer. When appropriate, the Contractor shall place stone protection in a timely manner to reduce risk of scour. Any material displaced prior to acceptance shall be replaced at the Contractor's expense.

3.7 CONTRACTOR QUALITY CONTROL

The Contractor shall establish and maintain quality control for all work performed at the job site under this section to assure compliance with contract requirements. The Contractor shall maintain records of quality control tests, inspections and corrective actions. Quality control measures shall cover all construction operations including, but not limited to, the placement of all materials to the slope and grade lines shown and in accordance with this section.

In addition to the Contractor's system to establish and maintain quality control for stone placement operations, the following information shall be recorded and promptly provided to the Contracting Officer on request:

- a. Record tonnage of stone placed in completed sections of the work and check quantity for compliance with design sections.
- b. Check for uniform thickness and geometry of material layers.

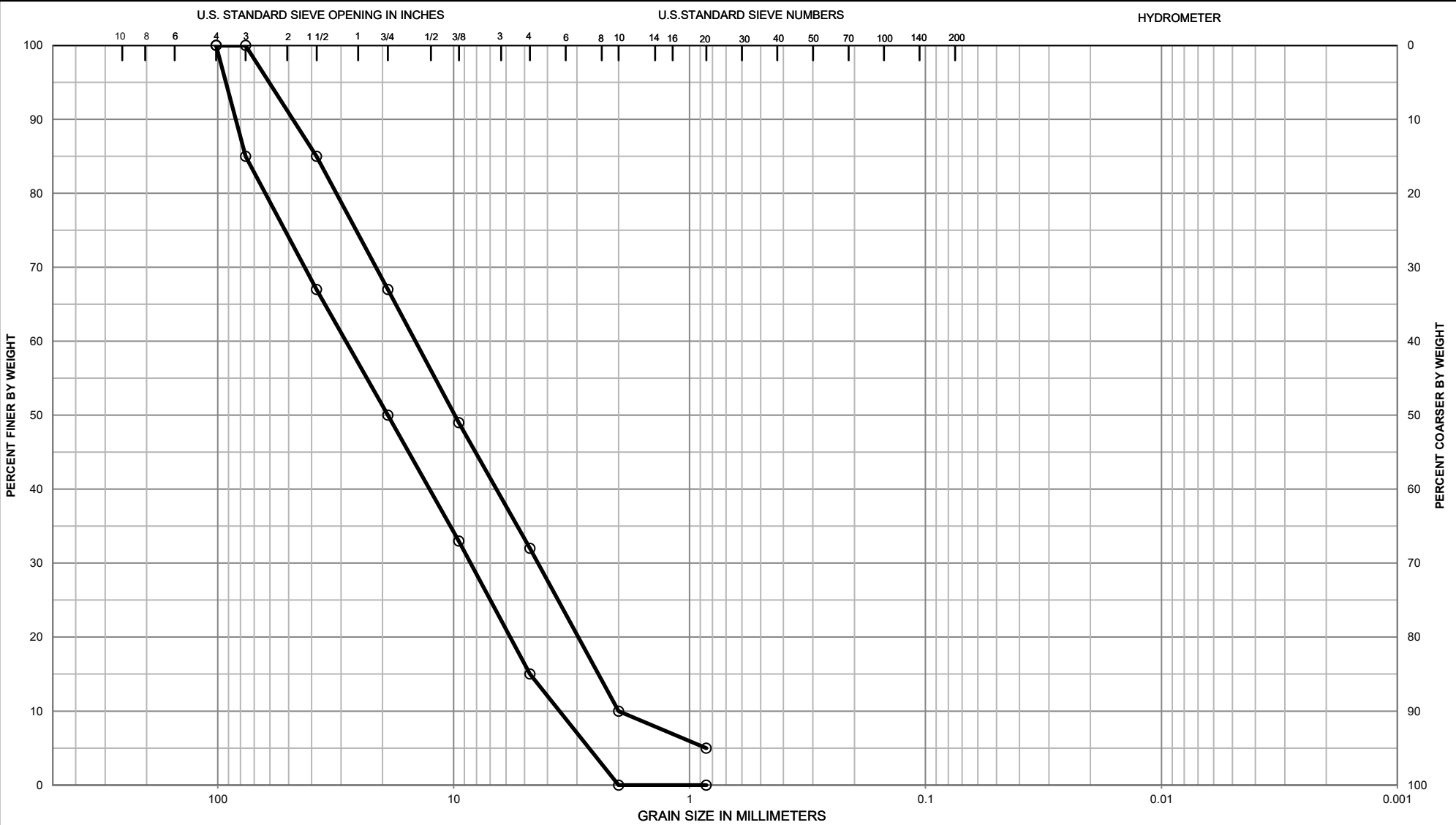
3.8 ATTACHMENTS

1. ENG FORM 2087 3 PAGES
2. ENG FORM 4055 5 PAGES
3. WORKSHEETS FOR GRADATION ANALYSIS OF RIPRAP 4 PAGES
4. MATERIAL SOURCES 1 PAGE

-- End of Section --

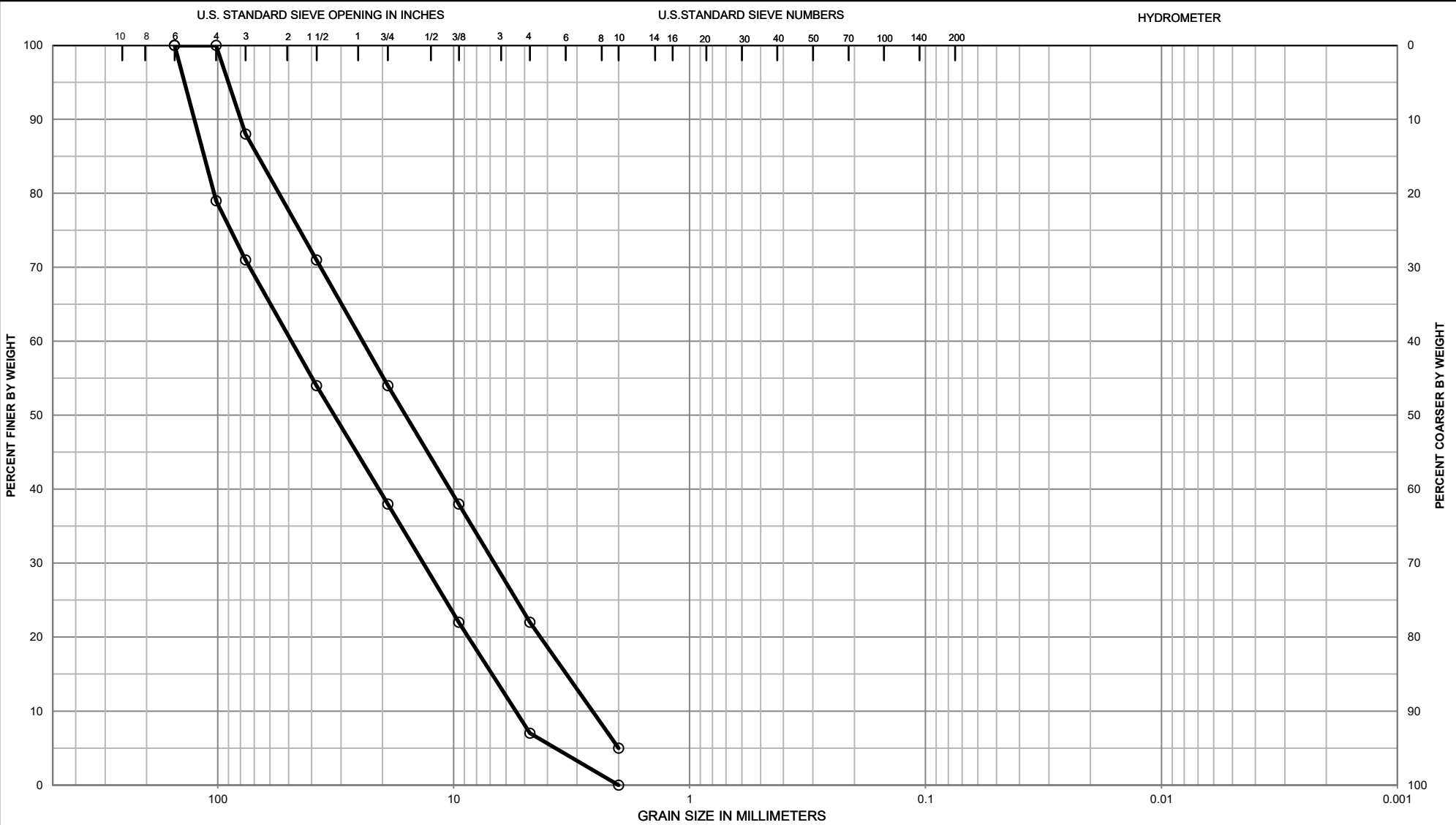
SECTION 35 31 19.00 13
STONE PROTECTION (RIPRAP)
ATTACHMENTS

ENG FORM 2087



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

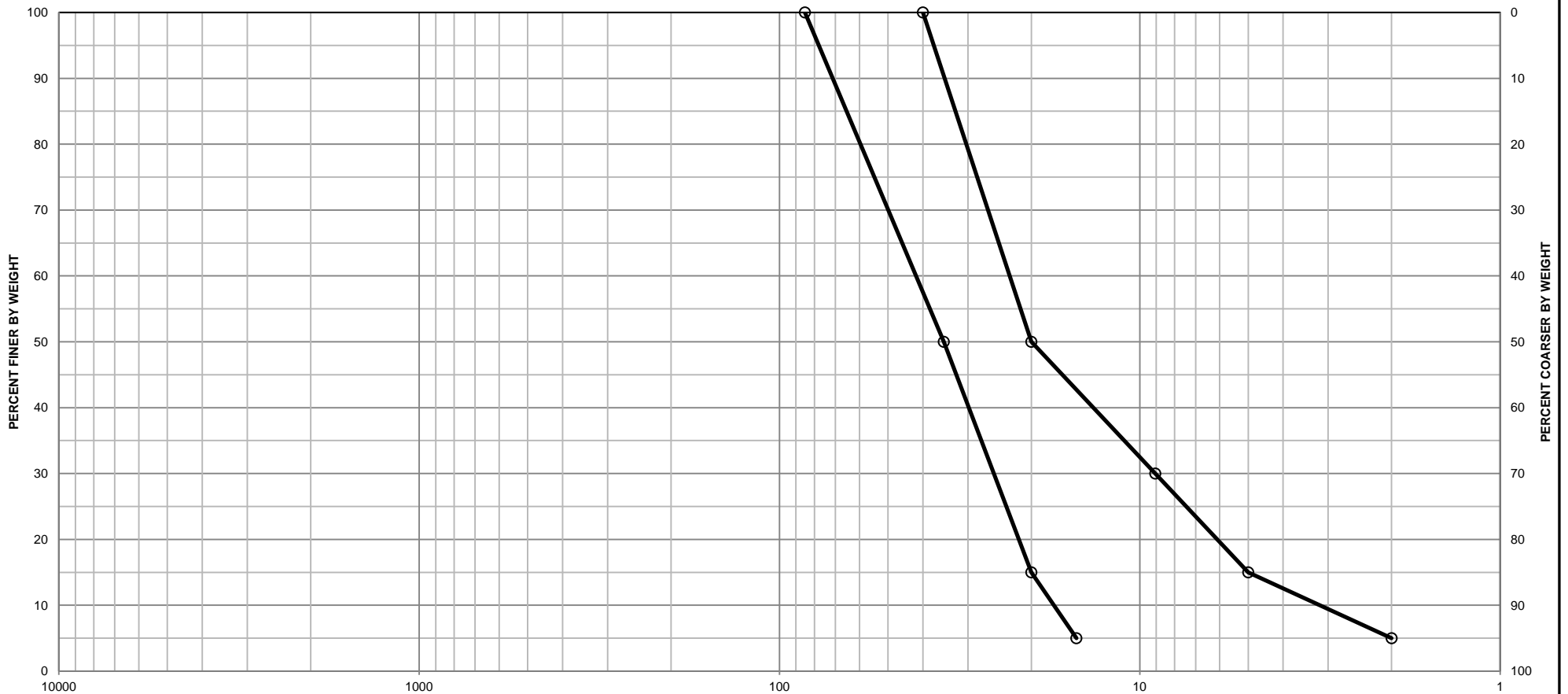
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							AREA
							Standard Bedding Gradation B1
							BORING
GRADATION CURVES							DATE May 2021



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W %	LL	PL	PI	PROJECT
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							AREA
							Standard Bedding Gradation B2
							BORING
GRADATION CURVES							DATE May 2021

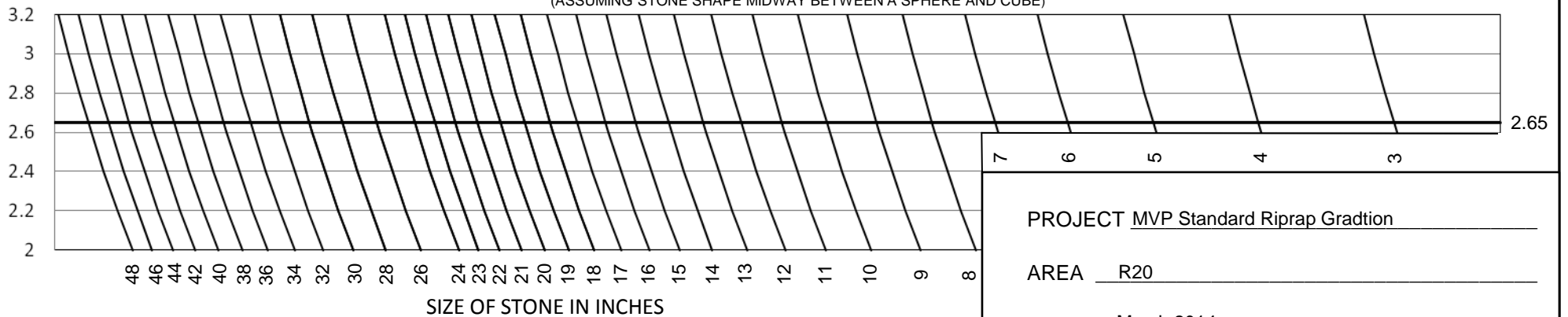
ENG FORM 4055



WEIGHT OF STONES IN POUNDS

(ASSUMING STONE SHAPE MIDWAY BETWEEN A SPHERE AND CUBE)

SPECIFIED GRADATION ASSUMES A SPECIFIC GRAVITY OF STONE EQUAL TO 2.65



SPECIFIC GRAVITY OF STONE =

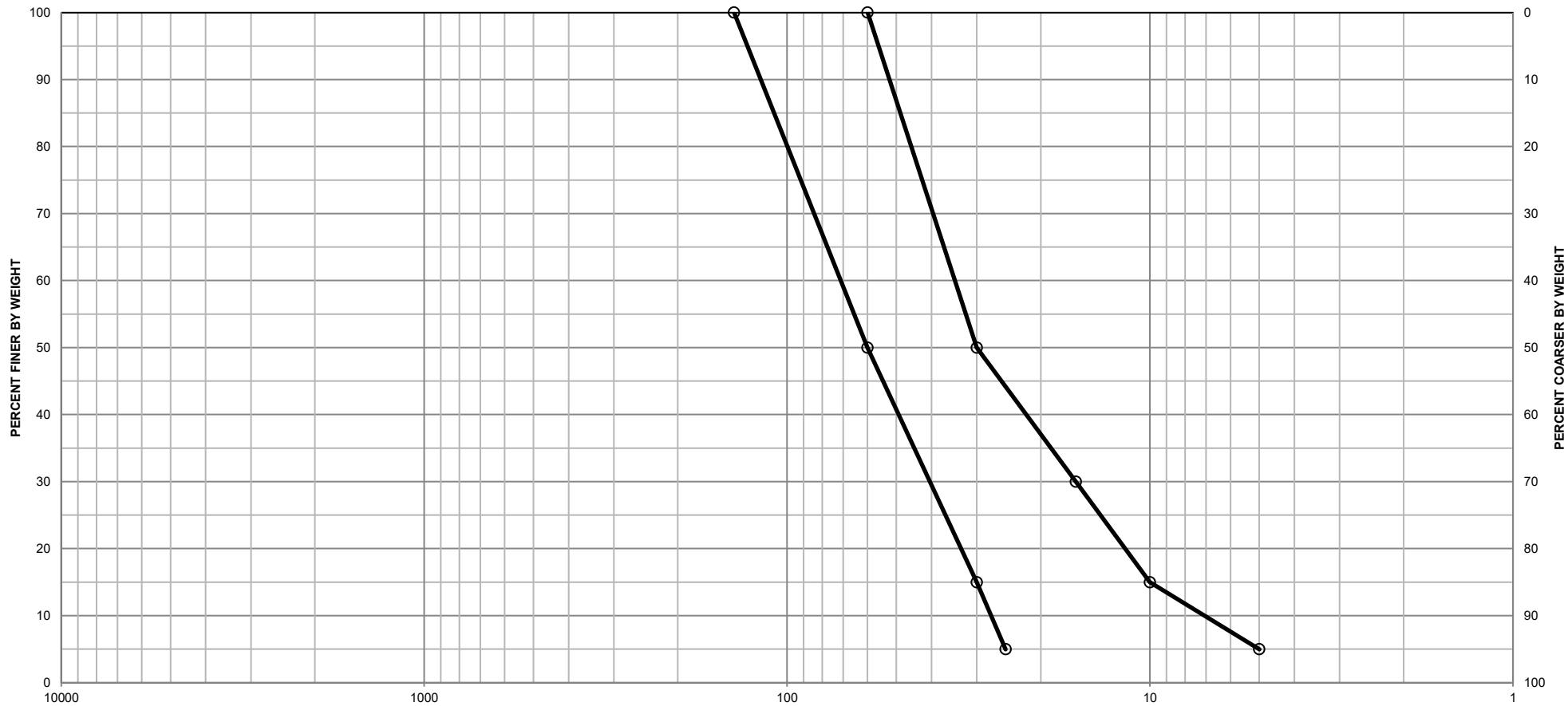
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PROJECT MVP Standard Riprap Gradation

AREA R20

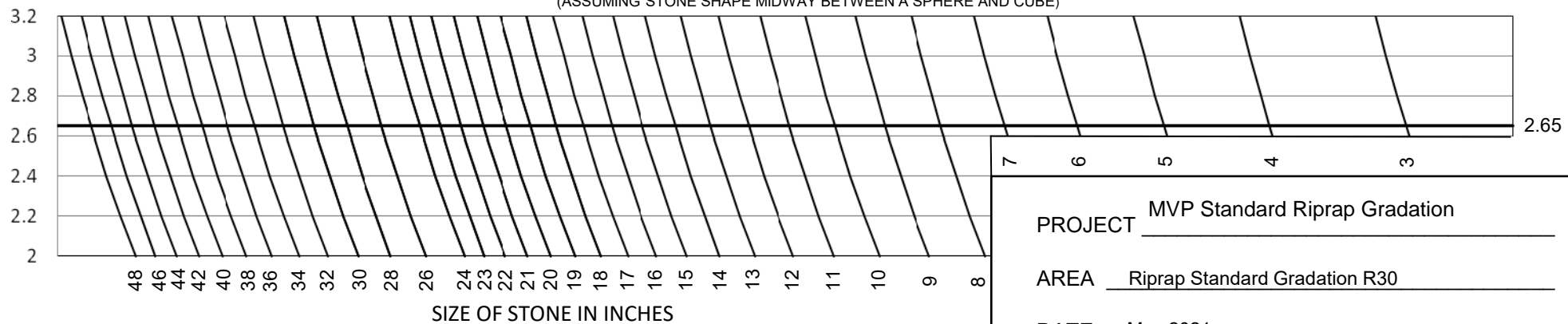
DATE March 2014

RIPRAP/ROCKFILL GRADATION CURVE



WEIGHT OF STONES IN POUNDS
(ASSUMING STONE SHAPE MIDWAY BETWEEN A SPHERE AND CUBE)

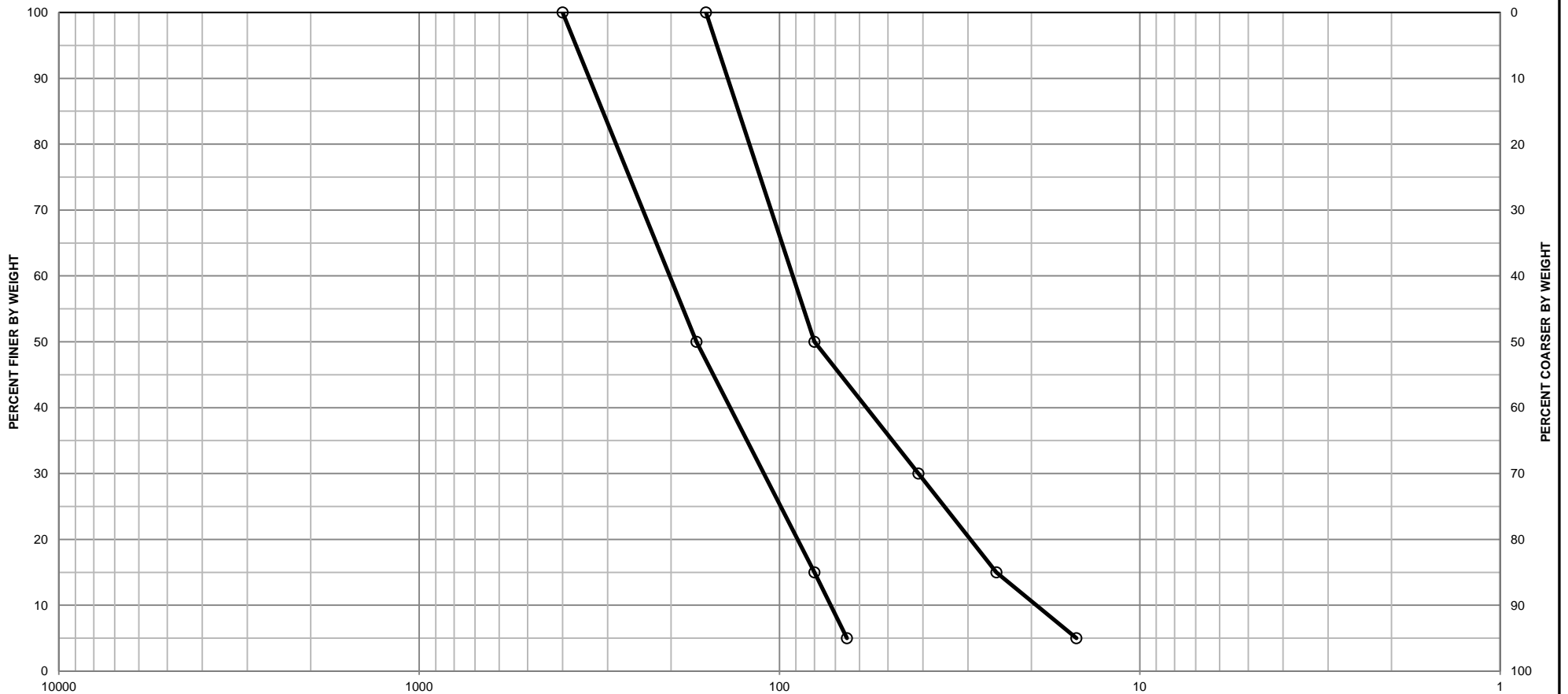
SPECIFIED GRADATION ASSUMES A SPECIFIC
GRAVITY OF STONE EQUAL TO 2.65



SPECIFIC GRAVITY OF STONE = 2.65

PROJECT MVP Standard Riprap Gradation
AREA Riprap Standard Gradation R30
DATE May 2021

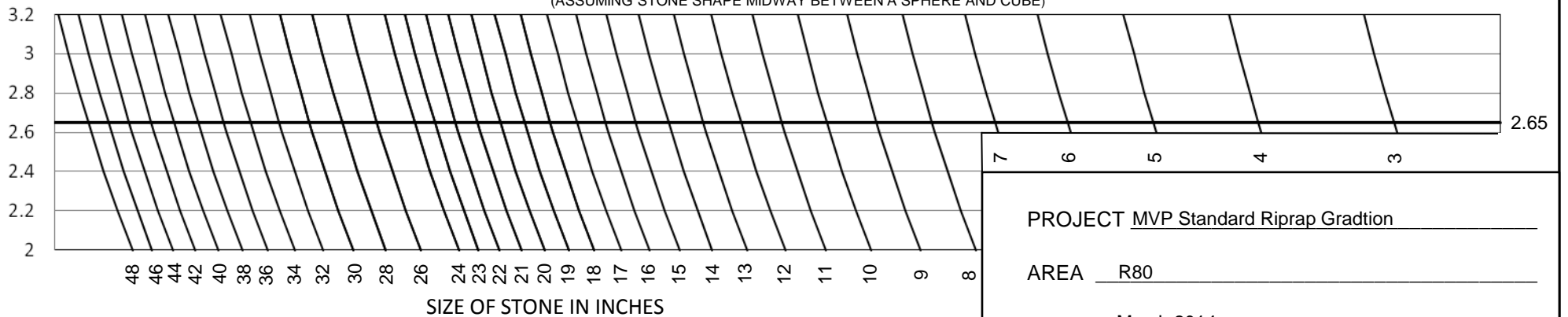
RIPRAP/ROCKFILL GRADATION CURVE



WEIGHT OF STONES IN POUNDS

(ASSUMING STONE SHAPE MIDWAY BETWEEN A SPHERE AND CUBE)

SPECIFIED GRADATION ASSUMES A SPECIFIC GRAVITY OF STONE EQUAL TO 2.65



SPECIFIC GRAVITY OF STONE =

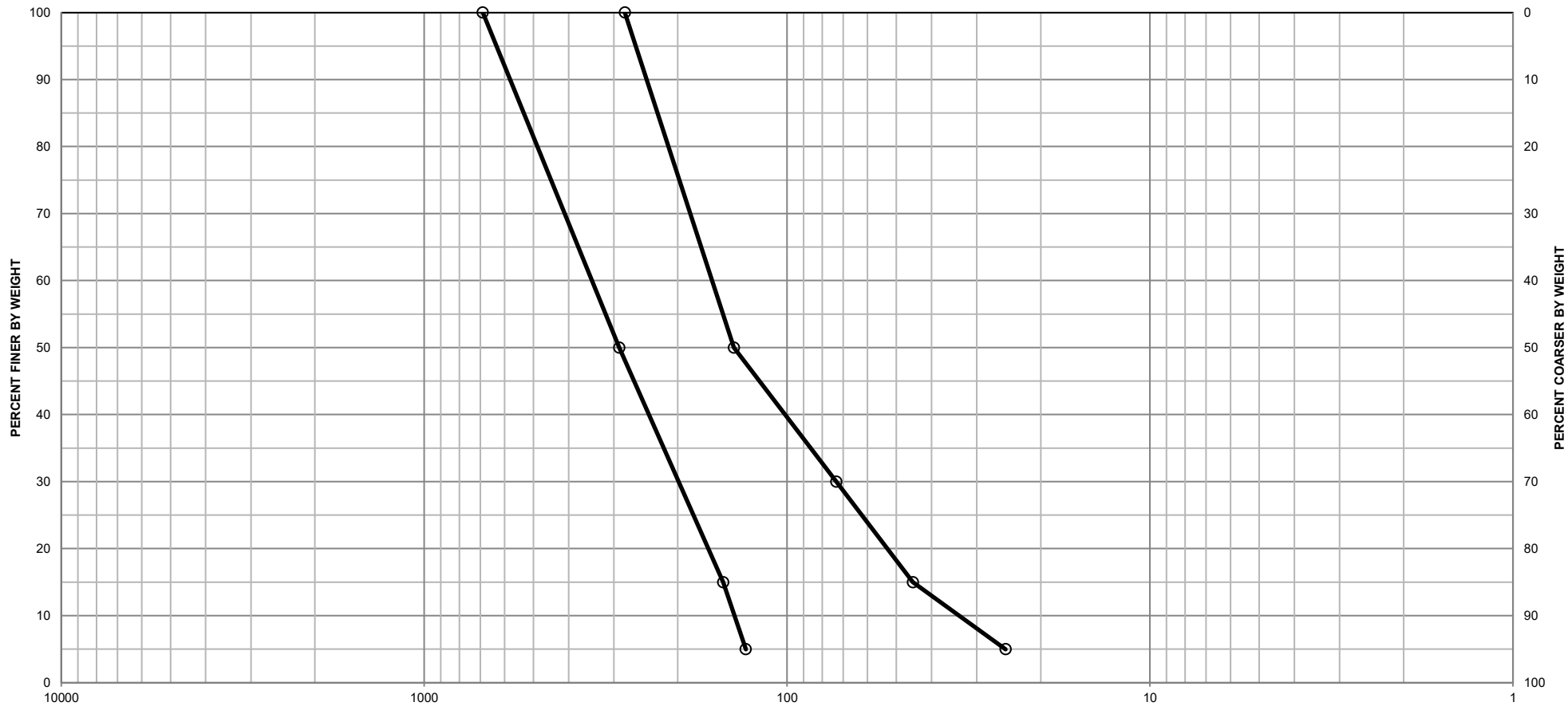
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PROJECT MVP Standard Riprap Gradation

AREA R80

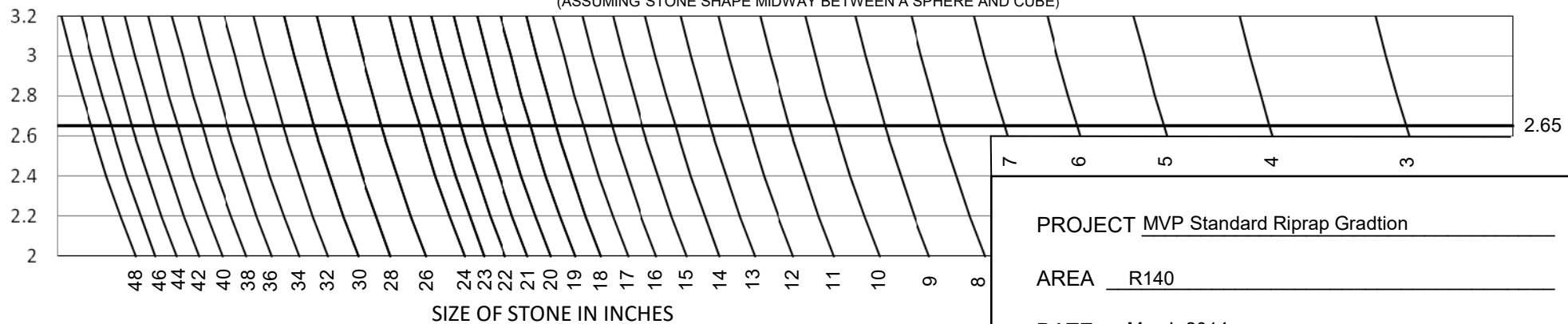
DATE March 2014

RIPRAP/ROCKFILL GRADATION CURVE



WEIGHT OF STONES IN POUNDS
(ASSUMING STONE SHAPE MIDWAY BETWEEN A SPHERE AND CUBE)

SPECIFIED GRADATION ASSUMES A SPECIFIC
GRAVITY OF STONE EQUAL TO 2.65



SPECIFIC GRAVITY OF STONE = 2.65

PROJECT MVP Standard Riprap Gradtion

AREA R140

DATE March 2014

RIPRAP/ROCKFILL GRADATION CURVE

WORKSHEETS FOR
GRADATION ANALYSIS OF
RIPRAP

WORK SHEET FOR GRADATION ANALYSIS OF RIPRAP METHOD A

Project Name:	Date:
Riprap Type:	Test No.
Source, Quarry, or Pit:	
Sample Location:	Test Made By:

Part 1. Weigh all stones larger than 5 pounds and record.

(1) PASSING WT.						5 lbs.	5 lbs.
(2) RETAINED WT.						5 lbs.	PAN
(3) -----							-----
-----							-----
-----							-----
-----							-----
-----							-----
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-----							-----
-----							-----
-----							-----
(4) TOTALS							

Rows (1) & (2) Enter 5 to 7 weight classes to yield approx. 75%, 50%, 30%, and 15% finer points.

Row (3) List weight of each stone. Attach additional sheets if necessary.

Row (4) Add all individual stone weights listed in each column.

Part 2. Summary Table.

(5) WEIGHT CLASSES		(6)	(7)	(8)
PASSING (stone wt. in lbs.)	RETAINED (stone wt. in lbs.)	TOTAL WEIGHT EACH CLASS (lbs.)	CUMMULATIVE WEIGHT PASSING (lbs.)	TOTAL PERCENT PASSING (%)
	5 lbs.			
5 lbs.	PAN			
SAMPLE TOTAL			-----	-----

Column (5) Enter same weight classes used in Rows (1) and (2).

Column (6) Enter weights of material from Row (4)

Column (7) Add column (6) from bottom up to get cumulative weight passing.

Column (8) Divide column (7) by sample total to get total percent passing.

WORK SHEET FOR GRADATION ANALYSIS OF RIPRAP METHOD B

Project Name:	Date:
Riprap Type:	Test No.
Source, Quarry, or Pit:	
Sample Location:	Test Made By:

Part 1. Separate rock into 5 to 7 piles, ordered by size. The largest pile should contain 2 to 5 stones. Intermediate piles between the largest stones and those smaller than 5 pounds should be approximately equal in total weight. Separate all stones before weighing.

Part 2. Summary Table.

(1) WEIGHT CLASSES		(2)	(3)	(4)
PASSING (stone wt. in lbs.)	RETAINED (stone wt. in lbs.)	TOTAL WEIGHT EACH CLASS (lbs.)	CUMMULATIVE WEIGHT PASSING (lbs.)	TOTAL PERCENT PASSING (%)
	5 lbs.			
5 lbs.	PAN			
SAMPLE TOTAL			-----	-----

Column (1) Weight the smallest and largest stone in each pile. If weight classes overlap, adjust stones as necessary and repeat.

Column (2) Weigh the total amount of rock in each pile and record.

Column (3) Add column (2) from bottom up to get cumulative weight passing.

Column (4) Divide column (3) by sample total to get total percent passing.

WORK SHEET FOR GRADATION ANALYSIS OF RIPRAP METHOD A

Project Name: <u>Example</u>	Date: <u>1/1/96</u>
Riprap Type: <u>R20</u>	Test No. <u>1</u>
Source, Quarry, or Pit: <u>COE Office</u>	
Sample Location: <u>In-place, Sta. 0+00</u>	Test Made By: <u>JFK</u>

Part 1. Weigh all stones larger than 5 pounds and record.

(1) PASSING WT.		85	60	40	20	10	5 lbs.
(2) RETAINED WT.	85	61	41	21	11	5 lbs.	PAN
(3)	—	70	45	25	11	5, 10	—
—	—	—	—	25	14	6, 9	—
—	—	—	55	25	20	7, 8	—
—	—	80	45	25	11	5, 10	—
—	—	—	55	30	14	6, 9	—
—	—	—	—	29	20	7, 8	—
—	—	—	—	41	11	5, 10	—
—	—	—	—	—	14	6, 9	—
—	—	—	—	—	20	7, 8	—
—	—	—	—	—	11	5, 10	—
—	—	—	—	—	14	6, 9	—
—	—	—	—	—	20	7, 8	—
—	—	—	—	—	20	7, 8	—
(4) TOTALS		150	200	200	200	180	70

Rows (1) & (2) Enter 5 to 7 weight classes to yield approx. 75%, 50%, 30%, and 15% finer points.

Row (3) List weight of each stone. Attach additional sheets if necessary.

Row (4) Add all individual stone weights listed in each column.

Part 2. Summary Table.

(5) WEIGHT CLASSES		(6)	(7)	(8)
PASSING (stone wt. in lbs.)	RETAINED (stone wt. in lbs.)	TOTAL WEIGHT EACH CLASS (lbs.)	CUMMULATIVE WEIGHT PASSING (lbs.)	TOTAL PERCENT PASSING (%)
	85	0		
85	61	150	1000	100
60	41	200	850	85
40	21	200	650	65
20	11	200	450	45
10	5 lbs.	180	250	25
5 lbs.	PAN	70	70	7
SAMPLE TOTAL		1000	—	100

Column (5) Enter same weight classes used in Rows (1) and (2).

Column (6) Enter weights of material from Row (4)

Column (7) Add column (6) from bottom up to get cumulative weight passing.

Column (8) Divide column (7) by sample total to get total percent passing.

WORK SHEET FOR GRADATION ANALYSIS OF RIPRAP METHOD B

Project Name: <i>Example</i>	Date: <i>1/1/96</i>
Riprap Type: <i>R20</i>	Test No. <i>2</i>
Source, Quarry, or Pit: <i>COE Office</i>	
Sample Location: <i>Stockpile</i>	Test Made By: <i>NTS</i>

Part 1. Separate rock into 5 to 7 piles, ordered by size. The largest pile should contain 2 to 5 stones. Intermediate piles between the largest stones and those smaller than 5 pounds should be approximately equal in total weight. Separate all stones before weighing.

Part 2. Summary Table.

(1) WEIGHT CLASSES		(2) TOTAL WEIGHT EACH CLASS (lbs.)	(3) CUMMULATIVE WEIGHT PASSING (lbs.)	(4) TOTAL PERCENT PASSING (%)
PASSING (stone wt. in lbs.)	RETAINED (stone wt. in lbs.)			
<i>85</i>	<i>53</i>	<i>100</i>	<i>1000</i>	<i>100</i>
<i>51</i>	<i>35</i>	<i>200</i>	<i>900</i>	<i>90</i>
<i>34</i>	<i>27</i>	<i>200</i>	<i>700</i>	<i>70</i>
<i>26</i>	<i>15</i>	<i>200</i>	<i>500</i>	<i>50</i>
<i>14</i>	<i>5 lbs.</i>	<i>250</i>	<i>300</i>	<i>30</i>
<i>5 lbs.</i>	<i>PAN</i>	<i>50</i>	<i>50</i>	<i>5</i>
SAMPLE TOTAL		<i>1000</i>	<i>—</i>	<i>100</i>

Column (1) Weight the smallest and largest stone in each pile. If weight classes overlap, adjust stones as necessary and repeat.
 Column (2) Weigh the total amount of rock in each pile and record.
 Column (3) Add column (2) from bottom up to get cumulative weight passing.
 Column (4) Divide column (3) by sample total to get total percent passing.

MATERIAL SOURCES

MATERIAL SOURCES
FARGO - MOORHEAD FLOOD RISK MANAGEMENT
SOUTHERN EMBANKMENT REACH SE-3
March 2024

The following are acceptable sources for all riprap, bedding, and all other granular material specified for this project.

Producer

Aggregate Industries
800 Holiday Drive
Box 1036
Moorhead, MN 56561
(218) 236-9640

Pit Location

Pit #103
T 141 N, R 45 W
Section 13
Clay County, MN

Aggregate Industries
800 Holiday Drive
Box 1036
Moorhead, MN 56561
(218) 236-9640

Rollag Plant
T 138 N, R 43 W
SE 1/4, Section 31
Becker County, MN

Strata Corporation
Box 13500
Grand Forks, ND 58208
(701) 792-3122

Rock Ridge Plant
T 139 N, R 41 W
SW 1/4, Section 31
Becker County, MN

Strata Corporation
Box 13500
Grand Forks, ND 58208
(701) 792-3122

Trail Pit
T 150 N, R 40 W
Section 25
Polk County, MN

J & S Gravel Inc.
102 W. 5th Street
Crookston, MN
(218) 281 5101

J & S Gravel Inc.
T150N, R45W
Sec. 32, E 1/2, Sec. 33, SW 1/4
Polk County, MN

Alexandria Gravel
Products LLC
817 Latoka View Court
Alexandria, MN 56308
(320) 762-5620

Veblen North Pit
T 129 N, R 54 W
S 1/2, NW 1/4, Sec 35
Marshall County, SD

Alexandria Gravel
Products LLC
817 Latoka View Court
Alexandria, MN 56308
(320) 762-5620

Verblen South Pit
T 127 N, R 53 W
SE 1/4, Sec 12
Marshall County, SD

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DIVISION 35 - WATERWAY AND MARINE CONSTRUCTION

SECTION 35 31 19.20

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-- End of Section Table of Contents --

SECTION 35 31 19.20

ARTICULATED CONCRETE BLOCKS (ACB)

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, equipment, and materials; and performing all operations in connection with the installation of Articulated Concrete Blocks (ACB) in accordance with the lines, grades, design, and dimensions shown on the contract drawings and as specified herein. Installation includes foundation preparation; excavating weir slopes for termination trenches; backfilling top and bottom trenches with mortar; filling block mat connections with mortar; and filling all block voids with aggregate.

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 288	(2022) Standard Specification for Geosynthetic Specification for Highway Applications
AASHTO M 43-05	(2013) Standard Specification for Sizes of Aggregate for Road and Bridge Construction

ASTM INTERNATIONAL (ASTM)

ASTM C42/C42M	(2020) Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C140/C140M	(2022a) Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
ASTM C1262/C1262M	(2018) Standard Test Method for Evaluating the Freeze-Thaw Durability of Dry-Cast Segmental Retaining Wall Units and Related Concrete Units
ASTM D6684	Standard Specification for Materials and Manufacture of Articulating Concrete Block (ACB) Revetment Systems
ASTM D6884	Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems

ASTM D7277

Standard Test Method for Articulating
Concrete Block (ACB) Revetment Systems for
Hydraulic Stability in Open Channel Flow

U.S. DEPARTMENT OF AGRICULTURE (USDA)

NRCS-NEH 628-54

(2019) NEH Part 628 - Dams, Chapter 54 -
Articulated Concrete Block Armored
Spillways

1.3 DEFINITIONS

1.3.1 Articulated Concrete Block (ACB) System

A matrix of interconnected concrete block units for erosion protection. Units are connected by geometric interlock and cables, and typically include an underdrain system for soil retention and drainage.

1.3.2 Blocks

Articulated concrete block units will be referred to as ACBs or blocks.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

ACB Design and Installation Plan; G, HYD, GEO

The Contractor shall submit a detailed, Articulated Concrete Block Installation Plan, for ACB Installation as required in accordance with paragraph "BLOCK INSTALLATION". The work plan shall include all equipment and methods for preparing the embankment for filter fabric, drainage layer and installation of blocks. The plan shall also include, but not limited to the following:

- a. Detailed cross section showing subgrade, drainage layer, geotextile layers, and block layer elevations.
- b. Detailed narrative and illustrations of Blocks, Pins, and Cable installation. Equipment and methods used for installing blocks and cables.
- c. A detailed layout plan of the BLOCK pre-assembled mattresses, including mortar fill at mattress seams.
- d. Method for placing filter fabric and turf reinforcement mat (TRM), including trench terminations and general overlap widths.

SD-02 Shop Drawings

Block Installation; G

Shop drawings shall be submitted at least 30 days prior to the

start of any installation of the ACBs. The shop drawings shall include planned layout and layout sequence, mat junction details, and details for termination trenches.

SD-03 Product Data

Articulated Concrete Block; G

SD-04 Samples

Articulated Concrete Block

SD-05 Design Data

Contractor Calculations

Submit calculations in accordance with requirements of ASTM 7276

SD-06 Test Reports

Flume Test

The Contractor shall provide to the Government test results documenting that the ACB system has been tested under controlled flow conditions for hydraulic performance characteristics in accordance with ASTM D7277, utilizing a 2:1 slope in the direction of flow.

1.5 DELIVERY, STORAGE, AND HANDLING

Check products upon delivery to assure that the proper material has been received and is undamaged. D

Deliver, inspect, store, and handle geotextiles in accordance with Section 31 05 19 GEOTEXTILES. Deliver, inspect, store, and handle geogrid soil stabilization in accordance with Section 31 32 19.13 GEOGRID SOIL STABILIZATION.

1.5.1 Blocks

Provide blocks which are sound and free of defects that would interfere with proper placement or that would impair the strength or longevity of the installation. Discard blocks with the following defects:

- a. Broken appendages.
- b. Chips larger than 2 inches in any dimension.
- c. Cracks wider than 0.02 inches and longer than 33 percent of the nominal height.

Minor cracks, incidental to the usual method of manufacture, or chipping that results from customary methods of handling in shipping, delivery and placement will not be deemed grounds for rejection. Store blocks in a suitable location away from mud, paint, wet cement, and other contamination or disturbance.

1.6 QUALITY CONTROL

The Contractor shall establish and maintain quality control for the ACBs and installation of ACBs to assure compliance with contract requirements.

The ACB blocks shall be sampled and tested for compressive strength, water absorption and unit weight. The sample frequency shall be 3 specimens for each 3000 SY. Test methods shall be consistent with those specified in paragraph "ARTICULATED CONCRETE BLOCK". The Contractor shall inspect for compliance with contract requirements and maintain records of quality control for all installation operations including, but not limited to the following:

1. Equipment: Type, size, and suitability of equipment for the installation of the prescribed work.
2. All submittals as required in accordance with paragraph "SUBMITTALS".
3. Periodic quality control checks conducted by the Contracting Officer throughout the installation process. Periodic quality control checks shall include the inspection of:

- a. Preparation and placement of surface to receive ACB's.
- b. Individual concrete blocks soundness and free of defects or damage as described in paragraph "Blocks".
- c. Cables and fittings - breaking strength.
- d. ACB layout, cabling, minimum pin spacing in accordance with the "ACB Installation Plan".
- e. Pin installation.

1.7 SCHEDULING

To limit ultraviolet light exposure of the geotextile, place the blocks within 7 days after placing the geotextile, and the void filler within 14 days after placing the geotextile.

PART 2 PRODUCTS

2.1 ARTICULATED CONCRETE BLOCK

Provide a combination of blocks that meet the design requirements listed below and ASTM D6684. The grades and extents shown on the plans shall be met regardless of block size or thickness. Final subgrade preparation shall account for geotextile, drainage layer, and block thickness.

Submit descriptive technical data on the blocks, cables, cable fittings, geotextile, and geogrid. Certified analysis and interpretation of the test data shall conform to the guidance contained in the current version of ASTM D 7276. Include all material properties specified under paragraph PRODUCTS. Submit catalog cuts, technical data sheets, or test data showing that the products meet the specifications. Also include a copy of any standard manufacturer's warranties for the products. Meet the following criteria:

TABLE 1. ACB Requirements			
Criteria	ACB on West Face of Weir (Tapered)	ACB on Top and East Face of Weir (Non-Tapered)	Test Method
Matrix Assembly: Cabled System			
Thickness, minimum	4 inches	4 inches	N/A
Critical Shear Stress, minimum	4.7 psf	2.3 psf	Note a. ASTM D7277
Critical Velocity, minimum	13.9 ft/sec	9.9 ft/sec	Note a. ASTM D7277
System Threshold Stability (Es), minimum	5.4 ft	N/A	Note b.
Curvature Radius, maximum	3 feet	3 feet	Note c.
Surface Void Area Ratio	20 - 40 percent	10 - 20 percent	Note d.
Drainage Correction Factor (DCF)	20 - 35 percent	20 - 35 percent	Note e.
a. Critical Shear Stress and Critical Velocity shall have a factor of safety of 2.			
b. The system threshold stability must be calculated in accordance with the procedure defined in the Natural Resources Conservation Service (NRCS) National Engineering Handbook (NEH), Part 628, Chapter 54, ACB Armored Spillways (NRCS-NEH 628-54).			
c. The curvature radius must be indicative of the ability of the assembled mattress to conform to one dimensional subgrade curves without binding, such as for swales. The curvature radius must be demonstrated, if requested by the Contracting Officer.			
d. The surface void area ratio must be determined at the visible (with filled voids) surface of the blocks, with the joints spaced in a neutral position (50 percent), and express as a percentage of the gross mat area. The void area must include area between the blocks and open cells within the block.			
e. The drainage correction factor must the minimum void area ratio (usually taken at the base of the blocks), with the joints spaced in a neutral position (50 percent freeplay in each direction), and must be expressed as a percentage of the gross mat area.			

2.1.1 Hydraulic Stability

2.1.1.1 Flume Test

Submit a report of testing for the ACB in substantial conformance with ASTM 7276 and ASTM D7277, at the same time as the ACB submittal. Clearly state if the critical shear stress associated with the stability threshold of the ACB system was derived from laboratory testing that included a sub-block drainage layer as a component of the tested system. Provide ACB

product that has been tested in a flume chamber in substantial conformance with ASTM 7276 and ASTM D7277. If the product was tested with a drainage layer, the installed product must incorporate a similar drainage layer with adequate filtration design for the site soils. Base the flume test on conservative assumptions for field placement of the blocks (such as block orientation, and joint spacing within construction tolerances). Indicate the critical shear stress (and critical velocity) in the test report.

2.1.1.2 Extrapolation of Hydraulic Stability

Extrapolation of critical shear stress for untested blocks within a similar family of ACB are subject to limitations. Use extrapolation only for blocks having a similar footprint area and interlock mechanism, but with variable thickness or net weight/area. Accept extrapolation only if the following conditions are met:

- a. The extrapolation is in strict accordance with hydraulic similitude methods commonly accepted by the industry, and includes quantitative treatment for a block overturning failure mode.
- b. The tested block is the smaller product size in both thickness and net weight/area, and extrapolation does not extend the critical velocity more than 10 feet per second from the tested product size.

2.1.2 Matrix Assembly - Cabled Systems

Interconnect cable tied concrete block by flexible cables running through the blocks. Penetrate each block by a cable that allows articulation of the blocks, but restrains removal of individual blocks. Place void filler to inhibit lateral movement, cover the geotextile, and increase hydraulic stability. Fabricate articulated concrete block, cables, and fittings into mattresses at the manufacturer's plant. The mattress configuration shall contain a combination of open cell and closed cell blocks, as shown in the plan.

The Contracting Officer reserves the right to accept or reject any proposed equal cellular concrete mattress system for reasons including but not limited to previous performance record, appropriate and applicable testing, hydraulic performance characteristics, and qualified technical support.

2.1.3 Structural requirements

Provide wet cast articulated concrete block using concrete as specified herein, or dry-cast by a vibratory block forming machine. Manufacture the blocks to the requirements listed below.

2.1.3.1 Compressive Strength

Provide a minimum compressive strength of 4000 psi for an average of 3 units, and 3500 psi for an individual unit. Determine compressive strength by ASTM C42/C42M for wet cast blocks, or by ASTM C140/C140M for dry cast blocks.

2.1.3.2 Water Absorption for Dry Cast Units

Provide a maximum water absorption for dry cast units of 9 pcf for an average of 3 units, and 12 pcf for an individual unit. Determine water

absorption by ASTM C140/C140M.

2.1.3.3 Saturated Surface-Dry Density

Provide a minimum saturated surface-dry density of 140 for average of 3 units, and 140 for an individual unit.

2.1.3.4 Air Entraining

Air entrain wet cast concrete to contain between 4 and 7 percent total air.

2.1.3.5 Freeze-Thaw Durability

For freeze-thaw durability tested in accordance with ASTM C1262/C1262M, specimens must comply with either of the following: (1) the weight loss of each of 5 specimens after 100 cycles must not exceed 1 percent; or (2) the weight loss of each of 5 specimens after 150 cycles must not exceed 1.5 percent.

2.2 GEOTEXTILE

Geotextile fabric shall meet the requirements defined in Section 31 05 19 GEOTEXTILE.

2.3 GEOGRID SOIL STABILIZATION

Geogrid soil stabilization material shall meet the requirements defined in Section 31 32 19.13 GEOGRID SOIL STABILIZATION.

2.4 CABLE

2.4.1 Installation Requirements for Cable

Cable used for preassembled mattresses shall be sufficiently sized and fastened for the size/weight of the assembled mattresses such that the assembled mattresses can be placed in compliance with OSHA standards. The manufacturer shall be responsible for determining the minimum cable strength compatible with the mattress size for safe handling. Cable strength shall be based on a minimum factor of safety of 5, and include appropriate reduction factors for mechanically crimped cable, and other fasteners. If applicable, loading conditions shall include the use of a spreader bar for placing the mattresses.

2.4.2 Design Requirements for Cable

ACB's that rely on cables to maintain block to block interconnection shall use ropes manufactured from polyester, stainless steel wire, or galvanized steel wire. The cable shall have a minimum breaking strength as recommended by the manufacturer. Polyester rope shall be constructed of high tenacity, low elongating, continuous filament polyester fibers; and shall consist of a core construction comprised of parallel fibers contained within an outer jacket or cover. Revetment Cable shall exhibit good to excellent resistance to most concentrated acids, alkalis and solvents. Cable shall be impervious to rot, mildew and degradation associated with marine organisms. The materials used in the construction of the cable shall not be affected by continuous immersion in fresh or salt water.

2.5 VOID FILLER

2.5.1 Grout

Concrete grout shall be Class 4000M or defined as maximum net water content of 6 gallons per bag and minimum cement content of 6 bags per cubic yard, except the water/cement ratio shall be less than or equal to 0.45. Maximum aggregate size shall be $\frac{1}{2}$ inch. Grout shall be air-entrained and have an air content of four (4) to seven (7) percent by volume of the concrete. Cement shall be Type IA, Type I or Type II. The slump of the concrete shall be three (3) to five (5) inches, and the maximum slump shall be 7.5 if water reducing agents are added.

ACB mat seams or openings between mats or blocks greater than two (2) inches shall be filled with grout. A grout seam shall also be required wherever there is a distinct change in grade which produces a discontinuous revetment surface in the direction of flow. The grout seam shall be placed to produce a smooth, continuous surface. Any voids resulting from removal of individual damaged or defective ACB shall be filled with concrete grout. Grout shall be placed to produce a smooth, continuous surface.

2.5.2 Aggregate

Provide aggregate for filling the voids in the block meeting the requirements of AASHTO M 43-05.

PART 3 EXECUTION

3.1 GENERAL

The ACB shall be installed in accordance with the requirements of these specifications and ASTM D6884.

3.2 SUBGRADE PREPARATION

Place the ACB revetment on undisturbed native soils, or acceptably placed and compacted fill. Do not place the ACB on surfaces that contain mud, frost, organic soils, embankment that has not met compaction requirements, or where the Contracting Officer determines that unsatisfactory material remains in or under the subgrade.

Excavate the subgrade to an elevation that accommodates the proposed geotextile, drainage layer, geogrid, and blocks and meets the lines and grades shown in the plans.

3.2.1 Clearing

Completely remove all vegetation. Remove remaining roots from trees and brush to a depth of 1 foot below the subgrade surface. Rake and remove loose roots and twigs, turf clods, stones larger than $\frac{1}{2}$ inch diameter, and other debris from the final surface. Correct rills and gullies from erosion.

3.2.2 Bank Grading

Finish grading to a smooth surface, typical of that obtainable with a dozer and blade. A rough surface typically obtained with a backhoe or dragline will not be acceptable. Any voids or deficiencies created while

excavating the weir shall be backfilled with impervious fill in accordance with Section 31 00 00.00 13 EARTHWORK before placement of any part of the ACB system.

3.2.3 Compaction and Subgrade Finishing

Compact any impervious fill soils to the specified density in Section 31 00 00.00 13 EARTHWORK.

3.2.4 Grade Tolerances

Provide grading tolerance within 2 inches from the prescribed elevations, with no abrupt variations that would cause unacceptable projections of individual blocks.

3.2.5 Subgrade Surface Tolerances

Maintain the subgrade in a smooth condition between installation of the geotextile and the blocks. Rake windrows, stones, clods of cohesive soil, and irregularities smooth. Correct ruts, rills and gullies resulting from traffic, precipitation runoff, groundwater seepage, prior to installation of blocks.

3.3 GEOTEXTILE INSTALLATION

Geotextile installation shall be completed in accordance with Section 31 05 19 GEOTEXTILE and the manufacturer's recommendations.

3.4 GEOGRID SOIL STABILIZATION

Geogrid soil stabilization installation shall be completed in accordance with Section 31 32 19.13 GEOGRID SOIL STABILIZATION and the manufacturer's recommendations.

3.5 BLOCK INSTALLATION

Place all blocks in accordance with the manufacturer's recommendations and the Contractor's approved shop drawings. Submit drawings showing details of the ACB and Geotextile Installation, including the block layout patterns in relation to the feature alignment, anticipated locations of cast-in-place concrete joints, mattress junction details, and proposed installation methods for void filling materials.

3.5.1 Placement of Pre-Assembled Mattresses

Place pre-assembled mattresses with mattresses attached to a spreader bar to aid in lifting, aligning and placing the mattresses. Place mattresses directly into position, with a maximum space or gap between mattresses of 3 inches in excess of the nominal joint spacing of blocks within the mattress. Lift and reset mattresses that are out of alignment. Do not push or pull mattresses laterally after they are in contact with the geotextile. Do not accept overlapping of mats and blocks that project vertically more than 1 inch beyond the adjacent blocks are not permitted. As adjacent mats are placed, secure them to each other by fastening the protruding horizontal and vertical cable connections and end cable loops together along each side of the mats.

3.5.2 Tolerances

Maximum acceptable block projections (vertical offset from adjacent blocks) for "installation in the dry" must not exceed 1.0 inch for cabled systems. Typical block projections must be less than half the maximum projections.

3.6 CONCRETE JOINTS

3.6.1 General Requirements

Minimize use of cast in place concrete joints to the extent practicable. Inform the Contracting Officer of all concrete joints not shown on shop drawings prior to field placement. Joints that require concrete include:

- a. Joints between cable tied mattresses where the joint is 3 inches wider than the nominal joint.
- b. Abutments where the ACB meets headwalls, pipe penetrations, or sidewalks.
- c. Any areas where there are partial blocks (to avoid small blocks with reduced hydraulic stability).

Field placed concrete must be proportioned for similar strength and durability properties as the ACB concrete. Complete all cable ties prior to placing concrete.

3.6.2 Abutments

The ACB must abut pipe outlets, retaining walls, flood walls, head walls, sidewalks, and other abutments in a neat appearance. Unless a specific detail is indicated on the drawings, fill voids with partial blocks and fill the gap with cast-in-place concrete. Install the concrete flush with the surface of the blocks, and float finish.

3.7 VOID FILLER AND SEEDING

Fill voids of the articulated concrete block mats larger than two (2) inches with aggregate as specified in Paragraphs GROUT and AGGREGATE. Complete all cable ties prior to filling voids. Complete seeding and maintenance in accordance with Section 32 92 19.01 13 SEEDING.

3.8 PROTECTION OF WORK

Protect work against damage from subsequent operations. Remove and replace displaced or broken blocks to conform to all requirements of this section. Do not incorporate damaged material. Do not allow equipment on the ACB that could crack, cause abrasion, or otherwise damage the blocks. Do not operate vehicles directly on geotextile, except that rubber tired vehicles may operate directly on short reaches of geotextile that meets or exceeds AASHTO M 288 survivability requirements for Class 1 geotextile, if there is no rutting, if the vehicle access is necessary to accomplish the work, and if the Contracting Officer observes the operation and approves. Do not operate vehicles on the ACB until placement of void filler. Restrict vehicle traffic on the ACB to light weight rubber tired vehicles, and where intermittent access is necessary to accomplish the work. Do not establish routine haul routes on the ACB. These allowances do not waive the Contractor's obligation to maintain the installation until acceptance,

and verify that vehicle access does not crack, or in any way damage, the ACB.

3.9 QUALITY CONTROL TESTING

3.9.1 Articulated Concrete Blocks

Perform the following testing independent of the manufacturing process, by an agency other than the manufacturer. Sample and test the ACB blocks for compressive strength, water absorption and unit weight. The sample frequency must be 3 specimens for each 3000 SY. Test methods are consistent with those specified in PART 2 PRODUCTS.

-- End of Section --