

US Army Corps of Engineers®

CHICAGO DISTRICT
LEADERS IN CUSTOMER CARE

PHASE 2 STORMWATER IMPROVEMENTS RICHTON PARK, IL

CONSTRUCTION SOLICITATION AND SPECIFICATIONS

**Certified Final Documents –
Ready to Advertise
W912P623B0002
November 30th, 2022**

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SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NO. W912P623B0002	2. TYPE OF SOLICITATION <input checked="checked" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 02-Dec-2022	PAGE OF PAGES 1 OF 68
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 CODE W912P6 U.S. ARMY ENGINEER DISTRICT, CHICAGO 231 SOUTH LASALLE STREET SUITE 1500 CHICAGO IL 60604-1437 TEL: 312.846.5371 FAX:		8. ADDRESS OFFER TO <i>(If Other Than Item 7)</i> CODE <div style="text-align: center; font-weight: bold; padding: 10px;">See Item 7</div> TEL: FAX:		
9. FOR INFORMATION CALL:	A. NAME CASIMIR BRZOZOWIEC		B. TELEPHONE NO. <i>(Include area code) (NO COLLECT CALLS)</i> 502.315.6172	
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 <i>(Title, identifying no., date):</i> 1) Project Title: Richton Park, IL, Stormwater Improvements 2) Project Description: The contractor will provide service to provide repairs to culverts that need attention due to settling; work to address water mains that frequently break may also be required as per the Statement of Work. 3) COMPETITION FOR THIS ACQUISITION IS RESERVED EXCLUSIVELY for 100% Small Business Concerns. 4) Applicable North American Industry Classification System Code: 237110 with a small business size standard of \$39.5M. Please note that business size in SAM (System for Award Management) is determined by the NAICS code. If the vendor size is not listed correctly for a particular NAICS code in SAM the business will be considered other than a small business. Construction Wage Rates: Davis Bacon General Decision Number: IL20220020. 5) The Estimated Magnitude of Construction cost is between \$1,000,000.00 and \$5,000,000.				
11. The Contractor shall begin performance within <u>10</u> calendar days and complete it within <u>365</u> calendar days after receiving <input type="checkbox"/> award, <input checked="checked" type="checkbox"/> notice to proceed. This performance period is <input checked="checked" type="checkbox"/> mandatory, <input type="checkbox"/> negotiable. <i>(See _____.)</i>				
12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i> <input checked="checked" type="checkbox"/> YES <input type="checkbox"/> NO			12B. CALENDAR DAYS	
13. ADDITIONAL SOLICITATION REQUIREMENTS: A. Sealed offers in original and <u>1</u> copies to perform the work required are due at the place specified in Item 8 by <u>04:00 PM</u> <i>(hour)</i> local time <u>04 Jan 2023</u> <i>(date)</i> . 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="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 <u>90</u> 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:			31C. AWARD DATE		
31B. UNITED STATES OF AMERICA BY										

Section 00 10 00 - Solicitation

BID SCHEDULE

Title Bid Schedule
 Project Name: Lakewood Manor Utility Improvements (R0130690)
 Date : 10/24/2022 (ver 20221129v1)

BASE BID (AMY CULVERT)

Bid Item #				Description	Qty	U/M	Unit Price	Extended Price
00	01	A	A	LANDSCAPE AND TURF RESTORATION - BASE BID	1	JOB		
00	01	A	B	PAVEMENT RESTORATION - BASE BID	1	JOB		
00	01	A	C	BOX CULVERT END SECTIONS, CULVERT NO. 1	2	EACH		
00	01	A	D	PRECAST CONCRETE BOX CULVERTS 6' X 3'	62	FOOT		
00	01	A	E	STORM SEWERS, 18"	10	FOOT		
00	01	A	F	STRUCTURE TO BE ADJUSTED	1	EACH		

Subtotal, Base Bid: _____

OPTION 1 (LAKESHORE CULVERT)

Bid Item #				Description	Qty	U/M	Unit Price	Extended Price
00	02	A	A	LANDSCAPE AND TURF RESTORATION - OPTION 1	1	JOB		
00	02	A	B	PAVEMENT RESTORATION - OPTION 1	1	JOB		
00	02	A	C	BOX CULVERT END SECTIONS, CULVERT NO. 2	2	EACH		
00	02	A	D	PRECAST CONCRETE BOX CULVERTS 8' X 5'	130	FOOT		
00	02	A	E	STORM SEWERS, 15"	16	FOOT		
00	02	A	F	STRUCTURE TO BE ADJUSTED	2	EACH		

Subtotal, Option #1: _____

OPTION 2 (IMPERIAL CULVERT)

Bid Item #				Description	Qty	U/M	Unit Price	Extended Price
00	03	A	A	LANDSCAPE AND TURF RESTORATION - OPTION 2	1	JOB		
00	03	A	B	PAVEMENT RESTORATION - OPTION 2	1	JOB		
00	03	A	C	BOX CULVERT END SECTIONS, CULVERT NO. 3	2	EACH		
00	03	A	D	PRECAST CONCRETE BOX CULVERTS 6' X 3'	67	FOOT		
00	03	A	E	STORM SEWERS, 12"	10	FOOT		
00	03	A	F	STRUCTURE TO BE ADJUSTED	1	EACH		

Subtotal, Option #2: _____

OPTION 3 (WATERMAIN STA 0+00 TO 4+20)

Bid Item #				Description	Qty	U/M	Unit Price	Extended Price
00	04	A	A	LANDSCAPE AND TURF RESTORATION - OPTION 3	1	JOB		
00	04	A	B	PAVEMENT RESTORATION - OPTION 3	1	JOB		
00	04	A	C	ABANDON EXISTING WATER MAIN - OPTION 3	1	JOB		
00	04	A	D	6-INCH C900 PVC WATER MAIN (OPEN-CUT)	21	FOOT		
00	04	A	E	8-INCH C900 PVC WATER MAIN (OPEN-CUT)	399	FOOT		
00	04	A	F	10-INCH C900 PVC WATER MAIN (OPEN-CUT)	28	FOOT		
00	04	A	G	12-INCH C900 PVC WATER MAIN (OPEN-CUT)	105	FOOT		
00	04	A	H	FIRE HYDRANT ASSEMBLY	2	EACH		
00	04	A	I	WATER SERVICE RE-CONNECTION, LONG	5	EACH		
00	04	A	J	WATER SERVICE RE-CONNECTION, SHORT	1	EACH		
00	04	A	K	CONNECT TO EXISTING WATER MAIN, 6-INCH	2	EACH		
00	04	A	L	CONNECT TO EXISTING WATER MAIN, 8-INCH	1	EACH		
00	04	A	M	CONNECT TO EXISTING WATER MAIN, 10-INCH	1	EACH		
00	04	A	N	CONNECT TO EXISTING WATER MAIN, 12-INCH	1	EACH		
00	04	A	O	GATE VALVE, 8-INCH WITH VALVE BOX	4	EACH		
00	04	A	P	GATE VALVE, 12-INCH WITH VALVE BOX	3	EACH		

Subtotal, Option #3: _____

OPTION 4 (WATERMAIN STA 4+20 TO 8+50 STA)

Bid Item #			Description	Qty	U/M	Unit Price	Extended Price
00	05	A	A LANDSCAPE AND TURF RESTORATION - OPTION 4	1	JOB		
00	05	A	B PAVEMENT RESTORATION - OPTION 4	1	JOB		
00	05	A	C ABANDON EXISTING WATER MAIN - OPTION 4	1	JOB		
00	05	A	D 8-INCH C900 PVC WATER MAIN (OPEN-CUT)	429	FOOT		
00	05	A	E FIRE HYDRANT ASSEMBLY	2	EACH		
00	05	A	F WATER SERVICE RE-CONNECTION, LONG	5	EACH		
00	05	A	G WATER SERVICE RE-CONNECTION, SHORT	6	EACH		
00	05	A	H GATE VALVE, 8-INCH WITH VALVE BOX	1	EACH		
00	05	A	I REMOVE AND REPLACE 24" STORM SEWER WITH 24" WMQ PIPE	16	FOOT		

Subtotal, Option #4: _____

OPTION 5 (8+50 STA TO 14+00 STA)

Bid Item #			Description	Qty	U/M	Unit Price	Extended Price
00	06	A	A LANDSCAPE AND TURF RESTORATION - OPTION 5	1	JOB		
00	06	A	B PAVEMENT RESTORATION - OPTION 5	1	JOB		
00	06	A	C ABANDON EXISTING WATER MAIN - OPTION 5	1	JOB		
00	06	A	D 8-INCH C900 PVC WATER MAIN (OPEN-CUT)	553	FOOT		
00	06	A	E FIRE HYDRANT ASSEMBLY	2	EACH		
00	06	A	F WATER SERVICE RE-CONNECTION, LONG	9	EACH		
00	06	A	G WATER SERVICE RE-CONNECTION, SHORT	7	EACH		
00	06	A	H GATE VALVE, 8-INCH WITH VALVE BOX	1	EACH		
00	06	A	I REMOVE AND REPLACE 12" STORM SEWER WITH 12" WMQ PIPE	17	FOOT		

Subtotal, Option #5: _____

OPTION 6 (14+00 STA TO 17+50 STA)

Bid Item #			Description	Qty	U/M	Unit Price	Extended Price
00	07	A	A LANDSCAPE AND TURF RESTORATION - OPTION 6	1	JOB		
00	07	A	B PAVEMENT RESTORATION - OPTION 6	1	JOB		
00	07	A	C ABANDON EXISTING WATER MAIN - OPTION 6	1	JOB		
00	07	A	D 6-INCH C900 PVC WATER MAIN (OPEN-CUT)	43	FOOT		
00	07	A	E 8-INCH C900 PVC WATER MAIN (OPEN-CUT)	337	FOOT		
00	07	A	F FIRE HYDRANT ASSEMBLY	1	EACH		
00	07	A	G WATER SERVICE RE-CONNECTION, LONG	5	EACH		
00	07	A	H WATER SERVICE RE-CONNECTION, SHORT	4	EACH		
00	07	A	I CONNECT TO EXISTING WATER MAIN, 6-INCH	1	EACH		
00	07	A	J GATE VALVE, 8-INCH WITH VALVE BOX	3	EACH		
00	07	A	K REMOVE AND REPLACE 12" STORM SEWER WITH 12" WMQ PIPE	63	FOOT		

Subtotal, Option #6: _____

Total Base Bid and All Options

\$ _____

Section 00 21 13 - Instructions to Bidders

CLAUSES INCORPORATED BY REFERENCE

52.204-7	System for Award Management	OCT 2018
52.204-16	Commercial and Government Entity Code Reporting	AUG 2020
52.204-22	Alternative Line Item Proposal	JAN 2017
52.214-3	Amendments To Invitations For Bids	DEC 2016
52.214-4	False Statements In Bids	APR 1984
52.214-5	Submission Of Bids	DEC 2016
52.214-6	Explanation To Prospective Bidders	APR 1984
52.214-7	Late Submissions, Modifications, and Withdrawals of Bids	NOV 1999
52.214-18	Preparation of Bids-Construction	APR 1984
52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.232-2	Payments Under Fixed-Price Research And Development Contracts	APR 1984
252.215-7008	Only One Offer	JUL 2019

CLAUSES INCORPORATED BY FULL TEXT

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)

52.225-5 TRADE AGREEMENTS (OCT 2019)

(a) Definitions. As used in this clause.

“Caribbean Basin country end product”

(1) Means an article that—

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

(B) In the case of an article 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 article of commerce with a name, character, or use distinct from that of the article or articles from which it was transformed; and

(ii) Is not excluded from duty-free treatment for Caribbean countries under 19 U.S.C. 2703(b).

(A) For this reason, the following articles are not Caribbean Basin country end products:

(1) Tuna, prepared or preserved in any manner in airtight containers;

(2) Petroleum, or any product derived from petroleum;

(3) Watches and watch parts (including cases, bracelets, and straps) of whatever type including, but not limited to, mechanical, quartz digital, or quartz analog, if such watches or watch parts contain any material that is the product of any country to which the Harmonized Tariff Schedule of the United States (HTSUS) column 2 rates of duty apply (*i.e.*, Afghanistan, Cuba, Laos, North Korea, and Vietnam); and

(4) Certain of the following: textiles and apparel articles; footwear, handbags, luggage, flat goods, work gloves, and leather wearing apparel; or handloomed, handmade, and folklore articles;

(B) Access to the HTSUS to determine duty-free status of articles of these types is available at <https://usitc.gov/tata/hts/index.htm>. In particular, see the following:

(1) General Note 3(c), Products Eligible for Special Tariff treatment.

(2) General Note 17, Products of Countries Designated as Beneficiary Countries under the United States—Caribbean Basin Trade Partnership Act of 2000.

(3) Section XXII, Chapter 98, Subchapter II Articles Exported and Returned, Advanced or Improved Abroad, U.S. Note 7(b).

(4) Section XXII, Chapter 98, Subchapter XX Goods Eligible for Special Tariff Benefits under the United States—Caribbean Basin Trade Partnership Act; and

(2) Refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the acquisition, includes services (except transportation services) incidental to the article, provided that the value of those incidental services does not exceed that of the article itself.

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, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan (known in the World Trade Organization as “the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu (Chinese Taipei)”), Ukraine, or United Kingdom);

(2) A Free Trade Agreement (FTA) country (Australia, Bahrain, Canada, 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 end product means a WTO GPA country end product, an FTA country end product, a least developed country end product, or a Caribbean Basin country end product.

“End product” means those articles, materials, and supplies to be acquired under the contract for public use.

Least developed country end product means an article that--

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

(2) In the case of an article 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 article of commerce with a name, character, or use distinct from that of the article or articles from which it was transformed. The term refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the end product, includes services (except transportation services) incidental to the article, provided that the value of those incidental services does not exceed that of the article itself.

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

“U.S.-made end product” means an article that is mined, produced, or manufactured in the United States or that is substantially transformed in the United States into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was transformed.

WTO GPA country end product means an article that--

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

(2) In the case of an article 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 article of commerce with a name, character, or use distinct from that of the article or articles from which it was transformed. The term refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the end product includes services, (except transportation services) incidental to the article, provided that the value of those incidental services does not exceed that of the article itself.

(b) Delivery of end products. The Contracting Officer has determined that the WTO GPA and FTAs apply to this acquisition. Unless otherwise specified, these trade agreements apply to all items in the Schedule. The Contractor shall deliver under this contract only U.S.-made or designated country end products except to the extent that, in its offer, it specified delivery of other end products in the provision entitled “Trade Agreements Certificate.”

(End of clause)

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 \$1,000,000.00, whichever is less.-

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

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

(End of provision)

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

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

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

Name: Calumet Area Office (Nihad Halilovic)

Address: 906 N. Griffith Blvd.

Griffith, IN 46319

Telephone: 219-923-1763:

(End of provision)

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

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

<https://www.acquisition.gov>

or

<https://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html>

(End of provision)

52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (NOV 2020)

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

(b) The use in this solicitation of any Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

IMPORTANT BID NOTES

(THE ABOVE SOLICITATION SECTION 00 10 00 IS TO BE USED BY BIDDERS TO SUBMIT THEIR BIDS; IT IS ALSO CONSIDERED THE "BID SCHEDULE" AS TERMED THROUGHOUT THE SOLICITATION.)

1. BID CONDITIONS:

a. The Contractor shall bid ALL items that are contained in the Bid Schedule INCLUDING ALL OPTION ITEMS, with no exceptions. Should a Contractor fail to fully complete the bid schedule, its bid will not be considered responsive to the solicitation and eligible for the resultant contract award. Therefore, the bidder's total price for the work shall be based on the TOTAL of all BASE AND OPTION items included in the Bid Schedule. **The Contractor shall enter both its unit price and extended price for each Bid Item and all Option Items.**

b. From this Solicitation, the Government intends to award one firm-fixed price contract to the responsive, responsible bidder submitting the lowest aggregate price for all Items. The intent is immediately award the base items at the time of award.

c. Split or multiple awards will not result from this Solicitation.

d. Bidders are required to acknowledge the receipt of all amendments to the Solicitation on the Standard Form 1442 in the space provided OR, by completing Blocks 8 and 15 of the Amendment Form itself (Standard Form 30), or by email to Casimir Brzozowiec at casimir.brzozowiec@usace.army.mil.

e. SF 1442 BACK (Page 2 of the Solicitation): Bidders shall fully complete all the required areas located on Page 2 of the Solicitation document (SF 1442 Back) - refer to Block's 14 through 20C.

f. Section 00 45 00 (Representations and Certifications): The bidder must complete the applicable boxes found at Section 00 45 00 of this Solicitation and submit the completed Section along with all other documents required by this Solicitation. In order to place a bid in response to this Solicitation, the bidder must be registered in an "active status" at the System for Award Management (SAM) (registration can be completed on line for free at www.sam.gov). Accordingly, any bid furnished from contractor without an active registration at SAM may be considered non-responsive to the material requirements of this Solicitation and ineligible for award.

2. OPTION PROVISIONS & RELATED PERFORMANCE TIMEFRAMES:

- SEE Section 00 70 00, Contract Clause 52.217-7

3. BID SUBMISSION:

- a. **METHOD OF BID SUBMISSION: ALL BIDS IN RESPONSE TO THIS SOLICITATION SHALL BE SUBMITTED BY ELECTRONIC MAIL (EMAIL). THE SUBJECT LINE OF YOUR EMAIL SHALL INCLUDE THE SOLICITATION AND PROJECT TITLE.**

- (1) Emailed Bids shall be transmitted and accompanied by all other required documents (re: "Important Bid Notes," Solicitation Section 00 22 13). **The Bidder's bid and all required**

documents shall be attached therein the Email. The subject line of the Email shall contain the Solicitation Number and Project title. The Bidder shall verify all contents of its attachments to ensure they are readable and in full compliance with the Solicitation requirements. Therefore, prior to submitting the bid, the Bidder shall ensure all bid documents are in conformance and enclosed for bidding purposes. The date and time stamp provided via the government's email will constitute the time of receipt of a bid package. The government will acknowledge receipt of the Bidder's email. The government will not review the Bid or any of the attachments provided via the Bidder's email until the Bid Opening. All electronically submitted files by Email CANNOT EXCEED this Agency's size limit of 20MB (includes email and its attachment); files exceeding this size will be denied access to the aforementioned email inboxes. It is the responsibility of the contractor to determine the size of its electronic file. Should the Bidder need to break up its submittal, it may provide its attachment under separate emails to avoid exceeding the size limit. The last email received will constitute the full submission of the Bid, e.g. the time received by the government.

- (2) EMAIL BIDS to Casimir Brzozowiec at casimir.brzozowiec@usace.army.mil with copies furnished to Michael Jones at michael.t.jones@usace.army.mil and John C. Butts at john.c.butts@usace.army.mil.

- b. In consideration of the provisions of Subpart 14.301 of the Federal Acquisition Regulation, wherein the "responsiveness of bids" is provisioned, bidders must comply with all material respects of this Solicitation (Invitation for Bids) to be considered for the resulting award. Accordingly, bids submitted by EMAIL (and other methods authorized by this Solicitation) must be in compliance with the submission requirements discussed below. (also see Clause No. 52.214-5 at Section 00 21 13 of this Solicitation)
- c. TIME OF SUBMISSION: Bids are required one hour prior the time specified on Page 1 of this Solicitation, Block #13a. *Please note, FAR Subpart 14.302 Bid submission*; "Bids shall be submitted so that they will be received in the office designated in the invitation for bids not later than the exact time set for opening of bids."
- d. VIRTUAL BID OPENING: For this procurement, Contracting will conduct a virtual Bid Opening in accordance with the below provisions. These procedures are being used because of the current public health concerns affiliated with COVID-19.
- e. VIRTUAL BID OPENING PROVISIONS/ PARTICIPATION:

THE VIRTUAL BID OPENING WILL BEGIN ON the time and date specified on Page 1 of this Solicitation, Block #13a. - THE WEBEX AND AUDIO INFORMATION FOR THE VIRTUAL BID OPENING FOLLOWS:

Interested individuals will navigate to a WEBEX link. The bids will be read aloud and individuals will be able to view the Bid Opening information on the WEBEX screen as the bids are opened. Should technological issues ensue from the visual viewing at the WEBEX, the audio access will take precedence and satisfy the conditions of bids being communicated publicly/read aloud. Within 3 days prior to the bid opening, the government will provide a meeting link with a password and phone number at the sam.gov website (<https://sam.gov>), wherein the Solicitation package is published.

- f. BID GUARANTEE:

Bidders are required to submit a Bid Guarantee for this project in accordance with the

Federal Acquisition Regulation Clause 52.228-1, “Bid Guarantee” – Refer to Solicitation Section 00 21 13 for the full text of this Clause.

A bid guarantee shall be submitted at 20% of the bid price or \$1M whichever is the lesser. Any bidder failing to submit a Bid Guarantee will be considered non- responsive to the Solicitation and ineligible for award.

Emailed Bids: If submitting your Bid by email, the bid guarantee must be included in your emailed attachment(s).

- g. **ATTACHMENT A – PREAWARD SURVEY FORM** – The bidder shall complete the enclosed Attachment A and submit it along with your bid (if emailing your bid, this form must be included in your attachments). The preaward survey form is to aid in expediting the award of this project. Only the winning bidder’s information will be surveyed.

- h. **PROJNET INSTRUCTIONS – BIDDER’S QUESTIONS AND COMMENTS**

Technical inquiries and questions relating to bid procedures or bonds are to be submitted via Bidder Inquiry in ProjNet at <http://www.ProjNet.org/ProjNet>. As noted below, bidders shall not submit their bids via ProjNet. Bidders shall submit their bids in accordance with the provisions stated in the solicitation.

To submit and review bid inquiry items, bidders will need to be a current registered user or self-register into system.

The Solicitation Number is: W912P623B0002

The Bidder Inquiry Key is: BYVSAA-INMD2Y

Specific Instructions for ProjNet Bid Inquiry Access:

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

Specific Instructions for Future ProjNet Bid Inquiry Access:

1. For future access to ProjNet, you will not be emailed any type of password. You will utilize your Secret Question and Secret Answer to log in.
2. From the ProjNet home page linked above, click on Quick Add on the upper right side of the screen.

3. Identify the Agency. This should be marked as USACE.
4. Key. Enter the Bidder Inquiry Key listed above.
5. Email. Enter the email address you used to register previously in ProjNet.
6. Select Continue. A page will then open asking you to enter the answer to your SecretQuestion.
7. Enter your Secret Answer and click Login. Once this is completed you are now logged into the system.

From this page you may view all bidder inquiries or add an inquiry.

Bidders will receive an acknowledgement of their question via email, followed by an answer to their question after it has been processed by our technical team.

Bidders are requested to review the specification in its entirety and to review the Bidder Inquiry System for answers to questions prior to submission of a new inquiry.

The call center operates weekdays from 8AM to 5PM U.S. Central Time Zone (Chicago). The telephone number for the Call Center is 800-428-HELP.

Bidders will NOT be publicly opened. Information concerning the status of the evaluation and/or award will NOT be available after receipt of bids.

NOTES:

1. Bidders shall not submit their bids via ProjNet, but in accordance with the provisions stated in the solicitation. Any questions regarding acceptable means of submitting bids shall be made directly to the Contract Specialist identified in the solicitation.
2. Government responses to technical inquiries and questions relating to bid procedures or bonds that are submitted to ProjNet in accordance with the procedures above are not binding on the Government unless an amendment is issued on Standard Form 30. In the case of any conflicts, the solicitation governs. Any changes or revisions to the solicitation will be made by formal amendment. Government responses will be limited to: (a) Notice that an amendment will be issued; (b) Reference to an existing requirement contained in the solicitation; or (c) Notice that a response is not necessary.
3. The ability to enter technical inquiries and questions relating to bid procedures or bonds will be disabled ten (10) calendar days prior to the closing date stated in the solicitation. No Government responses will be entered into the ProjNet system within five (5) calendar days prior to the closing date stated in the solicitation.

ATTACHMENT A

PREAWARD SURVEY INFORMATION

(RE: Subparts 9.104-1 and 9.105-1 of the Federal Acquisition Regulation)

CONTRACTOR: _____

SOLICITATION W912P623B0002, Richton Park Stormwater Improvements, Richton Park, Cook County, Illinois (USACE ACQUISITION)

Please complete the below form to assist in the completion of a Pre-award Survey:

1. Month and Year started in business: _____
2. Year and State Incorporated: _____
3. Key Personnel:
President/Owner: _____
Vice President/Partner: _____
Secretary/Treasurer: _____
4. Number of Full-Time Employees: _____
5. Surety:
Agency: _____
Agent: _____
Address, City & State: _____
Telephone#: _____
6. Insurance Company:
Agency: _____
Agent: _____
Address, City & State: _____
Telephone#: _____
7. Financial Institution Information:
Name of Bank: _____
Contact Person: _____
Address, City & State: _____

Telephone#: _____

8. References: Provide the names and contact information of **three** references. Information obtained from references will be used to determine if you have been diligent in the following areas: a) Quality of Work; b) Timely Performance; c) Effectiveness of Management; d) Compliance with Safety Standards; and e) Compliance with Labor Standards.

9. Does your company have any ongoing projects that may cause a problem with completing or beginning performance of the subject project?

10. Does your company own all of necessary tools and equipment to perform the work of the project?

END OF FORM

Section 00 45 00 - Representations and Certifications

CLAUSES INCORPORATED BY REFERENCE

252.203-7005	Representation Relating to Compensation of Former DoD Officials	NOV 2011
252.225-7055	Representation Regarding Business Operations with the Maduro Regime	MAY 2022
252.225-7973 (Dev)	Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems - Representation (DEVIATION 2020-00015)	MAY 2020

CLAUSES INCORPORATED BY FULL TEXT

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (MAY 2022)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 237110.

(2) The small business size standard is \$39,500,000.

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

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

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

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

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

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

() Paragraph (d) applies.

() Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

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

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

- (A) The acquisition is to be made under the simplified acquisition procedures in Part 13;
 - (B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or
 - (C) The solicitation is for utility services for which rates are set by law or regulation.
- (ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed \$150,000.
- (iii) 52.203-18, Prohibition on Contracting with Entities that Require Certain Internal Confidentiality Agreements or Statements--Representation. This provision applies to all solicitations.
- (iv) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the provision at 52.204-7, System for Award Management.
- (v) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that—
- (A) Are not set aside for small business concerns;
 - (B) Exceed the simplified acquisition threshold; and
 - (C) Are for contracts that will be performed in the United States or its outlying areas.
- (vi) 52.204-26, Covered Telecommunications Equipment or Services--Representation. This provision applies to all solicitations.
- (vii) 52.209-2, Prohibition on Contracting with Inverted Domestic Corporations--Representation.
- (viii) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.
- (ix) 52.209-11, Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law. This provision applies to all solicitations.
- (x) 52.214-14, Place of Performance--Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.
- (xi) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.
- (xii) 52.219-1, Small Business Program Representations (Basic, Alternates I, and II). This provision applies to solicitations when the contract is for supplies to be delivered or services to be performed in the United States or its outlying areas, or when the contracting officer has applied part 19 in accordance with 19.000(b)(1)(ii).
- (A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.
 - (B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.
 - (C) The provision with its Alternate II applies to solicitations that will result in a multiple-award contract with more than one NAICS code assigned.

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

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

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

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

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

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

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

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

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

(A) If the acquisition value is less than \$25,000, the basic provision applies.

(B) If the acquisition value is \$25,000 or more but is less than \$50,000, the provision with its Alternate I applies.

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

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

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

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

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

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

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

[Contracting Officer check as appropriate.]

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

XX (ii) 52.204-20, Predecessor of Offeror.

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

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

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

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

(vii) 52.227-6, Royalty Information.

(A) Basic.

(B) Alternate I.

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

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

FAR Clause	Title	Date	Change
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Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on SAM.

(End of provision)

52.204-24 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)

52.209-7 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)

52.209-13 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)

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.

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

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

____ Use with Alternate I.

____ Use with Alternate II.

____ Use with Alternate III.

____ Use with Alternate IV.

____ Use with Alternate V.

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

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

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

FAR/DFARS provision No.	Title	Date	Change

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

(End of provision)

252.204-7016 COVERED DEFENSE TELECOMMUNICATIONS EQUIPMENT OR SERVICES -- REPRESENTATION (DEC 2019)

(a) Definitions. As used in this provision, covered defense telecommunications equipment or services has the meaning provided in the clause 252.204-7018, Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services.

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

(c) Representation. The Offeror represents that it ☐ does, ☐ 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.

(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)

Section 00 70 00 - Conditions of the Contract

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUN 2020
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	MAY 2014
52.203-7	Anti-Kickback Procedures	JUN 2020
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	MAY 2014
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	MAY 2014
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 2020
52.203-19	Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements	JAN 2017
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-9	Personal Identity Verification of Contractor Personnel	JAN 2011
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUN 2020
52.204-13	System for Award Management Maintenance	OCT 2018
52.204-18	Commercial and Government Entity Code Maintenance	AUG 2020
52.204-19	Incorporation by Reference of Representations and Certifications.	DEC 2014
52.204-23	Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities	NOV 2021
52.204-25	Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment	NOV 2021
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	NOV 2021
52.209-9	Updates of Publicly Available Information Regarding Responsibility Matters	OCT 2018
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations	NOV 2015
52.214-19	Contract Award-Sealed Bidding-Construction	AUG 1996
52.219-8	Utilization of Small Business Concerns	OCT 2018
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards - Overtime Compensation	MAY 2018
52.222-6	Construction Wage Rate Requirements	AUG 2018
52.222-7	Withholding of Funds	MAY 2014
52.222-8	Payrolls and Basic Records	JUL 2021
52.222-9	Apprentices and Trainees	JUL 2005
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	MAY 2014
52.222-12	Contract Termination-Debarment	MAY 2014
52.222-13	Compliance With Construction Wage Rate Requirements and Related Regulations	MAY 2014
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	MAY 2014

52.222-21	Prohibition Of Segregated Facilities	APR 2015
52.222-26	Equal Opportunity	SEP 2016
52.222-27	Affirmative Action Compliance Requirements for Construction	APR 2015
52.222-37	Employment Reports on Veterans	JUN 2020
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	NOV 2021
52.223-2	Affirmative Procurement of Biobased Products Under Service and Construction Contracts	SEP 2013
52.223-5	Pollution Prevention and Right-to-Know Information	MAY 2011
52.223-6	Drug-Free Workplace	MAY 2001
52.223-17	Affirmative Procurement of EPA-Designated Items in Service and Construction Contracts	AUG 2018
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	JUN 2020
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2021
52.227-1	Authorization and Consent	JUN 2020
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	JUN 2020
52.227-4	Patent Indemnity-Construction Contracts	DEC 2007
52.228-2	Additional Bond Security	OCT 1997
52.228-11 (Dev)	Individual Surety--Pledge of Assets (DEVIATION 2020-O0016)	FEB 2021
52.228-12	Prospective Subcontractor Requests for Bonds	MAY 2014
52.232-5	Payments under Fixed-Price Construction Contracts	MAY 2014
52.232-17	Interest	MAY 2014
52.232-23 Alt I	Assignment of Claims (May 2014) - Alternate I	APR 1984
52.232-27	Prompt Payment for Construction Contracts	JAN 2017
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	OCT 2018
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	NOV 2021
52.233-1	Disputes	MAY 2014
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-2	Differing Site Conditions	APR 1984
52.236-3	Site Investigation and Conditions Affecting the Work	APR 1984
52.236-5	Material and Workmanship	APR 1984
52.236-6	Superintendence by the Contractor	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.236-8	Other Contracts	APR 1984
52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements	APR 1984
52.236-10	Operations and Storage Areas	APR 1984
52.236-11	Use and Possession Prior to Completion	APR 1984
52.236-12	Cleaning Up	APR 1984
52.236-13 Alt I	Accident Prevention (Nov 1991) - Alternate I	NOV 1991
52.236-15	Schedules for Construction Contracts	APR 1984
52.236-17	Layout of Work	APR 1984
52.236-21	Specifications and Drawings for Construction	FEB 1997
52.236-26	Preconstruction Conference	FEB 1995
52.242-13	Bankruptcy	JUL 1995
52.242-14	Suspension of Work	APR 1984

52.244-6	Subcontracts for Commercial Products and Commercial Services	JAN 2022
52.246-12	Inspection of Construction	AUG 1996
52.246-21	Warranty of Construction	MAR 1994
52.248-3	Value Engineering-Construction	OCT 2020
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) (Apr 2012) - Alternate I	SEP 1996
52.249-10	Default (Fixed-Price Construction)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2008
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	SEP 2013
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004	Antiterrorism Awareness Training for Contractors.	FEB 2019
252.204-7015	Notice of Authorized Disclosure of Information for Litigation Support	MAY 2016
252.204-7018	Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services	JAN 2021
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Country that is a State Sponsor of Terrorism	MAY 2019
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.223-7006	Prohibition On Storage, Treatment, and Disposal of Toxic or Hazardous Materials	SEP 2014
252.223-7008	Prohibition of Hexavalent Chromium	JUN 2013
252.225-7012	Preference For Certain Domestic Commodities	MAR 2022
252.225-7048	Export-Controlled Items	JUN 2013
252.225-7052	Restriction on the Acquisition of Certain Magnets, Tantalum, and Tungsten.	OCT 2020
252.225-7056	Prohibition Regarding Business Operations with the Maduro Regime	MAY 2022
252.225-7972 (Dev)	Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems (DEVIATION 2020-00015)	MAY 2020
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	DEC 2018
252.232-7010	Levies on Contract Payments	DEC 2006
252.232-7017	Accelerating Payments to Small Business Subcontractors--Prohibition on Fees and Consideration	APR 2020
252.236-7000	Modification Proposals-Price Breakdown	DEC 1991
252.236-7008	Contract Prices-Bidding Schedules	DEC 1991
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	DEC 2012
252.244-7000	Subcontracts for Commercial Items	JAN 2021
252.247-7023	Transportation of Supplies by Sea	FEB 2019

CLAUSES INCORPORATED BY FULL TEXT

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)

52.204-21 BASIC SAFEGUARDING OF COVERED CONTRACTOR INFORMATION SYSTEMS (NOV 2021)

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

Covered contractor information system means an information system that is owned or operated by a contractor that processes, stores, or transmits Federal contract information.

Federal contract information means information, not intended for public release, that is provided by or generated for the Government under a contract to develop or deliver a product or service to the Government, but not including information provided by the Government to the public (such as on public websites) or simple transactional information, such as necessary to process payments.

Information means any communication or representation of knowledge such as facts, data, or opinions, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual (Committee on National Security Systems Instruction (CNSSI) 4009).

Information system means a discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information (44 U.S.C. 3502).

Safeguarding means measures or controls that are prescribed to protect information systems.

(b) Safeguarding requirements and procedures.

(1) The Contractor shall apply the following basic safeguarding requirements and procedures to protect covered contractor information systems. Requirements and procedures for basic safeguarding of covered contractor information systems shall include, at a minimum, the following security controls:

(i) Limit information system access to authorized users, processes acting on behalf of authorized users, or devices (including other information systems).

(ii) Limit information system access to the types of transactions and functions that authorized users are permitted to execute.

(iii) Verify and control/limit connections to and use of external information systems.

(iv) Control information posted or processed on publicly accessible information systems.

(v) Identify information system users, processes acting on behalf of users, or devices.

(vi) Authenticate (or verify) the identities of those users, processes, or devices, as a prerequisite to allowing access to organizational information systems.

(vii) Sanitize or destroy information system media containing Federal Contract Information before disposal or release for reuse.

(viii) Limit physical access to organizational information systems, equipment, and the respective operating environments to authorized individuals.

(ix) Escort visitors and monitor visitor activity; maintain audit logs of physical access; and control and manage physical access devices.

(x) Monitor, control, and protect organizational communications (i.e., information transmitted or received by organizational information systems) at the external boundaries and key internal boundaries of the information systems.

(xi) Implement subnetworks for publicly accessible system components that are physically or logically separated from internal networks.

(xii) Identify, report, and correct information and information system flaws in a timely manner.

(xiii) Provide protection from malicious code at appropriate locations within organizational information systems.

(xiv) Update malicious code protection mechanisms when new releases are available.

(xv) Perform periodic scans of the information system and real-time scans of files from external sources as files are downloaded, opened, or executed.

(2) Other requirements. This clause does not relieve the Contractor of any other specific safeguarding requirements specified by Federal agencies and departments relating to covered contractor information systems generally or other Federal safeguarding requirements for controlled unclassified information (CUI) as established by Executive Order 13556.

(c) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (c), in subcontracts under this contract (including subcontracts for the acquisition of commercial products or commercial services, other than commercially available off-the-shelf items), in which the subcontractor may have Federal contract information residing in or transiting through its information system.

(End of clause)

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

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 365 calendar days after receipt of Notice to Proceed. The time stated for completion shall include final cleanup of the premises.

(End of clause)

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

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$1,547.86 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)

52.211-18 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.

52.217-7 OPTION FOR INCREASED QUANTITY--SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 180 days after NTP. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(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)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEVIATION 2021-O0008) (SEP 2021)

(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.]

XX 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.

(End of clause)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (SEP 2021)

(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 the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (d) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

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

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

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

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

(3) For long-term contracts--

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

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

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

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

(e) The small business size standard for a Contractor providing an end item that it does not manufacture, process, or produce itself, for a contract other than a construction or service contract, is 500 employees if the acquisition--

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

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

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

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

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

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

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

(2) [Complete only if the Contractor represented itself as a small business concern in paragraph (h)(1) of this clause.] The Contractor represents that it [] is, [] is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

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

(4) Women-owned small business (WOSB) concern eligible under the WOSB Program. [Complete only if the Contractor represented itself as a women-owned small business concern in paragraph (h)(3) of this clause.] The Contractor represents that--

(i) It [] is, [] is not a WOSB concern eligible under the WOSB Program, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and

(ii) It [] is, [] is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (h)(4)(i) of this clause is accurate for each WOSB concern eligible under the WOSB Program participating in the joint venture.

[The Contractor shall enter the name or names of the WOSB concern eligible under the WOSB Program and other small businesses that are participating in the joint venture: .] Each WOSB concern eligible under the WOSB Program participating in the joint venture shall submit a separate signed copy of the WOSB representation.

(5) Economically disadvantaged women-owned small business (EDWOSB) concern. [Complete only if the Contractor represented itself as a women-owned small business concern eligible under the WOSB Program in (h)(4) of this clause.] The Contractor represents that--

(i) It [] is, [] is not an EDWOSB concern eligible under the WOSB Program, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and

(ii) It [] is, [] is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (h)(5)(i) of this clause is accurate for each EDWOSB concern participating in the joint venture. [The Contractor shall enter the name or names of the EDWOSB concern and other small businesses that are participating in the joint venture: .] Each EDWOSB concern participating in the joint venture shall submit a separate signed copy of the EDWOSB representation.

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

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

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

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

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

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

(End of clause)

52.222-23 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
19.6%	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 Richton Park, Cook County, Illinois.

(End of provision)

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)

52.222-54 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)

52.225-9 BUY AMERICAN—CONSTRUCTION MATERIALS (NOV 2021)

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

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

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

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

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

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

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

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

Construction material means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

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

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

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 55 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic. Components of unknown origin are treated as foreign; or

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

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

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

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

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

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

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

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

(b) Domestic preference.

(1) This clause implements 41 U.S.C. chapter 83, Buy American, by providing a preference for domestic construction material. In accordance with 41 U.S.C. 1907, the domestic content test of the Buy American statute is waived for construction material that is a COTS item, except that for construction material that consists wholly or predominantly of iron or steel or a combination of both, the domestic content test is applied only to the iron and steel content of the construction materials, excluding COTS fasteners. (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to information technology that is a commercial product or to the construction materials or components listed by the Government as follows:

___ [Contracting Officer to list applicable excepted materials or indicate "none"]

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 20 percent;

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

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

(c) Request for determination of inapplicability of the Buy American Act. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

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

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

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

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

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

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

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

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

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

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

Foreign and Domestic Construction Materials Price Comparison

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

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued)].

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

(End of clause)

52.225-10 NOTICE OF BUY AMERICAN REQUIREMENT--CONSTRUCTION MATERIALS (MAY 2014)

(a) Definitions. "Commercially available off-the-shelf (COTS) item," "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" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American statute should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American statute before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(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 material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(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 not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic 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 the clause at FAR 52.225-9 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 the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic 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)

52.228-5 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)

52.228-14 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 2020-00016)

(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)

52.229-11 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)

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)

52.236-4 PHYSICAL DATA (APR 1984)

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

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by soil borings.

(b) Weather conditions: see Section 01 10 00 paragraph 1.14 "TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER".

(c) Transportation The location is served by railroads and major highways. The Contractor shall investigate and obtain the necessary information and data regarding the availability and uses of access roads, dock facilities, highway and railroad facilities to the site of the work. The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary permits to operate on or cross public highways and roads and railroads in connection with the prosecution of the contract work. See FAR Clause 52.236-7 "Permits and Responsibilities".

(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)

52.252-2 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):

<https://www.acquisition.gov>

or

<https://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html>

(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 Chapter 2) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

252.236-7001 CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000)

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

(b) The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies;
- (4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and
- (5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

- (1) Large-scale drawings shall govern small-scale drawings; and
- (2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

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

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

#	Name
G-001	COVER SHEET
G-002	GENERAL NOTES
G-003	MWRD GENERAL NOTES
G-004	QUANTITIES
C-001	REAL ESTATE DRAWING (WATERMAIN REPLACEMENT)
C-002	REAL ESTATE DRAWING (CULVERT REPLACEMENT)
C-003	CULVERT ALIGNMENT DATA
C-004	TYPICAL SECTIONS - EXISTING CULVERTS

C-005 TYPICAL SECTIONS - PROPOSED CULVERTS
C-006 TYPICAL SECTIONS - WATERMAIN (OPTIONS 3 THROUGH 6)
C-007 AMY DRIVE CULVERT - REMOVAL (BASE BID)
C-008 LAKESHORE DRIVE CULVERT - REMOVAL (OPTION 1)
C-009 IMPERIAL DRIVE CULVERT - REMOVAL (OPTION 2)
C-010 AMY DRIVE CULVERT - PROPOSED (BASE BID)
C-011 LAKESHORE DRIVE CULVERT - PROPOSED (OPTION 1)
C-012 IMPERIAL DRIVE CULVERT - PROPOSED (OPTION 2)
C-013 AMY DRIVE - SWPPP AND LANDSCAPE RESTORATION (BASE BID)
C-014 LAKESHORE - SWPPP AND LANDSCAPE RESTORATION (OPTION 1)
C-015 IMPERIAL DRIVE - SWPPP AND LANDSCAPE RESTORATION (OPTION 2)
C-016 LAKESHORE DRIVE WATERMAIN (OPTIONS 3 AND 4)
C-017 LAKESHORE DRIVE WATERMAIN (OPTIONS 4 AND 5)
C-018 LAKESHORE DRIVE WATERMAIN (OPTIONS 5 AND 6)
C-019 LAKESHORE DRIVE WATERMAIN (OPTION 6)
C-020 LAKESHORE WM SWPPP & RESTORATION (OPTIONS 3 THROUGH 5)
C-021 LAKESHORE WM SWPPP & RESTORATION (OPTIONS 5 AND 6)
C-022 DETAILS - 1
C-023 DETAILS - 2
C-024 DETAILS - 3
C-025 DETAILS - 4
C-026 DETAILS - 5
C-027 DETAILS - 6
C-028 DETAILS - 7
C-029 DETAILS - 8
C-030 CULVERT END SECTION DETAIL - 1
C-031 CULVERT END SECTION DETAIL - 2
C-032 CULVERT END SECTION DETAIL - 3
C-033 CULVERT END SECTION DETAIL - 4

(End of clause)

Section 00 73 00 - Supplementary Conditions

POST AWARD DOCUMENTATION***SUBMISSION OF POST AWARD CONTRACT DOCUMENTATION***

Following contract award, the Contractor shall provide contract documentation in an electronic format to the greatest extent practicable. Contract documentation to be submitted electronically may include, but is not limited to, the following:

- Submittals, including ENG 4025 transmittal form
- Meeting Minutes
- Construction Photographs
- Correspondence
- Requests for Information
- Payroll Documents
- Statement and Acknowledgement Forms (SF 1413)
- Request for Additional Classification (SF 1444)
- Progress Payment Requests and Supporting Documentation
- Contract Modification Documentation, including SF 30, Contractor's Offer, Cost/Pricing Audit Report, and Certificate of Current Cost or Pricing Data
- Contractor Quality Control Reports (with attachments)
- Accident Reports
- Schedules and Schedule Updates
- Closeout Documentation, including Release of Claims

Electronic files must be of sufficient quality that all information is legible. Electronic format shall be in Adobe.PDF format, unless otherwise specified or directed by the Contracting Officer's Representative (COR). Whenever possible, PDF files shall be generated from original documents so that the text included in the PDF file is both searchable and can be copied. If documents are scanned, Optical Character Resolution (OCR) routines are required. Files exceeding 30 pages shall be indexed and bookmarked to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature, or scan of a signature. Email electronic documents fewer than 10MB to an email address as directed by the COR. Electronic documents over 10MB shall be provided on a CD/DVD, or through an electronic file sharing system DoD Safe located at the following website:

<https://safe.apps.mil>

The Government reserves the right to request hard copy submission of any item, if deemed necessary. The Contractor shall be prepared to provide up to eight (8) additional paper hard copies of any contract document at the discretion of the COR, at no additional cost to the Government. In addition to the electronic file format described above, the following list of documents shall be provided in their original format because law or other regulations require signed originals be kept in accordance with FAR 4.805 -- Storage, Handling, and Disposal of Contract Files: (this list is taken from appendix 5 to annex C to OPORD 2012-66)

- Advance Payment Bond
- Bid Bond including Annual Bid Bond
- Performance Bond including Annual Performance Bond
- Payment Bond
- Patent Infringement Bond
- Any performance security instruments
- Certificate of Insurance
- Novation/Change of Name Agreement
- Assignment of Claims
- Any document containing a raised seal. Examples include
- Notarized documents
- Architecture Drawings
- Paper Payroll Documents
- Physical signatures on contracts and modifications

- SF 1442
- SF 30

END OF SUPPLEMENTARY CONDITIONS

UAI 5122.1302.100

UAI 5122.1302.100

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: www.vets.gov/

Federal veteran employment information: www.fedshirevets.gov/index.aspx

Veterans' Employment and Training Service (VETS): <http://www.dol.gov/vets/>

Veterans Opportunity to Work (VOW) Program: <http://benefits.va.gov/vow/>

U.S. Army Warrior Transition Command Employment Index:

wtc.army.mil/modules/employers/index.html

Hiring Our Heroes initiative: www.uschamberfoundation.org/hiring-our-heroes

Guide to Hiring Veterans:

www.whitehouse.gov/sites/default/files/docs/white_house_business_council_guide_to_hiring_veterans_0.pdf

(End of UAI 5122.1302.100)

AT/OPSEC

AT/OPSEC – Anti-Terrorism/Operational Security

1. 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.

2. 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.

3. 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.

End of AT/OPSEC

"General Decision Number: IL20220009 10/07/2022

Superseded General Decision Number: IL20210009

State: Illinois

Construction Types: Building, Heavy, Highway and Residential

County: Cook County in Illinois.

BUILDING, RESIDENTIAL, HEAVY, AND HIGHWAY PROJECTS (does not include landscape 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)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<p>. Executive Order 14026 generally applies to the contract.</p> <p>. The contractor must pay all covered workers at least \$15.00 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 2022.</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>. Executive Order 13658 generally applies to the contract.</p> <p>. The contractor must pay all covered workers at least \$11.25 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 2022.</p>

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 <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022
2	02/25/2022
3	06/10/2022
4	06/17/2022
5	06/24/2022
6	07/01/2022
7	07/29/2022
8	08/05/2022
9	08/26/2022
10	10/07/2022

ASBE0017-001 06/01/2021

	Rates	Fringes
ASBESTOS WORKER/INSULATOR		
Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems.....	\$ 51.80	30.60
Fire Stop Technician.....	\$ 41.44	27.85
HAZARDOUS MATERIAL HANDLER		
includes preparation, wetting, stripping removal scrapping, vacuuming, bagging and disposal of all insulation materials, whether they contain asbestos or not, from mechanical systems.....	\$ 38.85	27.85

BOIL0001-001 05/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 52.61	33.07

BRIL0021-001 06/01/2016

	Rates	Fringes
BRICKLAYER.....	\$ 44.88	26.62

BRIL0021-004 06/01/2017

	Rates	Fringes
Marble Mason.....	\$ 44.63	26.83

BRIL0021-006 06/01/2017

	Rates	Fringes
TERRAZZO WORKER/SETTER.....	\$ 44.38	25.84
TILE FINISHER.....	\$ 38.56	22.10
TILE SETTER.....	\$ 45.49	25.72

BRIL0021-009 06/01/2017

	Rates	Fringes
MARBLE FINISHER.....	\$ 33.95	26.03

BRIL0021-012 06/01/2017

	Rates	Fringes
Pointer, cleaner and caulker.....	\$ 45.42	24.06

CARP0555-001 06/01/2022

BUILDING, HEAVY, AND HIGHWAY

	Rates	Fringes
CARPENTER		
Carpenter, Lather, Millwright, Piledriver, and Soft Floor Layer Building.....	\$ 52.01	38.85
Heavy & Highway.....	\$ 52.01	38.85

CARP0555-002 10/01/2021

RESIDENTIAL CONSTRUCTION

	Rates	Fringes
CARPENTER.....	\$ 42.61	33.67

ELEC0009-003 05/29/2022

	Rates	Fringes
Line Construction		
Groundman.....	\$ 45.44	61.70%
Lineman and Equipment		
Operator.....	\$ 58.25	61.70%

ELEC0134-001 06/06/2022

	Rates	Fringes
ELECTRICIAN.....	\$ 52.05	39.12

ELEC0134-003 06/07/2021

	Rates	Fringes
ELECTRICIAN		
ELECTRICAL TECHNICIAN.....	\$ 46.26	28.23

The work shall consist of the installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice sound vision production and reproduction, telephone and telephone interconnect, facsimile, data apparatus, coaxial, fibre optic and wireless equipment, appliances and systems used for the transmission and reception of signals of any nature,

business, domestic, commercial, education, entertainment and residential purposes, including but not limited to communication and telephone, electronic and sound equipment, fibre optic and data communication systems, and the performance of any task directly related to such installation or service whether at new or existing sites, such tasks to include the placing of wire and cable and electrical power conduit or other raceway work within the equipment room and pulling wire and/or cable through conduit and the installation of any incidental conduit.

ELEV0002-001 01/01/2022

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 62.47	36.885+a+b

FOOTNOTES:

a) PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Day after Thanksgiving Day; Veterans' Day and Christmas Day.

b) Employer contributes 8% of regular hourly rate as vacation pay credit for employee with more than 5 years of service, and 6% for employee with less than 5 years service

* ENGI0150-006 06/01/2022

Building and Residential Construction

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 55.10	46.00
GROUP 2.....	\$ 53.80	46.00
GROUP 3.....	\$ 51.25	46.00
GROUP 4.....	\$ 49.50	46.00

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Mechanic; Asphalt Plant*; Asphalt Spreader; Autograde*; Backhoes with Caisson attachment*;Batch Plant*; Benoto(Requires two Engineers); Boiler and Throttle Valve; Caisson Rigs*; Central Redi-Mix Plant*; Combination Backhoe Front Endloader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted)*; Concrete Conveyor; Concrete Conveyor, Truck Mounted; Concrete Paver over 27E cu. ft.*; Concrete Paver 27E cu ft and Under*; Concrete Placer*; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes*; Cranes, Hammerhead*; Cranes, (GCI and similar type Requires two operators only); Creter Crane; Crusher, Stone, etc; Derricks; Derricks, Traveling*; Formless Curb and Gutter Machine*; Grader, Elevating; Grouting Machines; Highlift Shovels or Front Endloader 2 1/4 yd. and over; Hoists, Elevators, Outside Type Rack and pinion and similar Machines; Hoists, One, Two, and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes*; Hydraulic Boom Trucks; Hydraulic Vac (and similar equipment);Locomotives; Motor Patrol*; Pile

Drivers and Skid Rig*; Post Hole Digger; Pre- Stress Machine; Pump Cretes Dual Ram(Requiring frequent Lubrication and Water); Pump Cretes; Squeeze Cretes-Screw Type Pumps Gypsum Bulker and Pump; Raised and Blind Hole Drill*; Roto Mill Grinder (36" and Over)*; Roto Mill Grinder (Less Than 36")*; Scoops-Tractor Drawn; Slip-Form Paver*; Straddle Buggies; Tournapull; Tractor with Boom, and Side Boom; and Trenching Machines*.

GROUP 2: Bobcat (over 3/4 cu yd); Boilers; Broom, Power Propelled; Bulldozers; Concrete Mixer (Two Bag and over); Conveyor, Portable; Forklift Trucks; Greaser Engineer; Highlift Shovels or Front End loaders under 2 1/4 cu yd; Automatic Hoists, Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted)*; Rollers; Steam Generators; Tractors; Tractor Drawn Vibratory Roller (Receives an additional \$.50 per hour); Winch Trucks with "A" Frame.

GROUP 3: Air Compressor-Small 250 and Under (1 to 5 not to exceed a total of 300 ft); Air Compressor-Large over 250; Combination-Small Equipment Operator; Generator- Small 50 kw and under; Generator-Large over 50 kw; Heaters, Mechanical; Hoists, Inside Elevators (Remodeling or Renovatin work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Low Boys; Pumps Over 3" (1 To 3 not to exceed a total of 300 ft); Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches; Bobcat (up to and including 3/4 cu yd)

GROUP 4 - Bobcats and/or other Skid Steer Loaders; Brick Forklifts; Oilers

*-Requires Oiler

* ENGI0150-025 06/01/2022

Heavy and Highway Construction

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 53.30	46.00
GROUP 2.....	\$ 52.75	46.00
GROUP 3.....	\$ 50.70	46.00
GROUP 4.....	\$ 49.30	46.00
GROUP 5.....	\$ 48.10	46.00

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt Plant*; Asphalt Heater and Planer combination; Asphalt Heater Scarfire*, Asphalt Spreader; Autograder/ GOMACO or similar; ABG Paver*, Backhoes with Caisson attachment*, Ballast Regulator, Belt Loader*; Caisson Rigs*Car Dumper, Central Redi-Mix Plant*, Combination Backhoe; Front End Loader Machine (1 cu yd or over Backhoe bucket or with attachments); Concrete Breaker (truck mounted); Concrete Conveyor; Concrete Paver over 27E cu ft*; Concrete Placer*; Concrete Tube Float; Cranes, all attachments*; Cranes, Hammerhead, Linden, Peco and machines

of a like nature*; Creter Crane; Crusher, stone; All Derricks; Derrick Boats; Derricks, traveling*; Dowell Machine with Air Compressor (\$1.00 above Class 1); Dredges*; Field Mechanic Welder; Formless Curb and Gutter Machine*; Gradall and machines of a like nature*; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver mounted*; Hoists, one, two, and three Drum; Hydraulic Backhoes*; Backhoes with Shear attachments*; Mucking Machine; Pile Drivers and Skid Rig*; Pre-Stress Machine; Pump Cretes Dual Ram (requires frequent lubrication and water)*; Rock Drill- Crawler or Skid Rig*; Rock Drill truck mounted*; Rock/ Track Tamper; Roto Mill Grinder, (36" and over)*; Slip-Form Paver*; Soil Test Drill Rig, truck mounted*; Straddle Buggies; Hydraulic Telescoping Form (tunnel); Tractor Drawn Belt Loader*; Tractor Drawn Belt Loader with attached Pusher (two engineers); Tractor with boom; Tractaire with attachment; Traffic Barrier Transfer Machine*; Trenching Machine; Truck Mounted Concrete Pump with boom*; Underground Boring and/or Mining Machines 5 ft in diameter and over tunnel, etc.*; Wheel Excavator* & Widener (Apsco); Raised or Blind Hoe Drill, Tunnel & Shaft*

GROUP 2: Batch Plant*; Bituminous Mixer; Boiler and Throttle Valve; Bulldozer; Car Loader Trailing Conveyors; Combination Backhoe Front End Loader Machine, (less than 1 cu yd Backhoe Bucket with attachments); Compressor and Throttle Valve; Compressor, common receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S series to and including 27 cu ft; Concrete Spreader; Concrete Curing Machine; Burlap Machine; Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or similar type); Drills (all); Finishing Machine-Concrete; Greaser Engineer; Highlift Shovels or Front End Loader; Hoist- Sewer Dragging Machine; Hydraulic Boom Trucks, all attachments; Hydro-Blaster (requires two operators); Laser Screed*; Locomotives, Dinky; Off-Road Hauling Units (including articulating); Pump Cretes; Squeeze Cretes-Screw Type pumps, Gypsum Bulker and Pump; Roller Asphalt; Rotary Snow Plows; Rototiller, Seaman, self-Propelled; Scoops-Tractor Drawn; Self-propelled Compactor; Spreader-Chip-Stone; Scraper; Scraper-Prime Mover in Tandem regardless of size (add \$1.00 to Group 2 hourly rate for each hour and for each machine attached thereto add \$1.00 to Group 2 hourly rate for each hour); Tank Car Heater; Tractors, Push, pulling Sheeps Foot, Disc, or Compactor, etc; Tug Boats

GROUP 3: Boilers; Brooms, all power propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer, two bag and over; Conveyor, Portable; Farm type Tractors used for mowing, seeding, etc; Fireman on Boilers; Forklift Trucks; Grouting Machines; Hoists, Automatic; Hoists, all Elevators; Hoists, Tugger single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-hole Digger; Power Saw, Concrete, Power Driven; Pug Mills; Rollers, other than asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with A-Frame; Work Boats; Tamper-Form motor driven

GROUP 4: Air compressor - Small 250 and under (1 to 5 not to exceed a total of 300 ft); Air Compressor - Large over 250;

Combination - Small Equipment Operator; Directional Boring Machine; Generators - Small 50 kw and under; Generators - Large , over 50 kw; Heaters, Mechanical; Hydraulic power unit (Pile Driving, Extracting or Drilling); Light Plants (1 to 5); Pumps, over 3"" (1 to 3, not to exceed a total of 300 ft); Pumps, Well Points; Tractaire; Welding Machines (2 through 5); Winches, 4 small electric drill winches;

GROUP 5: Bobcats (All); Brick Forklifts; Oilers; Directional Boring

*Requires Oiler

IRON0001-026 06/01/2021

	Rates	Fringes
IRONWORKER		
Sheeter.....	\$ 54.76	41.45
Structural and Reinforcing..	\$ 54.51	41.45

IRON0063-001 06/01/2021

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 52.13	39.47

IRON0063-002 06/01/2020

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 44.42	29.73

IRON0136-001 07/01/2022

	Rates	Fringes
IRONWORKER		
Machinery Movers; Riggers;		
Machinery Erectors.....	\$ 47.00	40.54
Master Riggers.....	\$ 49.50	40.54

LAB00002-006 06/01/2018

	Rates	Fringes
LABORER (BUILDING & RESIDENTIAL)		
GROUP 1.....	\$ 42.72	28.19
GROUP 2.....	\$ 42.72	28.19
GROUP 3.....	\$ 42.80	28.19
GROUP 4.....	\$ 42.82	28.19
GROUP 5.....	\$ 42.87	28.19
GROUP 6.....	\$ 42.92	28.19
GROUP 7.....	\$ 42.95	28.19
GROUP 8.....	\$ 43.05	28.19
GROUP 9.....	\$ 43.07	28.19
GROUP 10.....	\$ 43.17	28.19
GROUP 11.....	\$ 43.00	28.19
GROUP 12.....	\$ 43.72	28.19

LABORER CLASSIFICATIONS

GROUP 1: Building Laborers; Plasterer Tenders; Pumps for Dewatering; and other unclassified laborers.

GROUP 2: Fireproofing and Fire Shop laborers.

GROUP 3: Cement Gun.

GROUP 4: Chimney over 40 ft.; Scaffold Laborers.

GROUP 5: Cement Gun Nozzle Laborers (Gunitite); Windlass and capstan person.

GROUP 6: Stone Derrickmen & Handlers.

GROUP 7: Jackhammermen; Power driven concrete saws; and other power tools.

GROUP 8: Firebrick & Boiler Laborers.

GROUP 9: Chimney on fire brick; Caisson diggers; & Well Point System men.

GROUP 10: Boiler Setter Plastic Laborers.

GROUP 11: Jackhammermen on fire brick work only.

GROUP 12: Dosimeter use (any device) monitoring nuclear exposure); Asbestos Abatement Laborer; Toxic and Hazardous Waste Removal Laborers.

LABO0002-007 06/01/2018

	Rates	Fringes
LABORER (HEAVY & HIGHWAY)		
GROUP 1.....	\$ 42.72	28.19
GROUP 2.....	\$ 42.80	28.19
GROUP 3.....	\$ 42.87	28.19
GROUP 4.....	\$ 43.00	28.19
GROUP 5.....	\$ 42.72	28.19

LABORER CLASSIFICATIONS

GROUP 1: Common laborer; Tenders; Material expeditor (asphalt plant); Street paving, Grade separation, sidewalk, curb & gutter, strippers & All laborers not otherwise mentioned

GROUP 2: Asphalt tampers & smoothers; Cement gun laborers

GROUP 3: Cement Gun Nozzle (laborers), Gunitite

GROUP 4: Rakers, Lutemen; Machine-Screwmen; Kettlemen; Mixermen; Drun-men; Jackhammermen (asphalt); Paintmen; Mitre box spreaders; Laborers on birch, overman and similar spreader equipment; Laborers on APSCO; Laborers on air compressor; Paving Form Setter; Jackhammermen (concrete); Power drive concrete saws; other power tools.

GROUP 5: Asbestos Abatement Laborers; Toxic and Hazardous Waste Removal Laborers, Dosimeter (any device) monitoring nuclear exposure

LAB00002-008 06/01/2018

	Rates	Fringes
LABORER (Compressed Air)		
0 - 15 POUNDS.....	\$ 43.72	28.19
16 - 20 POUNDS.....	\$ 44.22	28.19
21 - 26 POUNDS.....	\$ 44.72	28.19
27 - 33 POUNDS.....	\$ 45.72	28.19
34 - AND OVER.....	\$ 46.72	28.19
LABORER (Tunnel and Sewer)		
GROUP 1.....	\$ 42.72	28.19
GROUP 2.....	\$ 42.85	28.19
GROUP 3.....	\$ 42.95	28.19
GROUP 4.....	\$ 43.07	28.19
GROUP 5.....	\$ 42.72	28.19

LABORER CLASSIFICATIONS (TUNNEL)

GROUP 1: Cage tenders; Dumpmen; Flagmen; Signalmen; Top laborers

GROUP 2: Air hoist operator; Key board operator; concrete laborer; Grout; Lock tenders (Free Air Side); Steel setters; Tuggers; Switchmen; Car pusher

GROUP 3: Concrete repairmen; Lock tenders (pressure side); Mortar men; Muckers; Grout machine operators; Track layers

GROUP 4: Air trac drill operator; Miner; Bricklayer tenders; Concrete blower operator; Drillers; Dynamiters; Erector operator; Form men; Jackhammermen; Powerpac; Mining machine operators; Mucking machine operator; Laser beam operator; Liner plate and ring setters; Shield drivers; Power knife operator; Welder- burners; Pipe jacking machine operator; skimmers; Maintenance technician

GROUP 5: Asbestos abatement laborer; Toxic and hazardous waste removal laborer; Dosimeter (any device) monitoring nuclear exposure

LABORER CLASSIFICATIONS (SEWER)

GROUP 1: Signalmen; Top laborers and All other laborers

GROUP 2: Concrete laborers and Steel setters

GROUP 3: Cement carriers; Cement mixers; Concrete repairmen; Mortar men; Scaffold men; Second Bottom men

GROUP 4: Air trac drill operator; Bottom men; Bracers-bracing; Bricklayer tenders; Catch basin diggers; Drainlayers; dynamiters; Form men; Jackhammermen; Powerpac; Pipelayers; Rodders; Welder-burners; Well point systems men

GROUP 5: Asbestos abatement laborer, Toxic and hazardous

waste removal laborer; Dosimeter (any device) monitoring
nuclear exposure

LABO0225-001 06/01/2018

	Rates	Fringes
LABORER (DEMOLITION/WRECKING)		
GROUP 1.....	\$ 37.52	28.19
GROUP 2.....	\$ 42.72	28.19
GROUP 3.....	\$ 42.72	28.19

LABORER CLASSIFICATIONS

GROUP 1 - Complete Demolition

GROUP 2 - Interior Wrecking and Strip Out Work

GROUP 3 - Asbestos Work with Complete Demolition/Wrecking or
Strip Out Work

* PAIN0014-001 06/01/2022

	Rates	Fringes
PAINTER (including taper).....	\$ 50.30	31.07

PAIN0027-001 06/01/2022

	Rates	Fringes
GLAZIER.....	\$ 48.75	41.32

PLAS0005-002 07/01/2015

	Rates	Fringes
PLASTERER.....	\$ 42.25	26.65

PLAS0502-001 06/01/2018

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 45.25	33.48

PLUM0130-001 06/01/2021

	Rates	Fringes
PLUMBER.....	\$ 52.80	34.67

PLUM0597-002 06/01/2022

	Rates	Fringes
PIPEFITTER.....	\$ 53.00	37.62

ROOF0011-001 06/01/2022

	Rates	Fringes
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ROOFER.....	\$ 47.80	27.25
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SFIL0281-001 07/01/2022

	Rates	Fringes
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SPRINKLER FITTER.....	\$ 53.25	33.55
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* SHEE0073-001 06/01/2022

	Rates	Fringes
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Sheet Metal Worker.....	\$ 49.10	42.91
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SHEE0073-002 06/08/2018

	Rates	Fringes
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Sheet Metal Worker ALUMINUM GUTTER WORK.....	\$ 31.32	37.02
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TEAM0731-001 06/01/2017

COOK COUNTY - HEAVY AND HIGHWAY

	Rates	Fringes
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TRUCK DRIVER

2 or 3 Axles.....	\$ 35.60	22.10
4 Axles.....	\$ 35.85	22.10
5 Axles.....	\$ 36.05	22.10
6 Axles.....	\$ 36.25	22.10

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

B. 900 straight time hours or more in 1 calendar year for the same employer shall receive 1 week paid vacation; 3 years - 2 weeks paid vacation; 10 years - 3 weeks paid vacation; 20 years - 4 weeks paid vacation.

C. An additional \$.20 per axle shall be paid for all vehicles with more than six (6) axles.

TEAM0731-002 04/01/2021

	Rates	Fringes
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Traffic Control Device Monitor
TRAFFIC SAFETY WORKER:
Primary duties include but are not limited to the delivery, maintenance and pick-up of traffic control devices, the set-up and installation of traffic signs, pavement markings,

barricades, crash barrels
and glare screens, traffic
control surveillance, the
repair and maintenance
trucks, cars, arrow
boards, message signs,
barricade and sign
fabrication equipment.....\$ 38.50 18.70

TEAM0786-001 06/01/2017

COOK COUNTY - BUILDING AND RESIDENTIAL

	Rates	Fringes
TRUCK DRIVER		
2 & 3 Axles.....	\$ 39.942	0.25+a
4 Axles.....	\$ 39.75	0.25+a
5 Axles.....	\$ 39.967	0.25+a
6 Axles.....	\$ 40.184	0.25+a

FOOTNOTES:

a. \$719.00 per week.

An additional \$.20 per axle shall be paid for all vehicles with more than six (6) axles.

Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

900 straight time hours or more in 1 calendar year for the same employer shall receive 1 week paid vacation; 3 years - 2 weeks paid vacation; 10 years - 3 weeks paid vacation; 20 years - 4 weeks paid vacation.

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) (ii)).

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

Union Rate Identifiers

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

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those

classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative

Review Board (formerly the Wage Appeals Board). Write to:

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

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

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END OF GENERAL DECISIO"

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 10 00

GENERAL PROVISIONS

06/15

PART 1 GENERAL

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- 1.3 RESPONSIBILITY OF THE CONTRACTOR
- 1.4 SUBMITTALS
- 1.5 DRUG FREE WORKPLACE
- 1.6 REAL ESTATE
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PART 2 PRODUCTS (Not Applicable)

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SECTION 01 10 00

06/15

GENERAL PROVISIONS

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. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1

(2014) Safety and Health Requirements
Manual

1.2 CERTIFICATES OF COMPLIANCE

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

1.3 RESPONSIBILITY OF THE CONTRACTOR

- a. The Contractor shall be responsible for the professional quality, technical accuracy and the coordination of all designs, drawings and specifications furnished by the Contractor under this contract. The Contractor shall, without additional compensation, correct or revise designs, drawings and specifications.
- b. Neither the Government's review, approval or acceptance of, nor payment for, any of the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause or action arising out of the performance of this contract, and the Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligence in connection with designs, drawings and specifications, furnished under this contract.
- c. The rights and remedies of the Government provided for under the contract are in addition to any other rights and remedies provided by law.

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 must be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Schedule; G, CS

In addition to CAS, field representative, other parties who will be reviewing the Construction Schedule will be DC, Civil Engineering Design Branch.

Condition of Existing Structures; G, CS, AE

Coordination with Others; G, CS, AE

Drug Free Workplace

List Of E-Verified/Eligible Candidates; G, AE

SD-06 Test Reports

Construction Progress Photographs; G, CS, AE

Progress meeting Minutes; G, CS, AE

SD-11 Closeout Submittals

Construction Complete Photographs; G, CS, AE

Construction Documentation Report; G, CS, AE

1.5 DRUG FREE WORKPLACE

Refer to FAR CLAUSE 52.223-6 entitled DRUG FREE WORKPLACE in Section 00 70 0 - Conditions of the Contract. Submit within 45 calendar days of Contractor's receipt of the "Development and Submission of Initial Project Submittals".

1.6 REAL ESTATE

All required right-of-way to do the work is available to the Contractor, and is included on the contract drawings. In the event the Contractor requires any additional access roads and storage areas, obtain such areas at his own expense. Furnish to the Contracting Officer copies of all legal documents or leases permitting his use of private or other properties other than included in the contract.

1.7 CONSTRUCTION SCHEDULE

An initial baseline [Construction Schedule](#) Construction Schedule shall be submitted within 14 calendar days of Notice to Proceed. This schedule shall use the date of Notice to Proceed as the start date and shall show the work completed on the Contract Required Completion Date, as indicated in the FAR clause entitled COMMENCEMENT, PROSECUTION, AND COMPLETION OF

WORK in Section 00 70 00 - Conditions of the Contract. At a minimum, the schedule shall include the following items:

- a. Submittal, Government review, and approval of preconstruction submittals, including the Contractor Quality Control Plan, the Accident Prevention Plan, the Environmental Protection Plan, and other major work plan and materials submittals;
- b. Procurement of any long lead-time equipment or materials, if any;
- c. Mobilization;
- d. The sequencing of each major on-site work activity from preparatory work through completion of the field work;
- e. Pre-final inspection, correction of punch list items, and final inspection;
- f. Demobilization; and
- g. Preparation, submittal, and Government review and approval of as-built drawings and closeout submittals.

In addition to the initial baseline schedule, electronic and hard copies of an updated Construction Schedule Submittal shall be included with each payment estimate/request for payment. These schedule updates shall compare the initial baseline schedule to an updated schedule showing the actual work progress to date and a projection of the work schedule for the remainder of the Contract.

All schedule submittals shall include a tabulated earnings projection, in a format acceptable to the COR, that lists the estimated earnings for each month of the Contract duration.

1.8 CONSTRUCTION PROGRESS PHOTOGRAPHS

Provide photographs documenting the work progress during construction. Photos shall be taken daily to document the progress

Weekly photographic summaries shall be provided. Submit photographs to the Contracting Officer Weekly.

1.8.1 Photographic Documentation

Provide a minimum of six views from varying positions to document the weekly work accomplished. Additional views and positions may be required by the Contracting Officer to document the monthly work progress. Any additional photographs required must be done at no additional cost to the Government.

1.8.1.1 Digital Photographic Media

Photographs must be a minimum of four megapixels in JPEG format and submitted on CD-ROM, DVD, or other method approved by the Contracting Officer. Submit two (2) copies of all disks. All disks must be labeled accordingly:

1. Contract Title
2. Contract Number

3. Photography Date
4. Include date, location, brief description, and the general direction that the photo was taken.

1.8.2 Construction Complete Photographs

Pursuant to the final inspection by the Contracting Officer, submit photographs documenting the final conditions at the completion of the contract.

Submit photographs in the same quantity, media and labeling as the construction progress photographs.

Submit construction complete photographs within ten days after final inspection by the Contracting Officer.

1.8.3 Payment and Acceptance

No separate payment will be made for providing approved progress and completion photographs required under this contract. All costs in connection therewith shall be considered a subsidiary obligation of the Contractor.

The progress photographs and the final conditions photographs will be jointly reviewed for accuracy and completeness by the COR and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the progress photographs as specified, the COR must deduct from the monthly progress payment an amount representing the estimated cost of the progress photographs.

1.9 CONSTRUCTION DOCUMENTATION REPORT (CDR)

A Construction Documentation Report (CDR) will be developed by the Government for the construction project. Once construction is complete this report will be delivered to regulatory agencies for incremental RCRA/TSCA corrective action approval.

1.9.1 Compilation of the CDR

In order to prepare the CDR, the following documents must be compiled at the completion of construction and provided to the Government by the Contractor on Compact Discs (CDs) or other method approved by the Contracting Officer. To the greatest extent possible, the CDR should use references to avoid the duplication of drawings or data. If a document is a submittal that required approval, only the final approved document must be compiled in the CDR:

- a. A brief summary prepared by the Contractor that describes any modifications to the original contract plans and specifications and provides details of unexpected problems that occurred during construction, including the actions taken to correct the problems. If modifications or problems did not occur during construction, then the summary should just note that there were no modifications or problems.

1.9.2 Additional Requirements

Within 30 days of completion of the physical construction, submit all documents requested for the CDR in Adobe Portable Document Format (*.pdf)

on labeled CD-ROMs or other method approved by the Contracting Officer. All documents that fall into the same category, as referenced above, should be placed on the same CD. If multiple CDs are needed to complete the compilation, then each CD should be labeled with what type of document is included on the CD and also that it is 1 of 2, 2 of 2, etc. Also, save the *.pdf files with the name of the document, as referenced above, in the filename (abbreviations are allowed), as well as the date. Submit two (2) copies of CDs for Government approval. Upon Government approval, submit four (4) copies of the CDs and possibly one or more hard copies. If hard copies are requested, they should indicate what type of document is included and that it is binder 1 of 2, 2 of 2, etc. A sum of \$30,000 will be retained until final approval of the CDR.

1.10 INSPECTION

The presence or absence of a QA representative shall not relieve the Contractor of responsibility for the proper execution of work in accordance with the plans and specifications.

1.11 CONDITION OF EXISTING STRUCTURES

Prior to commencement of operations by the Contractor at the site, a detailed survey will be made of all existing structures that may be affected by the Contractor's operations. The survey will be conducted in coordination with local interests, Contractor, Corps of Engineers Representative, and private parties concerned and will be sufficient in scope to provide advance agreement among all concerned as to the condition of the existing structures. Participate in pre-construction surveys of existing structures as deemed necessary to permit determination and accurate assessment of any subsequent damage to existing structures that may be incurred during the period of the contract. Contractor shall video tape the construction corridor prior to start of work to document existing conditions. The Video shall be delivered to the Contracting Officer through their approved method.

1.12 PRESERVATION OF HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

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

1.13 MINIMUM AMOUNT OF INSURANCE REQUIRED

In accordance with FAR CLAUSE entitled INSURANCE - WORK IN A GOVERNMENT INSTALLATION, the following minimum insurance coverages and limits are required. The term "Installation" referred to in this clause is deemed to mean Corps of Engineers project site or Federal property.

- a. Evidence of the following minimum insurance coverages and limits, with concurrent policy expiration dates, must be received by the Department of the Army, Corps of Engineers before the Contractor can begin work. This evidence must be on a fully-completed, signed and dated ACORD Certificate of Insurance. In addition, policy endorsements must be issued by or in behalf of the insuring company or

companies naming the Department of the Army, Corps of Engineers and the Village of Richton Park, IL as Additional Interest Insured regarding the work. The endorsements must also provide that the Department of the Army, Corps of Engineers receive direct written notice at least thirty (30) calendar days before the effective date of any material changes to, any cancellation of, or any non-renewal of these coverages during the time period of the Contractor's work. These endorsements must also be received by the Department of the Army, Corps of Engineers before the Contractor can begin work.

b. Should the coverages expire or be terminated during the time period of the Contractor's work, the Department of the Army, Corps of Engineers must receive an ACORD Certificate of Insurance as evidence of renewal or replacement insurance coverage and the supporting policy endorsements as specified above. The required evidence of renewal replacement insurance must be received by either the Contracting Officer or Contracting Officer's Representative at least ten (10) calendar days before the coverage expires or is being terminated.

c. All insuring companies must be rated A- or Excellent or better, by A.M. Best Company, an independent insurance rating service. The ACORD Certificate must list the A.M. Best Company insurance company code of listed insurance companies being offered.

Comprehensive General Liability (Occurrence policy form only)	
General Aggregate	\$2,000,000
Products/Completed Operations	\$2,000,000
Each Occurrence	\$1,000,000
Fire Damage Legal Liability	\$ 50,000

Comprehensive Automobile Liability (Including Hired Automobile Liability and Non-Owned Automobile Liability)	
Combined Single Limit	\$1,000,000

Employers' Liability	
Each Occurrence	\$ 500,000
Policy Limit	\$ 500,000
Each Employee	\$ 500,000

Workers Compensation	\$5,000,000
(As required by state law or Federal law)	

Umbrella Liability (Occurrence policy form only)	
Each Occurrence and Aggregate	\$5,000,000

1.14 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

This clause specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSE entitled "DEFAULT (FIXED PRICE CONSTRUCTION)". In order for the Contracting Officer to award a time extension under this clause, 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.

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 Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
BUSINESS DAYS BASED ON A FIVE DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
21	19	15	7	4	3	3	3	2	6	13	20

Upon acknowledgement of Notice to Proceed (NTP) and continuing throughout the contract, record on the daily Contractor Quality Control 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 business day.

The number of actual adverse weather delay days must 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 delays exceeds the number of days anticipated in paragraph 2, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather business days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)".

1.15 PERMITS AND RESPONSIBILITIES

Obtain all permits/licenses required for this project as required under CONTRACT CLAUSES paragraph entitled "PERMITS AND RESPONSIBILITIES".

1.16 COORDINATION WITH OTHERS

Schedule and coordinate operations affecting other Contractors, Government hired labor forces, utilities, and/or property within the work limits. Schedule with lead time sufficient for coordination of all involved parties as necessary for timely completion of each contract feature. As evidence of this compliance with this General Provision, furnish the Contracting Officer's Representative (COR) with a copy of each coordinated schedule prior to commencing operations affecting such other Contractors, utilities, and/or property.

Point of contact for the Village of Richton Park shall be:

Mike Wegrzyn
Director of Public Works
4455 Sauk Trail
Richton Park, IL 60471
Phone: 708-481-8950
Email: mwegrzyn@richtonpark.org

1.17 SPECIAL SAFETY REQUIREMENTS

Comply with all applicable Federal, state and local safety requirements including, but not limited to, those provided in [EM 385-1-1](#).

1.18 ONE CALL SYSTEMS FOR EXCAVATORS

One call systems, established by law, are operated by owners of underground facilities for excavators. Upon notification by an excavator through a one call system, all participating operators of underground facilities in a covered area will identify and locate their facilities. One call systems will be identified by contacting the following:

ILLINOIS

JULIE UTILITIES PROTECTION SERVICES
1-800-892-0123

1.19 ELECTRICAL POWER LINES

Study the construction plans and site and know in detail all locations of power lines within the rights of way. Prior to performing any construction operation adjacent to power lines, appropriate danger signs must be provided where any equipment scheduled for use on the site is capable of contacting such lines. Confirm the location of underground lines, contact the appropriate council listed in paragraph ONE CALL SYSTEMS FOR EXCAVATORS. Aerial power lines must either be shut off and a positive means taken to prevent the lines from being energized, or clearances required by **EM 385-1-1**, Safety and Health Requirements Manual, must be maintained. Work must not proceed into dangerous areas without an additional workman being assigned the crew to watch the movements of other personnel and equipment to assure that designated clearances are maintained.

1.20 BORROW/DISPOSAL SITES AND QUARRIES

This paragraph, Borrow/Disposal Sites and Quarries, applies only to the ability of the Contractor to utilize a particular borrow/disposal site or quarry, and does not address the use of materials from that site or quarry. Nothing in this paragraph, Borrow/Disposal, shall relieve the Contractor of complying with the specific testing requirements for material taken from any borrow/disposal sites or quarries as set forth in the technical provisions of this Contract.

a. Definitions. For purposes of this general provision, the following definitions apply:

(1) Government-Suggested borrow/disposal site or quarry means a site or quarry suggested by the Government for use by the Contractor concerning which all applicable Federal, state and local environmental statutory and regulatory requirements may or may not have been satisfied.

(2) Commercial/existing borrow/disposal site or quarry means a site or quarry which is either in the business of providing borrow material or has been used as a disposal site for other purposes and is available for use; and concerning which all applicable Federal, state and local environmental statutory and regulatory requirements have been satisfied.

(3) Contractor-chosen borrow/disposal site or quarry means a site or quarry chosen by the Contractor for use concerning which none or not all of the applicable Federal, state and local environmental statutory and regulatory requirements have been

satisfied.

b. If a borrow/disposal site or quarry is identified in the contract specifications as Government-Suggested, it is the responsibility of the Contractor to ascertain whether or not all Federal, state and local environmental statutory and regulatory requirements have been satisfied. If any of such requirements have not been satisfied, the Contractor is required to follow the procedures set forth in paragraph d(4) below. Use of such a site or quarry must be approved by the Contracting Officer.

c. If the Contractor chooses a commercial/existing borrow/disposal site or quarry, the Contractor is not required to ensure that all applicable Federal, state and local environmental statutory and regulatory requirements have been satisfied, but is required to provide to the Government either, as a minimum, a letter from the owner/operator of the commercial/existing borrow/disposal site or quarry certifying that all environmental and operating permits have been acquired, or actual copies of all such environmental and operating permits. Use of such a site or quarry must be approved by the Contracting Officer. Adhere to all rules, regulations and business practices required by the owner/operator.

d. If a Contractor decides to use a Contractor-chosen borrow/disposal site or quarry, it is the Contractor's responsibility to ensure that all applicable Federal, state and local environmental statutory and regulatory requirements have been satisfied. Use of such a site or quarry must be approved by the Contracting Officer, and such approval shall not be granted unless all applicable requirements have been met and such use of the site does not pose significant environmental impacts.

(1) The specific requirements which must be met by the Contractor before a Contractor-chosen (or, when applicable, a Government-recommended) site or quarry must be approved by the COR include, at a minimum, but are not necessarily limited to, compliance with the following environmental laws, regulations and executive orders:

Federal Laws, Regulations, and Executive Orders

Name	Agency
Section 404, Clean Water Act (Permit)	U.S. Army Corps of Engineers, Detroit District (IN/WI) Chicago District (IL)
Section 10, River and Harbor Act of 1899 (Permit)	U.S. Army Corps of Engineers
Emission Limitations, Clean Air Act	U.S. Environmental Protection Agency
Section 9, Endangered Species Act of 1973	U.S. Fish and Wildlife Service, Barrington Office (IL) Bloomington Office (IN) Green Bay Office (WI)
Section 703,	U.S. Fish and Wildlife Service

Migratory Bird
Treaty Act of 1918

Section 106, Illinois Historic Preservation
National Historic Agency (IL)
Preservation Act of 1966

Flood Plain U.S. Army Corps of
Management, Engineers, Chicago District
Executive Order 11988

Surface Mining Bureau of Mines
Control and Reclamation
Act of 1977

Resource U.S. Environmental Protection
Conservation and Agency
Recovery Act of 1976

Toxic Substance U.S. Environmental Protection
Control Act Agency

It is the Contractor's responsibility to ensure that all applicable Federal, state and local environmental statutory and regulatory requirements are satisfied, regardless of their presence on, or absence from, the above list.

(2) It is the responsibility of the Government to ensure that the requirements of the National Environmental Policy Act (NEPA) have been complied with. If the Contractor decides to use a site or quarry which has not previously undergone an environmental review under NEPA (either Government-recommended or Contractor-chosen), notify the Contracting Officer, who shall arrange for such an environmental review. This review and compliance process may include inter-agency coordination and the preparation and circulation for public review of environmental documentation. It is the responsibility of the Contractor to allow sufficient time in the construction schedule to accommodate this review and compliance process, and to provide the Contracting Officer with any and all information that the Contracting Officer deems necessary to facilitate the process. The review and compliance process requires a minimum time frame of ninety (90) calendar days, but could take substantially longer, possibly up to one year or, in unusual circumstances, even longer than one year, to complete. Any construction delays caused by the need to conduct an environmental review under NEPA shall be solely the responsibility of the Contractor, at no additional cost to the Government.

(3) It is also the responsibility of the Government to perform Section 7 consultation under the Endangered Species Act, to coordinate with the U.S. Fish and Wildlife Service and appropriate state wildlife agencies under the Fish and Wildlife Coordination Act, and to perform a Farmland Conversion Impact Rating under the Farmland Protection Policy Act for all Government-Suggested or Contractor-Chosen sites. This must be accomplished concurrently with the NEPA environmental review process. It is the responsibility of the Contractor to allow sufficient time in the construction schedule to accommodate these consultation and

coordination requirements as well as the NEPA review process, and to provide the Contracting Officer with any and all information that the Contracting Officer deems necessary to facilitate the completion of these consultation and coordination requirements.

(4) The Government cannot guarantee that any Government-Suggested or Contractor-chosen site is capable of complying with all applicable Federal, state and local environmental statutory and regulatory requirements and may reject any such site proposed for use by the Contractor for environmental reasons. If the Contracting Officer does not approve the use of a Government-recommended or Contractor-chosen borrow/disposal site or quarry because not all applicable Federal, state or local environmental statutory and regulatory requirements have been satisfied, or because the Government determines that such site or quarry could not be used for environmental reasons as a result of the environmental review under NEPA, it is the Contractor's responsibility to locate an alternate site or quarry and to perform all necessary reviews to obtain approval of the use of such alternative site or quarry. Any construction delays caused by the need to locate an alternate site or quarry, shall be solely the responsibility of the Contractor, at no additional cost to the Government.

(5) Nothing in this clause shall relieve the Contractor from the responsibility of obtaining all non-environmental permits and licenses which may be required under Federal, state or local statutes, regulations and ordinances.

1.21 PROGRESS MEETINGS

A progress meeting will be held once every two weeks (biweekly) or as scheduled by the Contracting Officer. The meetings must be held on-site, unless the Government elects to hold the meetings at an alternate off-site location. The day and time for conducting meetings will be mutually agreed to between the Contractor, the Government, the Local Sponsors and other participants as required, within 30 calendar days after receipt of the notice to proceed. The Contractor is required to fully participate in the progress meeting.

Prepare meeting agendas and meeting minutes for each meeting. The agenda and [progress meeting minutes](#) must be prepared in a format acceptable to the COR and must contain all information required by the COR, including, but not limited to:

- a. A listing of all meeting participants;
- b. The financial progress, including original and current contract amounts, the amount paid to date, the original and current contract completion dates, and the expiration dates listed on the Contractor's ACORD Certificate of Insurance;
- c. A list of work completed since the last meeting;
- d. A list of work activities scheduled for the upcoming two weeks;
- e. Critical work activities in the project schedule;
- f. Old business, including summaries of the status of unresolved

issues discussed at previous progress meetings;

g. New business, including summaries of issues that need to be addressed and have not been included in previous meeting minutes;

h. Potential items of interest to the public, local sponsor, or local community;

i. The status of submittals, including lists of outstanding submittals, key submittals in review, and upcoming submittals;

j. A discussion of safety, including a summary of project accident and injury statistics, an overview of the primary safety concerns related to ongoing and upcoming work, and a discussion of the status of accident reports, if any.

k. A listing of all field changes/modifications.

The progress meeting minutes must be submitted to the Government and all other meeting participants for review and approval within seven days of the meeting. The review and approval process will allow for mutual acceptance of the minutes as written. As directed by the Government, edit the minutes to add, delete, and/or correct items that were covered in the weekly meeting. The edited meeting minutes must then be resubmitted within 7 days of the receipt of the Government comments.

1.22 SECURITY REQUIREMENTS

1.22.1 Access and General Protection/Security Policy and Procedures

All contractor and all associated sub-contractors employees shall comply with applicable facility access and local security policies and procedures (provided by government representative). Contractor workforce must comply with all personal identity verification requirements (FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel) as directed by Department of Defense (DoD), Headquarters Department of Army (HQDA) and/or local policy.

1.22.2 CLAUSE 15 - E-Verify Program

The Contractor must pre-screen candidates using the E-verify Program (<http://www.uscis.gov/e-verify>) website to meet the established employment eligibility requirements. The Vendor must ensure that the candidate has two valid forms of Government issued identification prior to enrollment to ensure the correct information is entered into the E-verify system. The vendor must ensure the correct information is entered into the E-verify system. A [list of E-verified/eligible candidates](#) for each verified/eligible contractor candidate, working on this contract, shall be submitted 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, with the designated Government representative. Form I-9 will be provided to the Contracting Officer and shall become part of the official contract file. (The purpose of using E-Verify is to ensure all contractors are U.S. citizens or documented foreign citizens with authority to work in the United States of America).

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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08/15

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SECTION 01 11 00

SUMMARY OF WORK
08/15

PART 1 GENERAL

1.1 SUBMITTALS

SD-01 Preconstruction Submittals
Salvage Plan; G, CS, AE

1.2 WORK COVERED BY CONTRACT DOCUMENTS

1.2.1 Project Description

The work includes the installation of a new watermain and its associated appurtenances, abandonment of the existing watermain, and the installation of three box culvert roadway crossings. The work shall include all necessary traffic control and protection, mobilization, excavation, trench backfill, installation of the watermain and box culverts, bituminous and concrete pavement removal and restoration, storm sewer removal and replacements, turf restoration and incidental related work.

1.2.2 Location

The culvert crossings are located near 5206 Imperial Drive; 22552 Amy Drive; and 22757 Lakeshore Drive. The watermain replacement will occur between Imperial Drive and Mission Drive. A location map is shown on the cover of the Plans. The exact location will be shown by the Contracting Officer.

1.3 CONSTRUCTION SEQUENCING

Construction may not begin until June 1, 2023. Amy Drive and the intersection of Lakeshore Drive and Imperial Drive shall be open to traffic by August 15, 2023.

If the Amy Drive and Imperial Drive Culverts are both awarded, one must be open to traffic prior to removing the other. The Lakeshore Drive culvert and water main construction can occur at any point in the established construction period.

1.4 EXISTING WORK

In addition to "FAR 52.236-9, Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements":

- a. Remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which remain.
- b. Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the Contracting Officer. At the completion of operations, existing work must be in a condition equal to or better than that which existed before new work started.

1.5 LOCATION OF UNDERGROUND UTILITIES

Obtain digging permits prior to start of excavation, and comply with Installation requirements for locating and marking underground utilities. Contact local utility locating service a minimum of 48 hours prior to excavating, to mark utilities, and within sufficient time required if work occurs on a Monday or after a Holiday. Verify existing utility locations indicated on contract drawings, within area of work.

Identify and mark all other utilities not managed and located by the local utility companies. Scan the construction site with Ground Penetrating Radar (GPR), electromagnetic, or sonic equipment, and mark the surface of the ground or paved surface where existing underground utilities are discovered. Verify the elevations of existing piping, utilities, and any type of underground obstruction not indicated, or specified to be removed, that is indicated or discovered during scanning, in locations to be traversed by piping, ducts, and other work to be conducted or installed. Verify elevations before installing new work closer than nearest manhole or other structure at which an adjustment in grade can be made.

1.5.1 Notification Prior to Excavation

Notify the Contracting Officer at least 5 working days prior to starting excavation work.

1.6 SALVAGE MATERIAL AND EQUIPMENT

Items designated by the Contracting Officer to be salvaged remain the property of the Government. Segregate, itemize, deliver and off-load the salvaged property at the Village of Richton Park Public Works Building located at 22022 Belmont Road, Richton Park, IL 60471.

Provide a [salvage plan](#), listing material and equipment to be salvaged, and their storage location. Contractor shall salvage existing frames, castings, and other sewer and water products as directed by Contracting Officer. Maintain property control records for material or equipment designated as salvage. Use a system of property control that is approved by the Contracting Officer. Store and protect salvaged materials and equipment until disposition by the Contracting Officer.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

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PRICE AND PAYMENT PROCEDURES

08/15

PART 1 GENERAL

1.1 LANDSCAPE AND TURF RESTORATION (BASE BID ITEM 0001AA, OPTION BID ITEMS 0002AA, 0003AA 0004AA 0005AA 0006AA 0007AA)

1.1.1 Payment

Payment will be made for costs associated with landscape and turf restoration as shown on the plans or as required by the Contracting Officer due to unforeseen disturbances inside and outside of the proposed construction limits, including but not limited to traffic control and protection, furnishing and placing topsoil (including the earth excavation to install the topsoil), seeding (IDOT classes 1 and 6), erosion control blanket, temporary erosion control blanket, temporary erosion control seeding, tree removal, tree trunk protection, tree root pruning, tree pruning, rip-rap, filter fabric, turf reinforcement mat, silt fence, removing and reinstalling mailboxes, removing and relocating sign posts, and all other operations incidental thereto. Provisions shall also be made to walk the project sites to determine which trees will need to be removed, root pruned, pruned, or protected. Final restoration shall match the grades when shown in the plans. This includes work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 31 11 00 CLEARING AND GRUBBING, 32 05 33 LANDSCAPE ESTABLISHMENT, and 32 92 19 SEEDING.

1.1.2 Unit of Measure

Unit of measure: job.

1.2 PAVEMENT RESTORATION (BASE BID ITEM 0001AB, OPTION BID ITEMS 0002AB, 0003AB, 0004AB, 0005AB, 0006AB, 0007AB)

1.2.1 Payment

Payment will be made for costs associated with pavement restoration as shown on the plans or as required by the Contracting Officer due to unforeseen disturbances inside and outside of the proposed construction limits, including but not limited to traffic control and protection, construction layout, saw cutting all pavements that are to be removed, pavement removal and disposal (includes roadway pavement, curb and gutter, sidewalk, driveway, and the subgrade underneath the pavements), HMA surface removal and disposal (milling) and the installation & removal of HMA surface butt joints. This pay item also includes furnishing and installing subbase granular materials, aggregate base courses, bituminous materials (tack coat), HMA surface and binder courses (of the mixes specified), PCC and HMA driveways of the thicknesses specified, PCC curb and gutters of the type specified, concrete patches adjacent to curb and gutter in areas where full depth HMA pavement replacement is not proposed, PCC sidewalks of the thickness specified, and all other operations incidental thereto. This includes work shown in the plans and as specified

in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 31 00 00 EARTHWORK, 32 01 16.71 COLD MILLING ASPHALT PAVEMENT, 32 11 23 AGGREGATE BASE COURSE AND SUBBASE GRANULAR MATERIAL, 32 12 13 BITUMINOUS TACK AND PRIME COATS, 32 16 16.16 ROAD-MIX ASPHALT PAVING, and 32 16 19 CONCRETE CURBS, GUTTERS, DRIVEWAYS, AND SIDEWALKS.

1.2.2 Unit of Measure

Unit of measure: job.

1.3 BOX CULVERT END SECTIONS, CULVERT NO. 1 (Base Bid Item #0001AC)

Payment will be made for the costs associated with the furnishing and installation of the box culvert end sections, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and specified, trenching/shoring, exploratory excavation, excavation and disposal of materials, bedding (porous granular material), backfill, granular backfill, all materials and labor necessary to connect to the box culvert, all materials and labor necessary to install storm sewer into headwall, removal and disposal of existing culvert piping and headwalls, removal and disposal of existing chain link fences and installing new chain link fences as defined in the plans, and all other operations incidental thereto. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 32 31 13 CHAIN LINK FENCE AND GATES, 33 40 00 STORMWATER UTILITIES.

1.3.1 Unit of Measure

Unit of measure: Each.

1.4 BOX CULVERT END SECTIONS, CULVERT NO. 2 (Option Bid Item #0002AC)

Payment will be made for the costs associated with the furnishing and installation of the box culvert end sections, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and specified, trenching/shoring, exploratory excavation, excavation and disposal of materials, bedding (porous granular material), backfill, granular backfill, all materials and labor necessary to connect to the box culvert, all materials and labor necessary to install storm sewer into headwall, removal and disposal of existing culvert piping and headwalls, removal and disposal of existing chain link fences and installing new chain link fences as defined in the plans, and all other operations incidental thereto. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS 31 00 00 EARTHWORK, 32 31 13 CHAIN LINK FENCE AND GATES, 33 40 00 STORMWATER UTILITIES.

1.4.1 Unit of Measure

Unit of measure: Each.

1.5 BOX CULVERT END SECTIONS, CULVERT NO. 3 (Option Bid Item #0003AC)

Payment will be made for the costs associated with the furnishing and installation of the box culvert end sections, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion

and sediment control materials as shown in the plans and specified, trenching/shoring, exploratory excavation, excavation and disposal of materials, bedding (porous granular material), backfill, granular backfill, all materials and labor necessary to connect to the box culvert, all materials and labor necessary to install storm sewer into headwall, removal and disposal of existing culvert piping and headwalls, removal and disposal of existing chain link fences and installing new chain link fences as defined in the plans, and all other operations incidental thereto. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 32 31 13 CHAIN LINK FENCE AND GATES, 33 40 00 STORMWATER UTILITIES.

1.5.1 Unit of Measure

Unit of measure: Each.

1.6 PRECAST CONCRETE BOX CULVERTS 6'X3' (Base Bid Item #0001AD, Option Bid Item #0003AD)

Payment will be made for the costs associated with the furnishing and installation of the precast concrete box culverts, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, exploratory excavation, excavation and disposal of materials, bedding (porous granular material), backfill, granular backfill, all materials necessary to connect the precast sections and the box culvert end section, removal and disposal of existing culvert piping and headwalls, and all other operations incidental thereto. Any watermain piping that may interfere with the construction shall be adjusted to provide a minimum 1.5' clearance below the box culvert with the materials defined in the specifications at no additional costs. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 11 00 WATER UTILITY DISTRIBUTION PIPING, and 33 40 00 STORMWATER UTILITIES.

1.6.1 Unit of Measure

Unit of measure: Foot.

1.7 PRECAST CONCRETE BOX CULVERTS 8'X5' (Option Bid Item #0002AD)

Payment will be made for the costs associated with the furnishing and installation of the precast concrete box culverts, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, exploratory excavation, excavation and disposal of materials, bedding (porous granular material), backfill, granular backfill, all materials necessary to connect the precast sections and the box culvert end section, removal and disposal of existing culvert piping and headwalls, and all other operations incidental thereto. Any watermain piping that may interfere with the construction shall be adjusted to provide a minimum 1.5' clearance below the box culvert with the materials defined in the specifications at no additional costs. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 11 00 WATER UTILITY DISTRIBUTION PIPING, and 33 40 00 STORMWATER UTILITIES.

1.7.1 Unit of Measure

Unit of measure: Foot.

1.8 STORM SEWERS, 12" (Option Bid Item #0003AE)

Payment will be made for the costs associated with the furnishing and installation of the storm sewers of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, excavation and disposal of materials, pipe bedding, backfill, granular backfill, all materials necessary to connect the new pipe to existing pipe and storm structures, removal and disposal of any existing storm sewer, and all other operations incidental thereto. This pay item includes connecting the storm sewer into headwalls where shown on the plans. This includes all shown specified in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 40 00 STORMWATER UTILITIES.

1.8.1 Unit of Measure

Unit of measure: Foot.

1.9 STORM SEWERS, 15" (Option Bid Item #0002AE)

Payment will be made for the costs associated with the furnishing and installation of the storm sewers of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, excavation and disposal of materials, pipe bedding, backfill, granular backfill, all materials necessary to connect the new pipe to existing pipe and storm structures, and removal and disposal of any existing storm sewer. This pay item includes connecting the storm sewer into headwalls where shown on the plans. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, FACILITIES AND CONTROLS, 31 00 00 EARTHWORK, and 33 40 00 STORMWATER UTILITIES.

1.9.1 Unit of Measure

Unit of measure: Foot.

1.10 STORM SEWERS, 18" (Base Bid Item #0001AE)

Payment will be made for the costs associated with the furnishing and installation of the storm sewers of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, excavation and disposal of materials, pipe bedding, backfill, granular backfill, all materials necessary to connect the new pipe to existing pipe and storm structures, and removal and disposal of any existing storm sewer. This pay item includes connecting the storm sewer into headwalls where shown on the plans. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 40 00

STORMWATER UTILITIES.

1.10.1 Unit of Measure

Unit of measure: Foot.

1.11 STRUCTURE TO BE ADJUSTED (Base Bid Item #0001AF, Option Bid Items #0002AF, #0003AF)

Payment will be made for the costs associated with adjusting existing catch basin, inlet, or manhole structures, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, excavation and disposal of materials, concrete to fill the void in the roadway pavement left by breaking out the structure, furnishing and installing adjustment rings, external chimney seals, and new frame and covers. All sanitary sewer adjustments rings and frame shall be bonded with a precast concrete joint sealant that meets or exceeds ASTM C990 standards. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 30 00 SANITARY SEWERAGE, and 33 40 00 STORMWATER UTILITIES.

1.11.1 Unit of Measure

Unit of measure: Each.

1.12 ABANDON EXISTING WATERMAIN (Option Bid Items #0004AC, #0005AC, #0006AC, #0007AC)

Payment will be made for the costs associated with abandoning the existing watermain and its existing appurtenances, including traffic control and protection, dewatering/bypass pumping, trenching/shoring, temporary fencing, erosion and sediment control materials as shown in the plans and as specified, exploratory excavation, excavation and disposal of materials, backfill, granular backfill, removal and disposal of existing valve boxes (gate valves shall be abandoned in place), removal and disposal of the existing fire hydrant and auxiliary valve box (existing gate valve shall be abandoned in place - deliver fire hydrant to Richton Park Public Works if requested by Village), grouting the abandoned pipe to remain, cutting and capping the existing watermain, draining of the pipe, disinfection of pipe to remain, and removing all existing service b-boxes and abandoning the curb stop in place. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.12.1 Unit of Measure

Unit of measure: Job.

1.13 6-INCH C900 PVC WATER MAIN - OPEN CUT (Option Bid Items #0004AD, #0007AD)

Payment will be made for the costs associated with the furnishing and installation of the water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and

as specified, temporary fencing, exploratory excavation, excavation and disposal of materials, trenching/shoring, pipe bedding, backfill, granular backfill, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, hydrostatic and leakage testing, and disinfection. This pay item also includes relocating sanitary service laterals that are 6-inches or less in diameter that interfere with the water main construction; all services shall be re-instated with SDR 26 PVC and non-shear couplings. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 11 00 WATER UTILITY DISTRIBUTION PIPING, and 33 30 00 SANITARY SEWERAGE.

1.13.1 Unit of Measure

Unit of measure: Foot.

1.14 8-INCH C900 PVC WATER MAIN - OPEN CUT (Option Bid Items #0004AE, #0005AD, #0006AD, #0007AE)

Payment will be made for the costs associated with the furnishing and installation of the water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, trenching/shoring, excavation and disposal of materials, pipe bedding, backfill, granular backfill, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, hydrostatic and leakage testing, and disinfection. This pay item also includes relocating sanitary service laterals that are 6-inches or less in diameter that interfere with the water main construction; all services shall be re-instated with SDR 26 PVC and non-shear couplings. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 11 00 WATER UTILITY DISTRIBUTION PIPING, and 33 30 00 SANITARY SEWERAGE.

1.14.1 Unit of Measure

Unit of measure: Foot.

1.15 10-INCH C900 PVC WATER MAIN - OPEN CUT (Option Bid Item #0004AF)

Payment will be made for the costs associated with the furnishing and installation of the water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, trenching/shoring, excavation and disposal of materials, pipe bedding, backfill, granular backfill, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, hydrostatic and leakage testing, and disinfection. This pay item also includes relocating sanitary service laterals that are 6-inches or less in diameter that interfere with the water main construction; all services shall be re-instated with SDR 26 PVC and non-shear couplings. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 11 00 WATER UTILITY DISTRIBUTION PIPING, and 33 30 00 SANITARY SEWERAGE.

1.15.1 Unit of Measure

Unit of measure: Foot.

1.16 12-INCH C900 PVC WATER MAIN - OPEN CUT (Option Bid Item #0004AG)

Payment will be made for the costs associated with the furnishing and installation of the water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, trenching/shoring, excavation and disposal of materials, pipe bedding, backfill, granular backfill, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, hydrostatic and leakage testing, and disinfection. This pay item also includes relocating sanitary service laterals that are 6-inches or less in diameter that interfere with the water main construction; all services shall be re-instated with SDR 26 PVC and non-shear couplings. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 11 00 WATER UTILITY DISTRIBUTION PIPING, and 33 30 00 SANITARY SEWERAGE.

1.16.1 Unit of Measure

Unit of measure: Foot.

1.17 FIRE HYDRANT ASSEMBLY (Option Bid Items #0004AH, #0005AE, #0006AE, #0007AF)

Payment will be made for the costs associated with the furnishing and installation of the fire hydrant assemblies, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, trenching/shoring, excavation and disposal of materials, restrained joints, restrained fittings (including restrained tee), 6-inch pipe between the tee at the main and hydrant, auxiliary valve and box, pipe bedding, backfill, granular backfill, gaskets, tracer wire, hydrostatic and leakage testing, and disinfection. This pay item also includes installing fire hydrant extensions in order to install the leader pipe underneath the existing water main where required. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.17.1 Unit of Measure

Unit of measure: Each.

1.18 WATER SERVICE RE-CONNECTION, LONG (Option Bid Items #0004AI, #0005AF, #0006AF, #0007AG)

Payment will be made for the costs associated with the furnishing and installation of the water service re-connections, long, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation (to locate

services that need to be re-instated and for potential utility conflicts), excavation and disposal of materials, trenching/shoring, drilling bore pits, receiving pits, pipe bedding, backfill, granular backfill, type k copper service piping, stainless steel tapping saddle, corporation stop, curb stop, curb box (buffalo box), connection/coupling to existing service, tracer wire, and disinfecting/flushing of service. All "LONG" water services shall be installed by HDD methods. All water service piping, fittings, and valves shall be a minimum of 1-inch (install larger size if necessary to match existing). This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, 33 05 23.13 UTILITY HORIZONTAL DIRECTIONAL DRILLING, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.18.1 Unit of Measure

Unit of measure: Each.

1.19 WATER SERVICE RE-CONNECTION, SHORT (Option Bid Items #0004AJ, #0005AG, #0006AG, #0007AH)

Payment will be made for the costs associated with the furnishing and installation of the water service re-connections, short, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation (to locate services that need to be re-instated and for potential utility conflicts), excavation and disposal of materials, trenching/shoring, pipe bedding, backfill, granular backfill, type k copper service piping, stainless steel tapping saddle, corporation stop, curb stop, curb box (buffalo box), connection/coupling to existing service, tracer wire, and disinfecting/flushing of service. All "SHORT" water services shall be installed by open-cut methods. All water service piping, fittings, and valves shall be a minimum of 1-inch (install larger size if necessary to match existing). This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.19.1 Unit of Measure

Unit of measure: Each.

1.20 CONNECT TO EXISTING WATER MAIN, 6-INCH (Option Bid Items #0004AK, #0007AI)

Payment will be made for the costs associated with connecting to the existing water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, excavation and disposal of materials, trenching/shoring, pipe bedding, backfill, granular backfill, pipe, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, linestops, hydrostatic and leakage testing, and disinfection. Contractor shall verify existing watermain size prior to making connection and no additional payment will be made for variances in the field from the plans. This pay item also includes coordinating with the Village of Public Works Water Department to perform water shut-downs. This includes all work shown in

the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.20.1 Unit of Measure

Unit of measure: Each.

1.21 CONNECT TO EXISTING WATER MAIN, 8-INCH (Option Bid Items #0004AL)

Payment will be made for the costs associated with connecting to the existing water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, excavation and disposal of materials, trenching/shoring, pipe bedding, backfill, granular backfill, pipe, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, linestops, hydrostatic and leakage testing, and disinfection. Contractor shall verify existing watermain size prior to making connection and no additional payment will be made for variances in the field from the plans. This pay item also includes coordinating with the Village of Public Works Water Department to perform water shut-downs. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.21.1 Unit of Measure

Unit of measure: Each.

1.22 CONNECT TO EXISTING WATER MAIN, 10-INCH (Option Bid Items #0004AM)

Payment will be made for the costs associated with connecting to the existing water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, excavation and disposal of materials, trenching/shoring, pipe bedding, backfill, granular backfill, pipe, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, linestops, hydrostatic and leakage testing, and disinfection. Contractor shall verify existing watermain size prior to making connection and no additional payment will be made for variances in the field from the plans. This pay item also includes coordinating with the Village of Public Works Water Department to perform water shut-downs. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.22.1 Unit of Measure

Unit of measure: Each.

1.23 CONNECT TO EXISTING WATER MAIN, 12-INCH (Option Bid Item #0004AN)

Payment will be made for the costs associated with connecting to the existing water main of the size indicated, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, excavation and disposal of materials, trenching/shoring, pipe bedding, backfill, granular backfill, pipe, restrained joints, restrained fittings, thrust blocking, gaskets, tracer wire, temporary sample taps, temporary blow offs, linestops, hydrostatic and leakage testing, and disinfection. Contractor shall verify existing watermain size prior to making connection and no additional payment will be made for variances in the field from the plans. This pay item also includes coordinating with the Village of Public Works Water Department to perform water shut-downs. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

1.23.1 Unit of Measure

Unit of measure: Each.

1.24 GATE VALVE, 8-INCH WITH VALVE BOX (Option Bid Items #0004AO, #0005AH, #0006AH, #0007AJ)

Payment will be made for the costs associated with the furnishing and installation of the gate valve of the indicated size with a valve box, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, trenching/shoring, excavation and disposal of materials, restrained joints, restrained fittings, gate valve and valve box & cover stamped "water", pipe bedding, backfill, granular backfill, tracer wire, hydrostatic and leakage testing, and disinfection. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY DISTRIBUTION PIPING..

1.24.1 Unit of Measure

Unit of measure: Each.

1.25 GATE VALVE, 12-INCH WITH VALVE BOX (Option Bid Item #0004AP)

Payment will be made for the costs associated with the furnishing and installation of the gate valve of the indicated size with a valve box, including construction layout, traffic control and protection, dewatering/bypass pumping, erosion and sediment control materials as shown in the plans and as specified, temporary fencing, exploratory excavation, trenching/shoring, excavation and disposal of materials, restrained joints, restrained fittings, gate valve and valve box & cover stamped "water", pipe bedding, backfill, granular backfill, tracer wire, hydrostatic and leakage testing, and disinfection. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 11 00 WATER UTILITY

DISTRIBUTION PIPING..

1.25.1 Unit of Measure

Unit of measure: Each.

1.26 REMOVE AND REPLACE 12" STORM SEWER WITH 12" WMQ PIPE (Option Bid Items #0006AI, #0007AK)

Payment will be made for the costs associated with the removal and furnishing and installation of the storm sewers of the size indicated with watermain quality pipe, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, excavation and disposal of materials, pipe bedding, backfill, granular backfill, all materials necessary to connect the new pipe to existing pipe and storm structures, removal and disposal of any existing storm sewer, and all other operations incidental thereto. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 40 00 STORMWATER UTILITIES.

1.26.1 Unit of Measure

Unit of measure: Foot.

1.27 REMOVE AND REPLACE 24" STORM SEWER WITH 24" WMQ PIPE (Option Bid Item #0005AI)

Payment will be made for the costs associated with the removal and furnishing and installation of the storm sewers of the size indicated with watermain quality pipe, including construction layout, traffic control and protection, dewatering/bypass pumping, trenching/shoring, erosion and sediment control materials as shown in the plans and as specified, excavation and disposal of materials, pipe bedding, backfill, granular backfill, all materials necessary to connect the new pipe to existing pipe and storm structures, removal and disposal of any existing storm sewer, and all other operations incidental thereto. This includes all work shown in the plans and as specified in Sections 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, 01 57 20. 01 03 ENVIRONMENTAL PROTECTION FOR ILLINOIS, 31 00 00 EARTHWORK, and 33 40 00 STORMWATER UTILITIES.

1.27.1 Unit of Measure

Unit of measure: Foot.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 CONTRACT COST BREAKDOWN

The Contractor must furnish within 30 days after the date of Notice to Proceed, and prior to the submission of its first partial payment estimate, a breakdown of its single job pay item or items which will be reviewed by the Contracting Officer as to propriety of distribution of the total cost to the various accounts. Any unbalanced items as between early

and late payment items or other discrepancies will be revised by the Contracting Officer to agree with a reasonable cost of the work included in the various items. This contract cost breakdown will then be utilized as the basis for progress payments to the Contractor.

-- End of Section --

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SECTION 01 33 00

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06/15

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PART 2 PRODUCTS

PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 01 33 00

SUBMITTAL PROCEDURES

06/15

PART 1 GENERAL

1.1 SUMMARY

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 are to be the same as those used in the contract drawings.

Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Contractor's Quality Control (CQC) System Manager to check and approve all items prior to submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

Submittals requiring Government approval are to be scheduled and made prior to the acquisition of the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals

Submittals which are required prior to commencing work on site. Includes schedules, tabular list of data, or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates of insurance

Surety bonds

List of proposed Subcontractors

List of proposed products

Construction progress schedule

Network Analysis Schedule (NAS)

Submittal register

Schedule of prices

Health and safety plan

Work plan

Quality Control(QC) plan

Environmental protection plan

SD-02 Shop Drawings

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

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

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

SD-03 Product Data

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

Samples of warranty language when the contract requires extended product warranties.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

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

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily logs and checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and (MSDS) concerning impedances, hazards and safety precautions.

SD-11 Closeout Submittals

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

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve submittal.

1.2.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, **except those SD-01 Pre-Construction Submittals noted above**, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. 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 this section.

SD-01 Preconstruction Submittals

Submittal Register; G, CS

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4.1 Government Approved G

Government 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 entitled, "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.4.2 Information Only

Submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.5 PREPARATION

1.5.1 Transmittal Form

Use the attached sample transmittal form (ENG Form 4025) for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the QCS software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.2 Electronic File Format

Provide submittals other than material samples in both hard copy (paper) and electronic formats. The electronic submittal file must be compiled as a single, complete document, to include the Transmittal Form described in Paragraph 1.5.1. The electronic submittal file must be named specifically according to its contents (e.g. 01 45 00.00-1.2_Quality Control Plan.pdf).

Electronic files must be of sufficient quality that all information is legible. Electronic format shall be in Adobe.PDF format, unless otherwise specified or directed by the Contracting Officer's Representative (COR). Whenever possible, PDF files shall be generated from original documents so that the text included in the PDF file is both searchable and can be copied. If documents are scanned, Optical Character Resolution (OCR) routines are required. Files exceeding 30 pages shall be indexed and bookmarked to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature, or scan of a signature.

Email electronic submittal documents fewer than 10MB to an email address as directed by the COR. Electronic documents over 10MB shall be provided on a CD/DVD, or through an electronic file sharing system such as the DoD SAFE Web Application located at the following website:

<https://safe.apps.mil/>

Provide hard copies of submittals as specified in this or other specification sections. Up to four (4) additional hard copies of any submittal may be requested from the Contractor at the discretion of the COR, at no additional cost to the Government.

1.6 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.7 DELIVERABLES

1.7.1 Format

Provide submittals other than material samples in both hard copy (paper) and electronic formats. Email electronic submittals under 10MB. Electronic submittals over 10MB provide on CD/DVD, or provide USACE access to the Contractor's electronic file sharing system. The preferred method for delivery of electronic submittal files over 10MB and access to the electronic file sharing system will be discussed during the preconstruction meeting.

Electronic files must be of sufficient quality that all information is legible. Electronic formats must be in Adobe.PDF format, unless otherwise specified or directed by the Contracting Officer's Representative (COR). Whenever possible, PDF files shall be generated from original documents so that the text included in the PDF file is both searchable and can be copied. If documents are scanned, Optical Character Resolution (OCR) routines are required. Files exceeding 30 pages shall be indexed and bookmarked to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature, or scan of a signature.

The electronic version of the document must be compiled as a single, complete document, to include the Transmittal Form described in Paragraph 1.5.1. The electronic file must be named according to the transmittal number, revision number and name of the submittal, beginning with the submittal number. (i.e. 01 45 00.00-1.2_Quality Control Plan.pdf). Provide two (2) hard copies of each submittal in addition to the electronic copy. Up to eight (8) additional hard copy submittals may be requested from the Contractor at the discretion of the COR, at no additional cost to the Government.

1.7.2 Quantity

In addition to the required two (2) hard copies, two (2) additional hard copy submittals (4 total), are required for the following submittals: Accident Prevention Plan (APP), Operation and Maintenance Data/Manuals, Quality Control Plan (QCP), Shop Drawings and As-Built Drawings. Upon Government approval, submit an electronic copy (PDF format) and an additional eight (8) hard copies of the approved Operation & Maintenance Data/Manuals and an additional four (4) hard copies of the approved Shop Drawings."

1.7.3 Address

Submittals designated for hard-copy submission must be sent to the following address in the number of copies specified:

1.8 SUBMITTAL REGISTER

At the end of this section is a submittal register showing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required.

1.9 SCHEDULING

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

1.10 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) and instructions are attached to this section must be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the QCS software that the Contractor is required to use for this contract. This form must be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care must be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

1.11 DEVIATIONS

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

1.12 CONTROL OF SUBMITTALS

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

1.13 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. All hard copy submittals will be retained by the Contracting Officer. For electronic submittals, the Government will return only an electronic copy (PDF) or hard copy of the ENG 4025 transmittal form and the associated comment sheet.

1.14 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming

to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.15 VARIATIONS

Variations from contract requirements require Government approval pursuant to contract Clause FAR 52.236-21 and will be considered where advantageous to Government.

1.15.1 Considering Variations

Discussion with Contracting Officer prior to submission, after consulting with the DOR, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Government requiring rejection and removal of such work at no additional cost to the Government.

1.15.2 Proposing Variations

When proposing variation, deliver written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government, including the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

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

1.15.3 Warranting That Variations Are Compatible

When delivering a variation for approval, Contractor, including its Designer(s) of Record, warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.15.4 Review Schedule Is Modified

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Government of submittals with variations.

1.16 SUBMITTAL REGISTER

Prepare and maintain submittal register, as the work progresses. Do not change data which is output in columns (c), (d), (e), and (f) as delivered

by Government; retain data which is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided as an attachment. This list may not be all inclusive and additional submittals may be required. The Government will provide the initial submittal register in electronic format with the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Column (f): Indicate approving authority for each submittal.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by the Government.

1.16.1 Use of Submittal Register

Submit submittal register. Submit with QC plan and project schedule. Verify that all submittals required for project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

Column (h) Contractor Approval Date: Date Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.16.2 Contractor Use of Submittal Register

Update the following fields with each submittal throughout contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) List date of submittal transmission.

Column (q) List date approval received.

1.16.3 Approving Authority Use of Submittal Register

Update the following fields.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (l) List date of submittal receipt.

Column (m) through (p) List Date related to review actions.

Column (q) List date returned to Contractor.

1.16.4 Copies Delivered to the Government

Deliver one copy of submittal register updated by Contractor to Government with each invoice request.

1.17 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.

- a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.
- b. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A."
- c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.
- d. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.18 GOVERNMENT APPROVING AUTHORITY

When approving authority is Contracting Officer, the Government will:

- a. Note date on which submittal was received.
- b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.
- c. Identify returned submittals with one of the actions defined in paragraph entitled, "Review Notations," of this section and with

markings appropriate for action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date approved submittals. One copy of the approved submittal will be retained by the Contracting Officer and zero copies of the submittal will be returned to the Contractor.

1.18.1 Review Notations

Contracting Officer review will be completed within 30 calendar days after date of submission. Submittals will be returned to the Contractor with the following notations:

- a. Submittals marked "approved" or "accepted" authorize the Contractor to proceed with the work covered.
- b. Submittals marked "approved as noted" "or approved except as noted, resubmittal not required," authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections.
- c. Submittals marked "not approved" or "disapproved," or "revise and resubmit," indicate noncompliance with the contract requirements or design concept, or that submittal is incomplete. Resubmit with appropriate changes. No work shall proceed for this item until resubmittal is approved.
- d. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

1.19 DISAPPROVED SUBMITTALS

Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice as required under the clause entitled, "Changes," is to be given to the Contracting Officer. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the Government requiring rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.20 APPROVED SUBMITTALS

The Contracting Officer's approval or acceptance of submittals is not to be construed as a complete check

Approval or acceptance 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.

After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.21 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, the Contractor to assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not approved will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. Government reserves the right to disapprove any material or equipment which previously has proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Contractor to replace such materials or equipment to meet contract requirements.

Approval of the Contractor's samples by the Contracting Officer does not relieve the Contractor of his responsibilities under the contract.

1.22 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.23 STAMPS

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

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

SIGNATURE: _____

TITLE: _____

DATE: _____

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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 *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____
-----	-------	--------------	--

SPECIFICATION SEC. NO. <i>(Cover only one section with each transmittal)</i>	PROJECT TITLE AND LOCATION	THIS TRANSMITTAL IS FOR: <i>(Check one)</i> <input type="checkbox"/> FIO <input type="checkbox"/> GA <input type="checkbox"/> DA <input type="checkbox"/> CR <input type="checkbox"/> DA/CR <input type="checkbox"/> DA/GA
--	----------------------------	---

ITEM NO. <i>(See Note 3)</i> a.	DESCRIPTION OF SUBMITTAL ITEM <i>(Type size, model number/etc.)</i> b.	SUBMITTAL TYPE CODE <i>(See Note 8)</i> c.	NO. OF COPIES d.	CONTRACT DOCUMENT REFERENCE		CONTRACTOR REVIEW CODE g.	VARIATION Enter "Y" if requesting a variation <i>(See Note 6)</i> h.	USACE ACTION CODE <i>(Note 9)</i> i.
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			

REMARKS

I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

NAME OF CONTRACTOR

SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED <i>(List by item No.)</i>	NAME AND TITLE OF APPROVING AUTHORITY	SIGNATURE OF APPROVING AUTHORITY	DATE
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INSTRUCTIONS

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

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

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

SUBMITTAL REGISTER

CONTRACT NO.
W912P623B0002

TITLE AND LOCATION

Stormwater Improvements (Phase 2) - Richton Park, IL

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASS SIF CATION	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 10 00	SD-01 Preconstruction Submittals														
			Construction Schedule	1.7	G CS												
			Condition of Existing Structures	1.11	G CS												
			Coordination with Others	1.16	G CS												
			Drug Free Workplace	1.5													
			List Of E-Verified/Eligible Candidates	1.22.2	G AE												
			SD-06 Test Reports														
			Construction Progress	1.8	G CS												
			Photographs														
			Progress meeting Minutes	1.21	G CS												
			SD-11 Closeout Submittals														
			Construction Complete	1.8.2	G CS												
			Photographs														
			Construction Documentation Report	1.9	G CS												
		01 11 00	SD-01 Preconstruction Submittals														
			Salvage Plan	1.6	G CS												
		01 33 00	SD-01 Preconstruction Submittals														
			Submittal Register	1.16	G CS												
		01 35 26	SD-01 Preconstruction Submittals														
			APP - Construction	1.5.1	G CS												
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			Accident Reports	1.10.2	G CS												

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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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 26	LHE Inspection Reports	1.10.3													
			SD-07 Certificates														
			Crane Operators/Riggers	1.4.1.5													
			Standard Lift Plan	1.5.3.2	G CS												
			Activity Hazard Analysis (AHA)	1.6													
			Confined Space Entry Permit	1.7.1													
			Hot Work Permit	1.7.1													
			Certificate of Compliance	1.10.4													
		01 45 00.00 10	SD-01 Preconstruction Submittals														
			Contractor Quality Control (CQC)	3.2	G CS												
			Plan														
			SD-06 Test Reports														
			Verification Statement	3.9.2													
		01 50 00	SD-01 Preconstruction Submittals														
			Construction Site Plan	1.3	G CS												
			Traffic Control Plan	3.4.1	G CS												
		01 57 20.01 03	SD-01 Preconstruction Submittals														
			Environmental Protection Plan	1.7	G DH												
		01 78 00	SD-03 Product Data														
			Final Cleaning	1.11													
			SD-11 Closeout Submittals														
			Intermediate Working CAD	1.6													
			Drawing Submittal														
			Final CAD Drawing Submittal	1.7.1	G CS												
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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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 78 00	Final Approved Shop Drawings	1.7.4	G CS												
			Final Approved Specifications	1.7.4.1	G CS												
		31 00 00	SD-01 Preconstruction Submittals														
			Dewatering Work Plan	1.6.2	G CS												
			SD-03 Product Data														
			Utilization of Excavated Materials	3.5	G CS												
			Opening of any Excavation Pit	3.2													
			SD-06 Test Reports														
			Testing	3.15													
			SD-07 Certificates														
			Testing	3.15													
		31 11 00	SD-03 Product Data														
			Tree Wound Paint	2.1.1													
		32 05 33	SD-03 Product Data														
			Fertilizer	2.1	G CS												
			SD-07 Certificates														
			Maintenance Inspection Report	3.3.1													
		32 11 23	SD-03 Product Data														
			Plant, Equipment, and Tools	2.4	G CS												
			Waybills and Delivery Tickets	1.1.3	G CS												
			SD-06 Test Reports														
			Initial Tests	2.3.1	G CS												
			In-Place Tests	3.12.1	G CS												
		32 12 13	SD-03 Product Data														
			Waybills and Delivery Tickets	1.1.3													
		32 12 16.16	SD-03 Product Data														

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		32 12 16.16	Contractor Quality Control	3.1	G CS												
			SD-06 Test Reports														
			QC Monitoring	3.1.2.4													
			SD-07 Certificates														
			Laboratory Accreditation and Validation	1.3.9													
		32 16 19	SD-03 Product Data														
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		32 31 13	SD-02 Shop Drawings														
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			SD-03 Product Data														
			Fence Assembly	2.1	G CS												
			Concrete	2.3.1													
			SD-08 Manufacturer's Instructions														
			Fence Assembly	2.1													
			Hardware Assembly	2.1													
			Accessories	2.1													
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			Fertilizer	2.3													
			SD-07 Certificates														
			Seed	2.1													
			SD-08 Manufacturer's Instructions														
			Erosion Control Materials	2.5													
		33 05 23.13	SD-01 Preconstruction Submittals														

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		33 05 23.13	Qualifications	1.2.1	G CS												
			Horizontal Directional Drilling Plan	1.2.3	G CS												
			SD-03 Product Data														
			Pipe	2.2.1	G CS												
			Drilling Fluids	2.2.2	G CS												
			Additives	2.2.3	G CS												
			SD-07 Certificates														
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			SD-11 Closeout Submittals														
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		33 11 00	SD-01 Preconstruction Submittals														
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			SD-03 Product Data														
			Piping, Fittings, Joints and Couplings	2.1.1.1	G CS												
			Valves	2.1.3	G CS												
			Gate Valves and Valve Boxes	2.1.3.1	G CS												
			Curb Boxes	2.2.5.3	G CS												
			Fire Hydrants	2.1.4.1	G CS												
			Pipe Restraint	2.2.1	G CS												
			Tapping Saddles	2.1.2	G CS												
			Corporation and Curb Stops	2.2.5.1	G CS												
			Precast Concrete Thrust Blocks	2.2.1.1	G CS												

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CONTRACTOR: SCHEDULE DATES	CONTRACTOR ACTION		APPROVING AUTHORITY		
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SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS

11/20, CHG 3: 02/22

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GOVERNMENTAL SAFETY REQUIREMENTS

11/20, CHG 3: 02/22

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.3	(2020) Tower Cranes
ASME B30.5	(2021) Mobile and Locomotive Cranes
ASME B30.7	(2021) Winches
ASME B30.8	(2020) Floating Cranes and Floating Derricks
ASME B30.9	(2018) Slings
ASME B30.20	(2018) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.23	(2016) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings
ASME B30.26	(2015; R 2020) Rigging Hardware

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.22	(2007; R 2017) Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists
ASSP A10.34	(2021) Protection of the Public on or Adjacent to Construction Sites
ASSP A10.44	(2020) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSP Z244.1	(2016) The Control of Hazardous Energy Lockout, Tagout and Alternative Methods
ASSP Z359.0	(2018) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSP Z359.1	(2020) The Fall Protection Code
ASSP Z359.2	(2017) Minimum Requirements for a

Comprehensive Managed Fall Protection Program

ASSP Z359.3	(2019) Safety Requirements for Lanyards and Positioning Lanyards
ASSP Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSP Z359.6	(2016) Specifications and Design Requirements for Active Fall Protection Systems
ASSP Z359.7	(2019) Qualification and Verification Testing of Fall Protection Products
ASSP Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSP Z359.12	(2019) Connecting Components for Personal Fall Arrest Systems
ASSP Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSP Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSP Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems
ASSP Z359.16	(2016) Safety Requirements for Climbing Ladder Fall Arrest Systems
ASSP Z359.18	(2017) Safety Requirements for Anchorage Connectors for Active Fall Protection Systems

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2022) Standard for Portable Fire Extinguishers
NFPA 51B	(2019; TIA 20-1) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code
NFPA 70E	(2021) Standard for Electrical Safety in the Workplace
NFPA 241	(2022) Standard for Safeguarding Construction, Alteration, and Demolition

Operations

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

- TIA-222 (2018H; Add 1 2019) Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures
- TIA-1019 (2012; R 2016) Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas

U.S. ARMY CORPS OF ENGINEERS (USACE)

- EM 385-1-1 (2014) Safety -- Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

- 29 CFR 1910 Occupational Safety and Health Standards
- 29 CFR 1910.146 Permit-required Confined Spaces
- 29 CFR 1910.147 The Control of Hazardous Energy (Lock Out/Tag Out)
- 29 CFR 1910.333 Selection and Use of Work Practices
- 29 CFR 1915 Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
- 29 CFR 1915.89 Control of Hazardous Energy (Lockout/Tags-Plus)
- 29 CFR 1926 Safety and Health Regulations for Construction
- 29 CFR 1926.16 Rules of Construction
- 29 CFR 1926.450 Scaffolds
- 29 CFR 1926.500 Fall Protection
- 29 CFR 1926.552 Material Hoists, Personal Hoists, and Elevators
- 29 CFR 1926.553 Base-Mounted Drum Hoists
- CPL 02-01-056 (2014) Inspection Procedures for Accessing Communication Towers by Hoist
- CPL 2.100 (1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined [EM 385-1-1](#) Appendix Q, with thorough knowledge of OSHA's Confined Space Standard, [29 CFR 1910.146](#), and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in [EM 385-1-1](#) Appendix Q, is a person meeting the competent person requirements, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in [EM 385-1-1](#) Appendix Q and [29 CFR 1926](#), who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in [EM 385-1-1](#) Appendix Q and in accordance with [ASSP Z359.0](#), who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.6 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in [EM 385-1-1](#) Appendix Q, and designated in writing by the employer to be

responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented including experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.7 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the training material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.8 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.9 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.10 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

1.2.11 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even when provided by a physician or registered personnel.

1.2.12 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.13 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.14 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.2.15 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the definition requirements of EM 385-1-1 Appendix Q, and ASSP Z359.2 standard, having a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.2.16 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

- a. Death, regardless of the time between the injury and death, or the length of the illness;
- b. Days away from work (any time lost after day of injury/illness onset);
- c. Restricted work;
- d. Transfer to another job;
- e. Medical treatment beyond first aid;
- f. Loss of consciousness; or
- g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a) through (f) above

1.2.17 Government Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

1.2.18 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment;

two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document an LHE mishap using the Crane High Hazard working group mishap reporting form.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for Contractor Quality Control approval.. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

APP - Construction; G, CS

Accident Prevention Plan (APP); G, CS

SD-06 Test Reports

Notifications and Reports

Accident Reports; G, CS

LHE Inspection Reports

SD-07 Certificates

Crane Operators/Riggers

Standard Lift Plan; G, CS

Activity Hazard Analysis (AHA)

Confined Space Entry Permit

Hot Work Permit

Certificate of Compliance

1.4 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.4.1 Personnel Qualifications

1.4.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one

person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and Government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

1.4.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may not serve as the Quality Control Manager. The SSHO may not serve as the Superintendent.

1.4.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the Contracting Officer for information in consultation with the Safety Office.

1.4.1.2.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements of EM 385-1-1, Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1, Section 34.

1.4.1.2.2 Competent Person for Scaffolding

Provide a Competent Person for Scaffolding who meets the requirements of EM 385-1-1, Section 22.B.02 and herein.

1.4.1.2.3 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04, 21.B.03, and herein.

1.4.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent

Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards, Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

- a. Prepare class presentations that cover construction-related safety requirements.
- b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.
- c. Update training course materials whenever an update of the EM 385-1-1 becomes available.
- d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.
- e. Request, review and incorporate student feedback into a continuous course improvement program.

1.4.1.4 Dredging Contract Requirements

1.4.1.4.1 Dredging Safety Personnel Requirements

- a. Provide a minimum of one full time SSHO assigned per project site for the primary working shift.
- b. For a project involving multiple work shifts, provide one full-time SSHO for each additional shift.
- c. For individual dredging projects or sites with a dredge crew and fill crew on watch of eight employees or less, a CDSO must be appointed, instead of an SSHO. The CDSO assumes the same responsibilities as a full-time SSHO.
- d. An example of one dredging project site is reflected in each of the following:
 - (1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or
 - (2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,
 - (3) a hopper dredge (include land-based material placement site - if applicable.)
- e. For Hopper Dredges with the U.S. Coast Guard, documented crews may designate an officer as a Collateral Duty Safety Officer (CDSO) instead of having a full-time SSHO onboard if the officer meets the SSHO training and experience requirements.

1.4.1.4.2 SSHO Requirements for Dredging

- a. In addition to requirements stated elsewhere in this specification, an individual serving as a SSHO must be present at the project site, located so that they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being performed. The SSHO must be available during their shift for immediate verbal consultation and notification, either by phone or radio.
- b. The SSHO is a full-time, dedicated position, except as noted above, who must report to a senior project (or corporate) official. When the SSHO is permitted to be a collateral duty, the SSHO is not permitted to be in another position requiring continuous mechanical or equipment operations, such as equipment operators.
- c. The SSHO must inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

1.4.1.4.3 Collateral Duty Safety Officer (CDSO) Requirements for Dredging

- a. A CDSO is an individual who is assigned collateral duty safety responsibilities in addition to their full-time occupation, and who supports and supplements the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. The assigned CDSO must be an individual(s) with work oversight responsibilities, such as master, mate, fill foreman, or superintendent. A CDSO must not be an employee responsible for continuous mechanical or equipment operations, such as an equipment operator.
- b. A CDSO performs safety program tasks as assigned by the SSHO and must report safety findings to the SSHO. The SSHO must document results of safety findings and provide information for inclusion in the CQC reports to the Contracting Officer.

1.4.1.4.4 Safety Personnel Training Requirements for Dredging

A SSHO and a CDSO for dredging Contracts must take either a formal classroom or online OSHA 30-hour Construction Safety Course, or an equivalent 30 hours of formal classroom or online safety and health training covering the subjects of the OSHA 30-hour Course in accordance with EM 385-1-1 Appendix A, paragraph 3.d.(3), applicable to dredging work, and given by qualified instructors. In exception to EM 385-1-1, Section 01.A.17, comply with the following:

- a. The SSHO must maintain competency through having taken 8 hours of formal classroom or online safety and health related coursework every year. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (for example, instructing a 1-hour asbestos awareness course five times in a year provides one hour credit for training).
- b. The SSHO and a CDSO must have a minimum of three years of experience within the past five years in one of the following:

- (1) Supervising/managing dredging activities

- (2) Supervising/managing marine construction activities
- (3) Supervising/managing land-based construction activities
- (4) Work managing safety programs or processes
- (5) Conducting hazard analyses and developing controls in activities or environments with similar hazards

1.4.1.5 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in [EM 385-1-1](#), Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of [50,000 pounds](#) or greater, designate crane operators qualified by a source that qualifies crane operators (i.e., union, a Government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

1.4.2 Personnel Duties

1.4.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

- a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report.
- b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.
- c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.
- d. Maintain applicable safety reference material on the job site.
- e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.
- f. Review the APP and AHAs for compliance with [EM 385-1-1](#), and approve, sign, implement and enforce them.
- g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.
- h. Ensure subcontractor compliance with safety and health requirements.
- i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).
- j. Maintain a weekly list of high hazard activities involving energy,

equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

- k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above or any other required duties are not being effectively carried out. If either the Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.4.3 Meetings

1.4.3.1 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health Officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.
- c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

1.4.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors at the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.5 ACCIDENT PREVENTION PLAN (APP)

1.5.1 APP - Construction

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Submit the APP to the Contracting Officer within 30 calendar days of Contract award 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 ASSP A10.34), and the environment.

1.5.2 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

- a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.
- b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.5.3 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of [EM 385-1-1](#), including the following:

1.5.3.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with [EM 385-1-1](#), applicable OSHA standards [29 CFR 1910](#), [29 CFR 1915](#), and [29 CFR 1926](#), OSHA Directive [CPL 2.100](#), and any other federal, state and local regulatory requirements identified in this Contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by Contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.5.3.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with [EM 385-1-1](#), Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of three months.

1.5.3.3 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.5.3.4 Fall Protection and Prevention (FP&P) Plan

The plan must be in accordance with the requirements of [EM 385-1-1](#),

Section 21.D and ASSP Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.5.3.5 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.5.3.6 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSP Z244.1, and ASSP A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

1.5.3.7 Excavation Plan

Identify the safety and health aspects of excavation, and provide and prepare the plan in accordance with EM 385-1-1, Section 25.A.

1.5.3.8 Site Safety and Health Plan

Identify the safety and health aspects, and prepare in accordance with this Section and referenced sources.

1.5.3.9 Site Demolition Plan

Identify the safety and health aspects, and prepare in accordance with this Section and referenced sources.

1.6 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime

Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with [EM 385-1-1](#), Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFO. 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.

1.6.1 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.

1.6.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFO 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.

1.7 DISPLAY OF SAFETY INFORMATION

1.7.1 Safety Bulletin Board

Prior to commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by [EM 385-1-1](#), Section 01.A.07. Additional items required to be posted include:

- a. [Confined space entry permit](#).
- b. [Hot work permit](#).

1.7.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

- a. Date deficiency identified;

- b. Description of deficiency;
- c. Name of person responsible for correcting deficiency;
- d. Projected resolution date;
- e. Date actually resolved.

1.8 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

1.9 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

1.10 NOTIFICATIONS and REPORTS

1.10.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than four hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; Contract title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.10.2 Accident Reports

- a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.

- b. Near Misses: For Army projects, report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.
- c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

1.10.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.10.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this Contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section 16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.11 HOT WORK

1.11.1 Permit and Personnel Requirements

Submit and obtain a written permit prior to performing "Hot Work" (i.e. welding or cutting) or operating other flame-producing/spark producing devices, from the City of Chicago. A permit is required from the Explosives Safety Office for work in and around where explosives are processed, stored, or handled. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. Provide at least two 20 pound 4A:20 BC rated extinguishers for normal "Hot Work". The extinguishers must be current inspection tagged, and contain an approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch must be trained in accordance with NFPA 51B and remain on-site for a minimum of one hour after completion of the task or as specified on the hot work permit.

When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency Fire Department phone number. REPORT ANY FIRE, NO MATTER HOW SMALL, TO THE RESPONSIBLE FIRE DEPARTMENT IMMEDIATELY.

1.11.2 Work Around Flammable Materials

Obtain permit approval from a NFPA Certified Marine Chemist, or Certified Industrial Hygienist for "HOT WORK" within or around flammable materials

(such as fuel systems or welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, or vaults) that have the potential for flammable or explosive atmospheres.

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in [EM 385-1-1](#), Section 06.H

1.12 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with Section 34 of [EM 385-1-1](#), OSHA [29 CFR 1926](#), OSHA [29 CFR 1910](#), OSHA [29 CFR 1910.146](#), and OSHA Directive [CPL 2.100](#). Any potential for a hazard in the confined space requires a permit system to be used.

1.12.1 Entry Procedures

Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. Comply with [EM 385-1-1](#), Section 34 for entry procedures. Hazards pertaining to the space must be reviewed with each employee during review of the AHA.

1.12.2 Forced Air Ventilation

Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.

1.12.3 Sewer Wet Wells

Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

1.12.4 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.13 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must comply with the applicable Storm Plan and:

- a. Secure outside equipment and materials and place materials that could be damaged in protected areas.
- b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
- c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

- a. Hard Hat
- b. Long Pants
- c. Appropriate Safety Shoes
- d. Appropriate Class Reflective Vests

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. Develop an employee check-in/check-out communication procedure to ensure employee safety.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this Contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

3.1.3 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 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 pursuant to FAR 52.243-4 Changes and FAR 52.236-2 Differing Site Conditions.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages at least 30 days in advance. At a minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1, Section 11.A.02 (Isolation). Some examples of energy isolation devices and procedures are highlighted in EM 385-1-1, Section 12.D. In accordance with EM 385-1-1, Section 12.A.01, where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of HEC and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with EM 385-1-1, Section 11.A.02 and NFPA 70E, work on energized electrical circuits must not be performed without prior Government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additional or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conduct a pre-outage coordination meeting in accordance with EM 385-1-1, Section 12.A. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and the Public Utilities representative. All parties must fully coordinate HEC activities with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HEC training in accordance with EM 385-1-1, Section 12.C. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1 Section 12, 29 CFR 1910.333, 29 CFR 1915.89, ASSP A10.44, NFPA 70E, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor

performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting Officer's Representative, and required by EM 385-1-1, Section 12.A.02. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting. Both the safety preparatory inspection coordination meeting and the outage coordination meeting must occur prior to conducting the outage and commencing with lockout/tagout procedures.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, both the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1, Sections 05.I and 11.B. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1, Section 12.E.06.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in accordance with the HECP. In accordance with EM 385-1-1, Section 12.E.08, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSP Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

3.5.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards and using personal fall protection equipment. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSP Z359.2 in the AHA.

3.5.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific

work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M, ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, ASSP Z359.15, ASSP Z359.16 and ASSP Z359.18.

3.5.2.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.0 through 21.0.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.2.2 Personal Fall Protection Equipment

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabineers must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. Equip all full body harnesses with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.5.3 Fall Protection for Roofing Work

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

a. Low Sloped Roofs:

- (1) For work within 6 feet from unprotected edge of a roof having a slope less than or equal to 4:12 (vertical to horizontal), protect personnel from falling by the use of conventional fall protection systems (personal fall arrest/restraint systems, guardrails, or safety nets) in accordance with EM 385-1-1, Section 21 and 29 CFR 1926.500. A safety monitoring system is not adequate fall protection and is not authorized.

- (2) For work greater than 6 feet from the unprotected roof edge, addition to the use of conventional fall protection systems the use of a warning line system is also permitted, in accordance with 29 CFR 1926.500 and EM 385-1-1, Section 21.L.

- b. Steep-Sloped Roofs: Work on a roof having a slope greater than 4:12 (vertical to horizontal) requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also applies to residential or housing type construction.

3.5.4 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.5.5 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.5.6 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must be in accordance with the requirements of EM 385-1-1, ASSP Z359.2, and ASSP Z359.4.

3.6 EQUIPMENT

3.6.1 Material Handling Equipment (MHE)

- a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

- c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

3.6.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

- a. Equip cranes and derricks as specified in [EM 385-1-1](#), Section 16.
- b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with [EM 385-1-1](#), Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must be in accordance with OSHA, [ASME B30.9](#) Standards.
- c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in [ASME B30.5](#)). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. Comply with [ASME B30.5](#) for mobile and locomotive cranes, [ASME B30.22](#) for articulating boom cranes, [ASME B30.3](#) for construction tower cranes, [ASME B30.8](#) for floating cranes and floating derricks, [ASME B30.9](#) for slings, [ASME B30.20](#) for below the hook lifting devices and [ASME B30.26](#) for rigging hardware.
- e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of [EM 385-1-1](#) Section 11, and [ASME B30.5](#) or [ASME B30.22](#) as applicable.
- f. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.
- g. Inspect, maintain, and recharge portable fire extinguishers as specified in [NFPA 10](#), Standard for Portable Fire Extinguishers.
- h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.
- i. Use cribbing when performing lifts on outriggers.

- j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.
- l. Maintain inspection records in accordance by [EM 385-1-1](#), Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.
- m. Maintain written reports of operational and load testing in accordance with [EM 385-1-1](#), Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.
- n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.
- p. Follow FAA guidelines when required based on project location.

3.6.3 Machinery and Mechanized Equipment

- a. Proof of qualifications for operator must be kept on the project site for review.
- b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE [EM 385-1-1](#). Incorporate such additional safety precautions or requirements into the AHAs.

3.6.4 Base Mounted Drum Hoists

- a. Operation of base mounted drum hoists must be in accordance with [EM 385-1-1](#) and [ASSP A10.22](#).
- b. Rigging gear must be in accordance with applicable ASME/OSHA standards.
- c. When used on telecommunication towers, base mounted drum hoists must be in accordance with [TIA-1019](#), [TIA-222](#), [ASME B30.7](#), [29 CFR 1926.552](#), and [29 CFR 1926.553](#).
- d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with [EM 385-1-1](#) Section 16.B.05 and trained, at a minimum, in accordance with [EM 385-1-1](#) Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction [CPL 02-01-056](#) and

ASME B30.23.

- e. Material and personnel must not be hoisted simultaneously.
- f. Personnel cage must be marked with the capacity (in number of persons) and load limit in pounds.
- g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

3.6.5 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 EXCAVATIONS

Soil classification must be performed by a competent person in accordance with 29 CFR 1926 and EM 385-1-1.

3.7.1 Utility Locations

Provide a third party, independent, private utility locating company to positively identify underground utilities in the work area in addition to any station locating service and coordinated with the station utility department.

3.7.2 Utility Location Verification

Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within 3 feet of the underground system.

3.7.3 Utilities Within and Under Concrete, Bituminous Asphalt, and Other Impervious Surfaces

Utilities located within and under concrete slabs or pier structures, bridges, parking areas, and the like, are extremely difficult to identify. Whenever Contract work involves chipping, saw cutting, or core drilling through concrete, bituminous asphalt or other impervious surfaces, the existing utility location must be coordinated with station utility departments in addition to location and depth verification by a third party, independent, private locating company. The third party, independent, private locating company must locate utility depth by use of Ground Penetrating Radar (GPR), X-ray, bore scope, or ultrasound prior to the start of demolition and construction. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the Contractor from meeting this requirement.

-- End of Section --

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SOURCES FOR REFERENCE PUBLICATIONS

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PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g., ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AMERICAN 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 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/>

ASSOCIATION OF ILLINOIS SOIL AND WATER CONSERVATION
DISTRICTS (AISWCD)
4285 N Walnut St Rd
Springfield, IL 62707

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/>

GREEN SEAL (GS)
1001 Connecticut Avenue, NW
Suite 827
Washington, DC 20036-5525
Ph: 202-872-6400
Fax: 202-872-4324
Internet: <http://www.greenseal.org>

INTERNATIONAL CODE COUNCIL (ICC)
500 New Jersey Avenue, NW
6th Floor, Washington, DC 20001
Ph: 800-786-4452 or 888-422-7233
Fax: 202-783-2348
E-mail: order@iccsafe.org
Internet: <https://www.iccsafe.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>

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)
1320 North Courthouse Road, Suite 200
Arlington, VA 22201
Ph: 703-907-7700
Fax: 703-907-7727
E-mail: marketing@tiaonline.org
Internet: <https://www.tiaonline.org/>

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/>

UNI-BELL PVC PIPE ASSOCIATION (UBPPA)
Corporate Headquarters
2711 LBJ Freeway, Suite 1000
Dallas, TX 75234
Ph: 972-243-3902
Fax: 972-243-3907
E-mail: info@uni-bell.org
Internet: <https://www.uni-bell.org/>

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
<http://www.wbdg.org/ffc/army-coe/standards>
Order Other Documents from:
Official Publications of the Headquarters, USACE
E-mail: hqpublications@usace.army.mil
Internet: <http://www.publications.usace.army.mil/>
or
<https://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/>

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Order AMS Publications from:
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Ph: 704-810-8884
E-mail: PA@ams.usda.gov
Internet: <https://www.ams.usda.gov/>
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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/>

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Washington, DC 20401
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Internet: <https://www.gpo.gov/>

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

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QUALITY CONTROL
11/16

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D3740 (2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E329 (2014a) Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program.

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

Contractor Quality Control (CQC) Plan; G, CS

SD-06 Test Reports

Verification Statement

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with the Contract Clause titled "Inspection of Construction." QC consist of plans, procedures, and organization necessary to produce an end

product which complies with the Contract requirements. The QC system covers all construction operations, both onsite and offsite, and be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The project superintendent maintains a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The Government will consider an interim plan for the first 15 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work.

3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all construction-operations, both onsite and offsite, including work by subcontractors fabricators, suppliers and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the Contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer are required to be used.)

- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the Contractor Quality Control(CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 10 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations,, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager, CQC System Manager, and sufficient number of additional qualified

personnel to ensure safety and Contract compliance. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager will also serve as a member of the CQC Staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization that is responsible for overall management of CQC and has the authority to act in all CQC matters for the Contractor. The CQC System Manager is required to be a construction person with a minimum of 5 years in related work. This CQC System Manager is on the site at all times during construction and is employed by the prime Contractor. The CQC System Manager is assigned as CQC System Manager but has duties as project superintendent in addition to quality control. Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil and materials technician. These individuals or specialized technical companies are employees of the prime or subcontractor; be responsible to the CQC System Manager; be physically present at the construction site during work on the specialized personnel's areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals can perform other duties but need to be allowed sufficient time to perform the specialized personnel's assigned quality control duties as described in the Quality Control Plan. A single person can cover more than one area provided that the single person is qualified to perform quality control activities in each designated and that workload allows.

Experience Matrix	
Area	Qualifications
Civil	Graduate Civil Engineer or Construction Manager with 2 years experience in the type of work being performed on this project or technician with 5 yrs related experience
Concrete, Pavements and Soils	Materials Technician with 2 years experience for the appropriate area

3.4.4 Additional Requirement

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval Facilities Engineering Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

3.4.5 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, have to comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

CQC is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory

inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.

- b. Review of the Contract drawings.
- c. Check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.
- f. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. Review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government needs to be notified at least 48 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

- a. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing are in compliance with the contract.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.

- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government needs to be notified at least 48 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.
- g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/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. Record results of all tests taken, both passing and failing on the CQC

report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related work performed and disapproval of the test facility for this Contract.

3.7.2 Testing Laboratories

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request for can be found at:

<http://www.erdc.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/47666>

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel is required to meet criteria detailed in [ASTM D3740](#) and [ASTM E329](#).

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$1,000 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager near the end of the work, or any increment of the work established by a time stated in the SPECIAL CONTRACT REQUIREMENTS Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection the CQC System Manager or staff to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative is required to be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands can also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the Contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

3.9.1 Quality Control Activities

Maintain current records providing factual evidence that required quality control activities and/or tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

- a. The name and area of responsibility of the Contractor/Subcontractor.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

- f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.

3.9.2 Verification Statement

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM)

11/16

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RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM)
11/16

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 Contractor uses the Government-furnished Construction Contractor Mode of RMS, referred to as RMS CS, to record, maintain, and submit various information throughout the contract period. The Contractor mode user manuals, updates, and training information can be downloaded from the RMS web site (<http://rms.usace.army.mil>). The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. QCS 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
- 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 between the Government and Contractor. Correspondence, pay requests and other documents comprising the official contract record are also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.2.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01 33 00 SUBMITTAL PROCEDURES, and Section 01 45 00.00 10 QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through RMS. Also, there is no separate payment for establishing and maintaining the RMS database; costs associated will be included in the contract

pricing for the work.

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 Section 1.3. The Government will make available the RMS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor will be responsible to download, install and use the latest version of the RMS software from the Government's RMS Internet Website. Any program updates of RMS will be made available to the Contractor via the Government RMS Website as the updates become available.

1.3.1 RMS CONTRACTOR'S MODE (CM)

RMS Contractor's Mode or RMS CM is the replacement for Quality Control System or QCS. The database remains the same. References to RMS in this specification includes RMS CM.

1.4 SYSTEM REQUIREMENTS

The following is the minimum system configuration required to run RMS and Contractor Mode:

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 QCS 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 7 x 64 bit (RMS requires 64 bit O/S) or newer
Word Processing software	Viewer for MS Word 2013, MS Excel 2013, or newer

Minimum RMS System Requirements	
Microsoft.NET Framework	Coordinate with Government QA Representative for free version required
Email	MAPI compatible
Virus protection software	Regularly upgraded with all issued manufacturer's updates and is able to detect most zero day viruses.

1.5 RELATED INFORMATION

1.5.1 RMS User Guide

After contract award, download instructions for the installation and use of RMS from the Government RMS Internet Website.

1.6 CONTRACT DATABASE

Prior to the pre-construction conference, the Government will provide the Contractor with basic contract award data to use for RMS. The Government will provide data updates to the Contractor as needed. These updates will generally consist of submittal reviews, correspondence status, Quality Assurance(QA) comments, and other administrative and QA data.

1.7 DATABASE MAINTENANCE

Establish, maintain, and update data in the RMS database throughout the duration of the contract at the Contractor's site office. Submit data updates to the Government (e.g., daily reports, submittals, RFI's, schedule updates, payment requests) using RMS. The RMS database typically includes current data on the following items:

1.7.1 Administration

1.7.1.1 Contractor Information

Contain within the database the Contractor's name, address, telephone numbers, management staff, and other required items. Within 7 calendar days of receipt of RMS software from the Government, deliver Contractor administrative data in electronic format in RMS.

1.7.1.2 Subcontractor Information

Contain within the database the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed. Assign each subcontractor/trade a unique Responsibility Code, provided in RMS. Within 7 calendar days of receipt of RMS software from the Government, deliver subcontractor administrative data in electronic format.

1.7.1.3 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".

1.7.1.4 Equipment

Contain within the Contractor's RMS database a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.7.1.5 Management Reporting

RMS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of RMS. Among these reports are: Progress Payment Request worksheet, Quality Assurance/Quality Control (QA/QC) comments, Submittal Register Status, Three-Phase Control checklists.

1.7.1.6 Request For Information (RFI)

Exchange all Requests For Information (RFI) using the Built-in RFI generator and tracker in RMS.

1.7.2 Finances

1.7.2.1 Pay Activity Data

Include within the RMS database a list of pay activities that the Contractor develops in conjunction with the construction 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 equals the amount of each CLIN. The sum of all CLINs equals the contract amount.

1.7.2.2 Payment Requests

Prepare all progress payment requests using RMS. Complete the payment request worksheet, prompt payment certification, and payment invoice in RMS. Update the work completed under the contract, measured as percent or as specific quantities, at least monthly. After the update, generate a payment request report using RMS. Submit the payment request, prompt payment certification, and payment invoice with supporting data using RMS CM. If permitted by the Contracting Officer, email or a optical disc may be used. A signed paper copy of the approved payment request is also required and will govern in the event of discrepancy with the electronic version.

1.7.3 Quality Control (QC)

RMS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements. Maintain this data on a daily basis. Entered data will automatically output to the

RMS generated daily report. Provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01 45 00.00 10 QUALITY CONTROL. Within seven calendar days of Government acceptance, submit a RMS update reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.7.3.1 Daily Contractor Quality Control (CQC) Reports.

RMS includes the means to produce the Daily CQC Report. The Contractor can use other formats to record basic Quality Control (QC) data. However, the Daily CQC Report generated by RMS must be the Contractor's official report. Summarize data from any supplemental reports by the Contractor and consolidate onto the RMS-generated Daily CQC Report. Submit daily CQC Reports as required by Section 01 45 00.00 10 QUALITY CONTROL. Electronically submit reports to the Government within 24 hours after the date covered by the report. Also provide the Government a signed, printed copy of the daily CQC report.

1.7.3.2 Deficiency Tracking.

Use RMS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using its Quality Control (QC) punch list items. Maintain a current log of its QC punch list items in the RMS database. The Government will log the deficiencies it has identified using its Quality Assurance (QA) punch list items. The Government's QA punch list items will be included in its export file to the Contractor. Regularly update the correction status of both QC and QA punch list items.

1.7.3.3 QC Requirements

Develop and maintain a complete list of QC testing and required structural and life safety special inspections required by the International Code Council (ICC), transferred and installed property, and user training requirements in RMS. Update data on these QC requirements as work progresses, and promptly provide the information to the Government via RMS.

1.7.3.4 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS.

1.7.3.5 Labor and Equipment Hours

Log labor and equipment exposure hours on a daily basis. The labor and equipment exposure data will be rolled up into a monthly exposure report.

1.7.3.6 Accident/Safety Reporting

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be provided via RMS CM. Regularly update the correction status of the safety comments. In addition, utilize RMS to advise the Government of any accidents occurring on the jobsite. A brief supplemental entry of an accident is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 300.

1.7.3.7 Features of Work

Include a complete list of the features of work in the RMS database. A feature of work is associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.7.3.8 Hazard Analysis

Use RMS CM to develop a hazard analysis for each feature of work included in the CQC Plan. The Activity Hazard Analysis will include information required by [EM 385-1-1](#), paragraph 01.A.13.

1.7.4 Submittal Management

The Government will provide the initial submittal register in electronic format. Thereafter, maintain a complete list of submittals, including completion of data columns. Dates when submittals are received and returned by the Government will be included. Use RMS CM to track and transmit submittals. ENG Form 4025, submittal transmittal form, and the submittal register update is produced using RMS. RMS will be used to update, store and exchange submittal registers and transmittals. In addition to requirements stated in specification 01 33 00, actual submittals are to be stored in RMS CM, with hard copies also provided. Exception will be where the Contracting Officer specifies only hard copies required, where size of document cannot be saved in RMS CM, and where samples, spare parts, color boards, and full size drawings are to be provided.

1.7.5 Schedule

Develop a construction schedule consisting of pay activities. Input and maintain in the RMS database the schedule either manually or by using the Standard Data Exchange Format (SDEF). Include with each pay request the updated schedule. Provide electronic copies of transmittals.

1.7.6 Import/Export of Data

RMS includes the ability to import schedule data using SDEF.

1.8 IMPLEMENTATION

Use of RMS CM as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS CM system. RMS CM is an integral part of the Contractor's management of quality control.

1.9 MONTHLY COORDINATION MEETING

Update the RMS CM database each workday. At least monthly, generate and submit a schedule update. At least one week prior to submittal, meet with the Government representative to review the planned progress payment data submission for errors and omissions.

Make required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will not be accepted. The Government will not process progress payments until all required corrections are processed.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

11/20, CHG 1: 08/21

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1

(2014) Safety -- Safety and Health
Requirements Manual

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" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Site Plan; G, CS, AE

Traffic Control Plan; G, CS, AE

1.3 CONSTRUCTION SITE PLAN

Prior to the start of work, submit for Government approval a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes, avenues of ingress/egress to the fenced area and details of the fence installation. Identify any areas which may have to be graveled to prevent the tracking of mud. Indicate if the use of a supplemental or other staging area is desired. Show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Bulletin Board

Prior to the commencement of work activities, provide a clear weatherproof

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, Safety and Health Information as required by EM 385-1-1 Section 01 and other information approved by the Contracting Officer. Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, and in location as approved by the Contracting Officer.

2.1.2 Project Identification Signs

The requirements for the signs, their content, and location are indicated and as specified within these specifications. Erect signs within 15 days after receipt of the notice to proceed. Correct the data required by the safety sign daily, with light colored metallic or non-metallic numerals.

2.1.3 Warning Signs

Post temporary signs, tags, and labels to give workers and the public adequate warning and caution of construction hazards according to the EM 385-1-1 Section 04. Attach signs to the perimeter fencing every 150 feet warning the public of the presence of construction hazards. Signs must require unauthorized persons to keep out of the construction site. Correct the data required by safety signs daily. Post signs at all points of entry designating the construction site as a hard hat area.

2.2 TREE TRUNK PROTECTION

Provide Tree Trunk Protection in accordance with Section 201 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction

2.3 TEMPORARY TRAFFIC CONTROL

2.3.1 Barricades

Erect and maintain temporary barricades to limit public access to hazardous areas. Barricades are 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. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

2.4 FENCING

Provide fencing along the construction site and at all open excavations and tunnels to control access by unauthorized personnel. Safety fencing must be highly visible to be seen by pedestrians and vehicular traffic. All fencing must meet the requirements of EM 385-1-1. Remove the fence upon completion and acceptance of the work.

2.4.1 Polyethylene Mesh Safety Fencing

Temporary safety fencing must be a high visibility orange colored, high density polyethylene grid, a minimum of 48 inches high and maximum mesh size of 2 inches. Fencing must extend from the grade to a minimum of 48 inches above the grade and be tightly secured to T-posts spaced as necessary to maintain a rigid and taut fence. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any

direction with less than 4 inches of deflection.

2.4.2 Chain Link Panel Fencing

Temporary panel fencing must be galvanized steel chain link panels 6 feet high. Multiple fencing panels may be linked together at the bases to form long spans as needed. Each panel base must be weighted down using sand bags or other suitable materials in order for the fencing to withstand anticipated winds while remaining upright. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.4.3 Post-Driven Chain Link Fencing

Temporary post-driven fencing must be galvanized chain link fencing 6 feet high supported by an tightly secured to galvanized steel posts driven below grade. Fence posts must be located on minimum 10 foot centers. Posts may be set in various surfaces such as sand, soil, asphalt or concrete as necessary. Chain link fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection. Completely remove fencing and posts at the completion of construction and restore surfaces disturbed or damaged to its original condition. Locate and identify underground utilities prior to setting fence posts. Equip fence with a lockable gate. Gate must remain locked when construction personnel are not present.

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

Construction Contract employees must park privately owned vehicles in an area designated by the Contracting Officer. Employee parking must not interfere with existing and established parking requirements of the Government installation.

3.2 Construction Layout

Description.

This work shall consist of furnishing and placing construction layout stakes for the construction of the water main, culverts, and all necessary pavement restoration and all other associated appurtenances as shown in the plans. The Contractor shall furnish and place stakes marking the locations and elevations of points indicated in the plans for the watermain construction.

The Contractor shall provide field forces, equipment, and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal and vertical controls necessary to secure a correct layout for the work.

The Contractor shall be responsible for having the finished work conform to the lines, grades, and elevations called for in the plans. If grades are not shown, Contractor shall coordinate with Field Officer to establish a layout that meets the purpose of the Plans. Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset when any are damaged, lost, displaced,

removed or otherwise obliterated.

Responsibility of the Owner.

The Owner will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. Where the Contractor, in setting construction stakes, discovers discrepancies, the Owner will check to determine their nature and make whatever revisions are necessary to the plans. Any additional restaking required by the Engineer will be the responsibility of the Contractor.

It is not the responsibility of the Owner except as provided herein, to check the correctness of the Contractor's stakes. Any apparent errors will be immediately called to the Contractor's attention and the Contractor will be required to make the necessary correction before the stakes are used for construction purposes. The Contractor shall provide the Engineer a copy of any field notes and layout diagrams produced during the course of the project.

Responsibility of the Contractor.

The Contractor shall establish from the given survey points and contract plan information, all the control points or reference points necessary to construct the project elements. If no grades or layout are available, Contractor shall coordinate with the Field Officer to construct utility and pavement elements at a location that meets the purpose of the plans. The Contractor shall furnish and place the layout stakes. The Contractor shall notify the Engineer when the stakes are complete.

3.3 AVAILABILITY AND USE OF UTILITY SERVICES

3.3.1 Sanitation

Provide and maintain within the construction area minimum field-type sanitary facilities in accordance with [EM 385-1-1](#) Section 02. Locate the facilities behind the construction fence or out of the public view. Clean units and empty wastes at least once a week or more frequently into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into a municipal, district, or commercial sanitary sewer system. Penalties or fines associated with improper discharge will be the responsibility of the Contractor. Coordinate with the Contracting Officer and follow station regulations and procedures when discharging into the station sanitary sewer system. Maintain these conveniences at all times. Include provisions for pest control and elimination of odors. Government toilet facilities will not be available to Contractor's personnel.

3.3.2 Fire Protection

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

3.4 TRAFFIC PROVISIONS

3.4.1 Maintenance of Traffic

- a. Conduct operations in a manner that will not close a thoroughfare or interfere with traffic on railways or highways except with written permission of the Contracting Officer at least 15 calendar days prior to the proposed modification date, and provide a [Traffic Control Plan](#)

for Government approval detailing the proposed controls to traffic movement for approval. The plan must be in accordance with State and local regulations and the MUTCD, Part VI. Contractor may move oversized and slow-moving vehicles to the worksite provided requirements of the highway authority have been met.

- b. Conduct work so as to minimize obstruction of traffic, and maintain traffic on at least half of the roadway width at all times (except for the culvert crossings which will require a detour plan). Obtain approval from the Contracting Officer prior to starting any activity that will obstruct traffic.
- c. Provide, erect, and maintain, at Contractor's expense, lights, barriers, signals, passageways, detours, and other items, that may be required by the Life Safety Signage, overhead protection authority having jurisdiction.
- d. Provide cones, signs, barricades, lights, or other traffic control devices and personnel required to control traffic. Do not use foil-backed material for temporary pavement marking because of its potential to conduct electricity during accidents involving downed power lines.
- e. A detour plan will be required for the culvert replacements. Submit traffic control plan no later than two weeks prior to start of construction.

3.4.2 Protection of 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 the work, and the erection and maintenance of adequate warning, danger, and direction signs, will be as required by the State and local authorities having jurisdiction. Provide self-illuminated (lighted) barricades during hours of darkness. Brightly-colored (orange) vests are required for all personnel working in roadways. Protect the traveling public from damage to person and property. Minimize the interference with public traffic on roads selected for hauling material to and from the site. Investigate the adequacy of existing roads and their allowable load limit. Contractor is responsible for the repair of damage to roads caused by construction operations.

3.4.3 Dust Control

Dust control methods and procedures must be approved by the Contracting Officer.

3.5 GOVERNMENT FIELD OFFICE

3.5.1 Resident Engineer's Office

If requested, Provide the Government Resident Engineer with an office, approximately 200 square feet in floor area, located where directed and providing space heat, electric light and power, and toilet facilities consisting of one lavatory and one water closet complete with connections to water and sewer mains. Provide a mail slot in the door or a lockable mail box mounted on the surface of the door. Include a 4 by 8 foot plan table, computer work space a standard size office desk and chair, and

telephone. At completion of the project, the office will remain the property of the Contractor and be removed from the site. Utilities must be connected and disconnected in accordance with local codes and to the satisfaction of the Contracting Officer. Compliance with safety and appearance requirements for temporary facilities stated in previous paragraphs is required.

3.5.2 Trailer-Type Mobile Office

The option is available to, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer to meet the requirements of the minimum facilities specified above. Securely anchor the trailer to the ground at all four corners to guard against movement during high winds. Coordinate requirements for proper anchoring with [EM 385-1-1](#) Section 04.

3.6 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store all salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials not in trailers, whether new or salvaged.

3.7 RESTORATION OF STORAGE AREA

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and all other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence. Restore areas used during the performance of the Contract to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil and seeding as necessary.

3.8 Remove and Reinstall Mailbox

This work shall consist of relocating the existing mailboxes, per applicable portions of Section 107.20 of the latest edition of the IDOT Standard Specifications for Roadway and Bridge Construction Highway Standards.

If the mailbox or post becomes damaged during construction, the Contractor shall be responsible to replace the mailbox and/or post at no additional cost to the contract.

Work shall include all labor, equipment, and materials necessary to perform the work as specified, including removal, salvaging, protecting and relocating the existing mailbox and existing post, as well as backfilling all disturbed areas where the original location of the mailbox was located.

3.9 Remove and Relocate Sign Support with Sign Panels

Remove Sign supports in accordance with Section 724 of the latest edition of the IDOT Standard Specifications for Roadway and Bridge Construction Highway Standards. Install sign support and sign panels in accordance with Sections 724, 728, and 729.

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ENVIRONMENTAL PROTECTION FOR ILLINOIS
06/2015

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. 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

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328 Definitions of Waters of the United States

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

40 CFR 68 Chemical Accident Prevention Provisions

49 CFR 171 - 178 Hazardous Materials Regulations

ASSOCIATION OF ILLINOIS SOIL AND WATER CONSERVATION DISTRICTS
(AISWCD)

IUM (2010) Illinois Urban Manual

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA)

35 IAC 900-901 Title 35 of Illinois Administrative Code, Subtitle H: Noise, Chapter I: Pollution Control Board

ILR10 General NPDES Permit No. ILR10, Storm Water Discharges From Construction Site Activities

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 of, 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 (for example, methyl ethyl ketone and toluene), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated pesticide equipment rinse water.

1.2.4 Clean Construction and Demolition Debris (CCDD)

As defined by the Illinois Environmental Protection Agency, CCDD is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed asphalt pavement generated from construction or demolition activities. When uncontaminated soil is mixed with any of these materials, the uncontaminated soil is considered CCDD.

1.2.5 Hazardous Waste

Wastes designated by the U.S. Environmental Protection Agency as hazardous, as defined in 40 CFR 261.

1.2.6 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor must 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 must be in compliance with all applicable Federal, State, and local laws and regulations.

1.2.7 Surface Discharge

The term "Surface Discharge" implies 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 to discharge water from the governing agency. All projects with land disturbances greater than or equal to one acre in total area must have a National Pollution Discharge Elimination System (NPDES) Construction Site Activity Storm Water Permit to discharge surface water from a construction site, issued by the Illinois Environmental Protection Agency. All projects with discharge of dredged or fill material to waters of the United States must have a Section 401 Water Quality Permit issued by the Illinois Environmental Protection Agency.

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 [WETLAND MANUAL](#).

1.3 GENERAL REQUIREMENTS

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 must be protected during the entire duration of this contract. Comply with all applicable environmental Federal, State, and local laws and regulations and be responsible for any delays resulting from failure to comply with environmental laws and regulations.

1.4 SUBCONTRACTORS

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 must be submitted in accordance with Section [01 33 00 SUBMITTAL PROCEDURES](#):

[SD-01 Preconstruction Submittals](#)

Environmental Protection Plan, G, DH

The requirements for the environmental protection plan are given in paragraph 1.7. In addition to submitting in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, provide a complete copy of the submittal, including all graphics, attachments, and figures, electronically in pdf format.

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction site activities or delivery of materials to the site, 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 must be defined within the Environmental Protection Plan as outlined in this section. 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, must be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, 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 Plan. The Environmental Protection Plan must be current and maintained onsite by the Contractor.

1.7.1 NPDES Procedure and Compliance

The Environmental Protection Plan must include a Stormwater Pollution Prevention Plan (SWPPP). The Government will review the Environmental Protection Plan, including the Stormwater Pollution Prevention Plan, and then will submit the Notice of Intent (NOI) to the Illinois Environmental Protection Agency after the plan has been approved. No construction will take place before the submission of the NOI; approval of the NPDES permit requires 30 days after the submission of the NOI. The Contractor may NOT begin earthmoving activities until 30 days after the submission of the NOI. Approval of the Contractor's plan by the Government will not relieve the Contractor of his responsibility for adequate and continuing control of pollutants and other environmental protection measures. Address all comments to the SWPPP generated by the Illinois Environmental Protection Agency within 7 days of receipt of comments. Certify, in writing, that all recommended changes have been made to the SWPPP, and must submit certification to the COR. Post, in a visible location accessible for public viewing, the IEPA response letter, to be provided by the Government, and ILR10 at the project site.

1.7.2 Environmental 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.

1.7.3 Environmental Protection Plan Contents

The environmental protection plan must include, but not 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, including training for subcontractors.
- e. A map of the site, showing site boundaries, waterways on or adjacent to the site, 100 year flood plains, soil types, location of vegetative cover, location and dimensions of storm water drainage systems and natural drainage patterns on and adjacent to the site, locations of utilities structures and roads, site topography (existing and planned), and any potential areas where point sources may enter the groundwater.
- f. A Stormwater Pollution Prevention Plan which identifies the type and location of the erosion and sediment controls to be provided. The plan must meet the requirements of the Illinois NPDES Permit No. ILR10 (included at the end of this section). The management practices, controls, and other provisions contained in the plan must be as protective as the requirements in the Illinois Urban Manual, IUM. The contents of the plan must address all items listed in Part IV of the permit, including but not limited to:
 1. Site description, controls, maintenance, inspections, and non-stormwater discharges.
 2. A map of the final site conditions.
 3. A site construction plan that includes the locations and dimensions of land disturbing activities, locations of soil stockpiles, locations and dimensions of erosion control measures, and a schedule with the start and finish dates of each land disturbing activity, including the installation of erosion control measures. Provisions and a schedule for maintenance of the erosion control measures during construction must also be included in the plan.
 4. Name and qualifications of the person(s) responsible for inspecting the site in accordance with the requirements given in ILR10.
 5. A copy of the blank inspection checklist that will be used during ILR10 site inspections.
 6. The plan must contain the certification statement contained in Part IV(F) of the NPDES Permit No. ILR10.

g. 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.

h. Traffic control plans that includes measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan must include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff. Should mud or dirt be transported onto paved public roads by vehicles or runoff, as needed or directed by the Contracting Officer, remove the mud or dirt from the pavement using commercial street cleaning equipment, such as a "street sweeper," or other equipment approved by the Contracting Officer's Representative.

i. 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.

j. Drawing showing the location of proposed borrow areas.

k. The Spill Control Plan must 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 must 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 must immediately notify the Contracting Officer and the local fire department or emergency response agency 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 must 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 any subcontractors, 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.

l. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal, including clearing and demolition debris. The solid waste disposal plan must include schedules for disposal. Identify any subcontractors responsible for the transportation and disposal of waste. **The Contractor must include the name and location of disposal site(s).** Evidence of the disposal facility's acceptance of the waste must be attached to this plan during the construction. Attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. The report must indicate the total amount of waste generated and total amount of waste diverted in cubic yards or tons along with the percent that was diverted.

m. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan must 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.

n. 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. The air pollution control plan must include a dust control plan.

o. 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 Safety Data Sheets (SDS) and the maximum quantity of each hazardous material to be on site at any given time must be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan must be updated.

p. 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 must 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 must 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 must be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan must include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

q. 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 and wetlands not previously known to be onsite or in the area are discovered during construction. The plan must include methods to assure the protection of known or discovered resources and must identify lines of communication between Contractor personnel and the Contracting Officer.

1.7.4 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents must be attached, as an appendix, to the Environmental Protection Plan.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to the start of any onsite construction activities, the Contractor and the Contracting Officer must make a joint condition survey. Immediately following the survey, 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 must be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. 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 SPECIAL ENVIRONMENTAL REQUIREMENTS

CCDD generated as part of the project must be disposed at a state of Illinois licensed CCDD facility. Perform soil pH testing or full lab analysis of CCDD materials as required for disposal. Material disposed at CCDD facilities should be accompanied by IEPA Form LPC-662 or LPC-663. Contractor is required to furnish the LPC-662 or LPC-663 at no additional costs to the Government. The following sites are pre-approved, contractor shall submit for approval if other sites used:

-Richton Park CCDD - Site 0311800001 - 22100 Central Road, Richton Park, IL. 60471

-Thornton CCDD - Site 0313095034 - Derby Road and Ridge Road, Thornton, IL. 60476

-Fitzmar Landfill Inc. - Site 0310450011 - 28th St and East End Ave, Chicago Heights, IL. 60411

1.10 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.

1.11 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. After receipt of such notice inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. 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.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

Obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and regulations.

Water main work shall be constructed per the IEPA PWS Construction Permit, attached at the end of this section. Culvert replacement work shall be conducted in accordance with Nationwide Permit #3, Maintenance. Contractor shall comply with the terms and conditions of the Nationwide Permit #3, and the 401-certification issued by IEPA, attached at the end of this section.

3.2 LAND RESOURCES

Confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, do 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. 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 must be removed by the Contractor.

3.2.1 Work Area Limits

Prior to commencing construction activities mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed must be marked or fenced. Monuments and markers must be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. The Contractor's personnel must 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 must be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. Restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

Provide erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor must be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. Construct or install temporary and permanent erosion and sediment control best management practices (BMPs). BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, inlet filters, (temporary) erosion control blanket, temporary erosion control seeding, cofferdams, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins (materials shall meet IDOT and/or Illinois Urban Manual specifications). The Contractor's best management practices must also be in accordance with the State of Illinois National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention requirements. Any temporary measures must be removed after the area has been stabilized.

3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings must be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities must be made only when approved. Erosion and sediment controls must 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 must be controlled to protect adjacent areas.

3.3 WATER RESOURCES

Monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals must not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities must be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor must be capable of quantifying sediment or pollutant loading to that surface water when required by a Clean Water Act permit.

3.3.1 Cofferdams, Diversions, and Dewatering Operations

Construction operations for dewatering, removal of cofferdams, tailrace excavation, and tunnel closure must be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. The Contractors diversions and dewatering operations must comply with the state of Illinois water quality standards and anti-degradation provisions, Section 404 of the Clean Water Act, and the Section 401 Water Quality Certification for this project. If the

Contractor proposes diversions and dewatering operations not shown on the project drawings, or authorized under an existing permit, the Contractor must submit to the Government the design details of the proposed diversions and dewatering operations in advance of installing the Contractor-proposed feature. The Government will coordinate the Contractor-proposed features with the appropriate regulatory agencies to determine if additional permits are required. If additional permits will be required, the Government will obtain the additional permit coverage. It is the responsibility of the Contractor to allow sufficient time in the schedule to accommodate this review and compliance process, and to provide the Contracting Officer with any and all information that the Contracting Officer deems necessary to facilitate the process. The review and compliance process requires a minimum time frame of ninety (90) calendar days, but could take substantially longer, possibly up to one year or, in unusual circumstances, even longer than one year, to complete. Any delays caused by the need to obtain additional permits must be solely the responsibility of the Contractor, at no additional cost to the Government. Do not install Contractor-proposed features, not shown on the project drawings, without receiving written approval, and permits, from the Government.

3.3.2 Stream Crossings

Stream crossings must allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments. Comply with the State of Illinois water quality standards and anti-degradation provisions, Section 404 of the Clean Water Act, and the Section 401 Water Quality Certification for construction of stream crossing for this project. If the Contractor proposes stream crossings not shown on the project drawings, or authorized under an existing permit, the Contractor must submit to the Government the design details of the proposed stream crossing in advance of installing the Contractor-proposed feature. The Government will coordinate the Contractor-proposed features with the appropriate regulatory agencies to determine if additional permits are required. If additional permits will be required, the Government will obtain the additional permit coverage. It is the responsibility of the Contractor to allow sufficient time in the schedule to accommodate this review and compliance process, and to provide the Contracting Officer with any and all information that the Contracting Officer deems necessary to facilitate the process. The review and compliance process requires a minimum time frame of ninety (90) calendar days, but could take substantially longer, possibly up to one year or, in unusual circumstances, even longer than one year, to complete. Any delays caused by the need to obtain additional permits shall be solely the responsibility of the Contractor, at no additional cost to the Government. Do not install Contractor-proposed features, not shown on the project drawings, without receiving written approval, and permits, from the Government.

3.3.3 Wetlands

Do not enter, disturb, destroy, or allow discharge of contaminants into any wetlands. Protect wetlands shown on the drawings in accordance with paragraph ENVIRONMENTAL PERMITS AND COMMITMENTS. 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.

3.3.4 Control of Aquatic Nuisance Species

Conduct operating practices to prevent the spread of Aquatic Nuisance Species (ANS). Such practices must include, but not be limited to, cleaning equipment to prevent the spread of seeds, eggs, larvae, or other dispersal vectors; and discharging or exchanging ballast water, or other water, from a vessel of any type to prevent transfer of water from one water body into another. Contractor remove all plants, sediment, and organisms from the vessel and must thoroughly clean all equipment before being used on the project site.

3.4 AIR RESOURCES

Equipment operation, activities, or processes performed must be in accordance with all Federal, State, and local 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 asphaltic batch plants; must be controlled at all times, including weekends, holidays and hours when work is not in progress. 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 must be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. Comply with all State and local visibility regulations.

3.4.2 Odors

Odors from construction activities must be controlled at all times. The odors must not cause a health hazard and must be in compliance with State regulations and/or local ordinances.

3.4.3 Sound Intrusions

Keep construction activities under surveillance and control to minimize environment damage by noise. Comply with the provisions of the State of Illinois rules given in 35 IAC 900-901.

3.4.4 Burning

Burning will not be allowed on the project site unless specified in other sections of the specifications or authorized in writing by the Contracting Officer. The specific time, location, and manner of burning must be subject to approval.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes must be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes (Excluding CCDD)

Solid wastes (excluding CCDD) must be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal must be conducted to prevent contamination. Segregation measures must be employed so that no hazardous or toxic waste will become co-mingled with solid waste. Transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill must be the minimum acceptable off-site solid waste disposal option. Verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate. Comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

3.5.2 Clean Construction and Demolition Debris

A list of nearby CCDD facilities licensed in the State of Illinois is provided in Paragraph 1.9 of this section. Provide the name of the selected facility within the Environmental Protection Plan. Reuse excess satisfactory fill to the maximum extent practicable on-site. Coordinate with the Village of Richton Park Director of Public Works, as specified in Paragraph 1.9. If contamination of soil is suspected, or if soil testing fails pH testing required for CCDD disposal, notify the COR immediately.

3.5.3 Chemicals and Chemical Wastes

Chemicals must be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action must be performed and documented. This documentation will be periodically reviewed by the Government. Chemical waste must be collected in corrosion resistant, compatible containers. Collection drums must be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes must be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.5.4 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. Manage and store hazardous waste in compliance with 40 CFR 262. Take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. Segregate hazardous waste from other materials and wastes, must protect it from the weather by placing it in a safe covered location, and must 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. Transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. Dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials must be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills must be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

3.5.5 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil must be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded must be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Storage of fuel on the project site must be in accordance with all Federal, State, and local laws and regulations, and must have the approval of the Contracting Officer.

3.5.6 Waste Water

Disposal of waste water must be as specified below.

- a. Waste water from construction activities, such as onsite material processing (including sediment dewatering), concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. must not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. Dispose of the construction related waste water off-Government property in accordance with all Federal, State, Regional and Local laws and regulations.
- b. For discharge of ground water obtain a State or Federal permit specific for pumping and discharging ground water prior to surface discharging. All surface discharge must be done in accordance with the requirements of the NPDES Construction Site Activity Storm Water Permit. Land application must be in accordance with all Federal, State, Regional, and/or Local laws and regulations for pumping and land applying ground water.

3.6 NON-HAZARDOUS SOLID WASTE DIVERSION REPORT

Maintain an inventory of non-hazardous solid waste diversion and disposal of clearing and demolition debris. Submit a report to the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated. The following must be included in the report:

- a. Clearing and Demolition (C&D) Debris Disposed = _____ in cubic yards or tons, as appropriate.
- b. Clearing and Demolition (C&D) Debris Recycled = _____ in cubic yards or tons, as appropriate.
- c. Total C&D Debris Generated = _____ in cubic yards or tons, as appropriate.
- d. Waste Sent to Waste-To-Energy Incineration Plant (This amount should not be included in the recycled amount) = _____ in cubic yards or tons, as appropriate.

3.7 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Any identified existing historical, archaeological, and cultural resources

within the Contractor's work area are shown on the drawings. Protect these resources and 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 must 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 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. Cease all activities that may result in impact to or the destruction of these resources. Secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.8 BIOLOGICAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. Protect threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

3.9 PREVIOUSLY USED EQUIPMENT

Clean all previously used construction equipment prior to bringing it onto the project site. Ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds.

3.10 MAINTENANCE OF POLLUTION FACILITIES

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.

3.11 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel and subcontractor personnel must be trained in all phases of environmental protection and pollution control. Conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings must be conducted for new personnel and when site conditions change. The training and meeting agenda must 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.

3.12 POST CONSTRUCTION CLEANUP

Clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". 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 must be graded, filled and the entire area seeded unless otherwise indicated.

-- End of Section --



U.S. Army Corps of
Engineers
Chicago District

Nationwide Permit Summary

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

3. Maintenance

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

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures.

All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

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

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

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

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

A. Regional Conditions

☐ 1. For NWP 12, NWP 57, and NWP 58, pre-construction notification is required in accordance with General Condition 32 for the following activities;

- ☐ (a) activities that involve mechanized land clearing in a forested wetland for the utility line right-of-way;
- ☐ (b) utility lines placed within, and parallel to or along a jurisdictional stream bed.

☐ 2. For Nationwide Permit 14, all proposed projects that result in the loss of greater than 300 linear feet of streambed located within Waters of the U.S., requires a Pre-Construction Notice in accordance with General Condition No. 32.

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- ☐ 3. Any bank stabilization activity involving a method that protrudes from the bank contours, such as jetties, stream barbs, and/or weirs, will require a pre-construction notification in accordance with General Condition 32.

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

- ☐ 1. **Navigation.**
- ☐ (a) No activity may cause more than a minimal adverse effect on navigation.
 - ☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
 - ☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- ☐ 2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

- ☐ 3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
- ☐ 4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
- ☐ 5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
- ☐ 6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).
- ☐ 7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
- ☐ 8. **Adverse Effects from Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
- ☐ 9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
- ☐ 10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
- ☐ 11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
- ☐ 12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

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

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

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

☐ **16. Wild and Scenic Rivers.**

☐ (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

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

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

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

☐ **18. Endangered Species.**

☐ (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species.

No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

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

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

- ☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWP.
- ☐ (e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.
- ☐ (f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.
- ☐ (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.
- ☐ **19. Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for ensuring that an action authorized by NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

☐ 20. Historic Properties.

- ☐ (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
- ☐ (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.
- ☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties.

The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: No historic properties affected, no adverse effect, or adverse effect.

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

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

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

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

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

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

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

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

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

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

☐ (d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement.

This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see [33 CFR 332.3\(e\)\(3\)](#)).

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

Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

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

☐ (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects.

For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

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

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

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

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

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

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

☐ (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b).

For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

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

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

☐ **25. Water Quality.**

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

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

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

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

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

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

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

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

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

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

(Transferee)

(Date)

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

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

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

☐ **31. Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32.

An activity that requires section 408 permission and/or review is not authorized by NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

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

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

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

☐ (b) **Contents of Pre-Construction Notification.**

The PCN must be in writing and include the following information:

- ☐ (1) Name, address and telephone numbers of the prospective permittee;
- ☐ (2) Location of the proposed activity;
- ☐ (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;
- ☐ (4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.
 - ☐ (ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.
 - ☐ (iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
- ☐ (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, perennial, and

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

- ☐ (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
- ☐ (7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;
- ☐ (8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;
- ☐ (9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

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

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

☐ (d) **Agency Coordination:**

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

☐ (2) Agency coordination is required for:

i) All NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States;

ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and

(iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

☐ (3) When agency coordination is required, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning

the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

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

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

C. District Engineer's Decision

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

If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

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

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

The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

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

D. Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

E. Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

Corrected Copy

October 8, 2021

Corrected Copy Date: ~~DEC 21~~ 2021

U.S. Army Corps of Engineers, Rock Island
ATTN: Ms. Samantha Chavez, Regulatory Branch
Post Office Box 2004
Clock Tower Building
Rock Island, IL 61204-2004

Re: Federal Register [Docket Number: COE-2020-0002] Proposal to Reissue and Modify
Nationwide Permits, September 15, 2020
CWA §401 Certification/Denial and applicable conditions
Illinois EPA Log no. C-0210-20

Dear Ms. Chavez:

On September 15, 2020 the Corps of Engineers issued the notice of proposed rulemaking concerning their determination to reissue and modify the current Nationwide Permits (NWP) that are set to expire on March 18, 2022. By letter dated August 19, 2021 your office extended the reasonable period of time to revise the §401 water quality certification to October 13, 2021 for thirty-two (32) NWPs. The Agency has made modifications to the certification conditions issued on December 11, 2020. By this final determination document the Illinois EPA grants §401 water quality certification for NWPs 3, 4, 5, 6, 7, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 27, 30, 31, 32, 33, 36, 37, 38, 41, 45, 53, and 54 with the special and/or general conditions specified below. This document also provides the certification conditions for NWPs 12, 29, 39, 40, 42, 43, 51, 52, 57, and 58 and notice of the Agency determination to deny eight (8) of the proposed nationwide permits which are provided below with reasons in accordance with 40 CFR 121.7(e)(2).

CWA §401 certification is hereby granted, subject to General Conditions 1 through 12 below, for the following nationwide permits:

NWP 3 – Maintenance
NWP 4 – Fish and Wildlife Harvesting, Enhancement, and Attraction Device and Activities
NWP 5 – Scientific Measurement Devices
NWP 7 – Outfall Structures and Associated Intake Structures
NWP 18 – Minor Discharges
NWP 19 – Minor Dredging
NWP 20 – Response Operations for Oil or Hazardous Substances
NWP 22 – Removal of Vessels
NWP 25 – Structural Discharges
NWP 30 – Moist Soil Management for Wildlife
NWP 31 – Maintenance of Existing Flood Control Facilities
NWP 33 – Temporary Construction, Access and Dewatering
NWP 36 – Boat Ramps
NWP 41 – Reshaping Existing Drainage Ditches
NWP 45 – Repair of Uplands Damaged by Discrete Events

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2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

CWA §401 certification is hereby granted, subject to General Conditions 1 through 12 below and the Special Conditions which are contained in the referenced attachment for the following identified nationwide permits:

- NWP 6 – Survey Activities. Refer to Special Conditions for NWP 6 in Attachment.
- NWP 12 – Oil or Natural Gas Pipeline Activities. Refer to Special Conditions for NWP 12 in Attachment.
- NWP 13 – Bank Stabilization. Refer to Special Conditions for NWP 13 in Attachment.
- NWP 14 – Linear Transportation Projects. Refer to Special Conditions for NWP 14 in Attachment.
- NWP 15 – U.S. Coast Guard Approved Bridges. Refer to Special Conditions for NWP 15 in Attachment.
- NWP 16 – Return Water from Upland Contained Disposal Areas. Refer to Special Conditions for NWP 16 in Attachment.
- NWP 17 – Hydropower Projects. Refer to Special Conditions for NWP 17 in Attachment.
- NWP 23 – Approved Categorical Exclusions. Refer to Special Conditions for NWP 23 in Attachment.
- NWP 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities. Refer to Special Conditions for NWP 27 in Attachment.
- NWP 29 – Residential Developments. Refer to Special Conditions for NWP 29 in Attachment.
- NWP 32 – Completed Enforcement Actions. Refer to Special Conditions for NWP 32 in Attachment.
- NWP 37 – Emergency Watershed Protection and Rehabilitation. Refer to Special Conditions for NWP 37 in Attachment.
- NWP 38 – Cleanup of Hazardous and Toxic Waste. Refer to Special Conditions for NWP 38 in Attachment.
- NWP 39 – Commercial and Institutional Developments. Refer to Special Conditions for NWP 39 in Attachment.
- NWP 40 – Agricultural Activities. Refer to Special Conditions for NWP 40 in Attachment.
- NWP 42 – Recreational Facilities. Refer to Special Conditions for NWP 42 in Attachment.
- NWP 43 – Stormwater Management Facilities. Refer to Special Conditions for NWP 43 in Attachment.
- NWP 51 – Land-Based Renewable Energy Generation Facilities. Refer to Special Conditions for NWP 51 in Attachment.
- NWP 52 – Water-Based Renewable Energy Generation Pilot Projects. Refer to Special Conditions for NWP 52 in Attachment.
- NWP 53 – Removal of Low-Head Dams. Refer to Special Conditions for NWP 53 in Attachment.
- NWP 54 – Living Shorelines. Refer to Special Conditions for NWP 54 in Attachment.
- NWP 57 – Electric Utility Line and Telecommunications Activities. Refer to Special Conditions for NWP 12 in Attachment.
- NWP 58 – Utility Line Activities for Water and Other Substances. Refer to Special Conditions for NWP 12 in Attachment.

CWA §401 certification is hereby denied with reasons provided in accordance with 401 CFR 121.7 for the following NWPs:

- NWP 21 – Surface Coal Mining Activities. The Illinois EPA has determined that a case-specific review is warranted for all surface mining activities including carbon extraction because pursuant to 35 Ill. Admin. Code Section 401.102, mining activities are identified as having, when certain refuse materials are used, the capability to cause or threaten to cause a nuisance or render waters harmful or detrimental to public health and to all legitimate uses including but not limited to livestock and wildlife uses. The likelihood that contaminants related to coal extraction, particularly acid producing minerals in mine refuse, would be found within overburden and soil stockpiles and therefore present within fill materials warrant a facility specific antidegradation assessment pursuant to 35 Ill. Admin. Code Section 302.105. Additionally, Illinois' Section 401 implementation rules at 35 Ill. Admin. Code Part 395 regarding material testing exemptions specifically exclude material with known sources of pollution. Therefore, Section 401 certification is denied for this nationwide permit (NWP21).

NWP 34 – Cranberry Production Activities: The Illinois EPA has determined that the area of impact that is allowed by an authorization under this nationwide permit exceeds 1/2 acre. 1/2 acre is determined to be representative of the maximum threshold for minimal degradation of existing uses of aquatic resources. Consequently, any activity authorized under this nationwide permit must be subject to a case-specific antidegradation assessment pursuant to 35 Ill. Admin. Code Section 302.105. Therefore, the Illinois EPA denies 401 certification for NWP 34.

NWP 44 – Mining Activities: The Illinois EPA has determined that a case-specific review is warranted for all surface mining activities because pursuant to 35 Ill. Admin. Code Section 401.102, mining activities are identified as having, when certain refuse materials are used, the capability to cause or threaten to cause a nuisance or render waters harmful or detrimental to public health and to all legitimate uses including but not limited to livestock and wildlife uses. Furthermore, all mining activities are regulated by the Illinois EPA under federal and state statute because of their potential to cause or threaten to cause water pollution. Therefore, for the above reasons, the Illinois EPA denies 401 certification for NWP 44.

NWP 46 – Discharges into Ditches: The Illinois EPA has determined that a case-specific review is warranted for all discharge activities into ditches because of the nationwide permit exceeds the 1/2 acreage determined to be the maximum threshold for minimal degradation of existing uses of aquatic resources. Consequently, any activity authorized under this nationwide permit must be subject to a case-specific antidegradation assessment pursuant to 35 Ill. Admin. Code Section 302.105. Therefore, the Illinois EPA denies 401 certification for NWP 46.

NWP 48 – Commercial Shellfish Mariculture Activities: As proposed, the Illinois EPA believes this nationwide permit is inapplicable to waters of the U.S. that are found within the State of Illinois. Therefore, the Illinois EPA denies 401 certification for NWP 48.

NWP 49 – Coal Remining Activities: By reference to the certification denial explanation for NWP 21, the Illinois EPA denies 401 certification for NWP 49.

NWP 50 – Underground Coal Mining: By reference to the certification denial explanation for NWP 21, the Illinois EPA denies 401 certification for NWP 50.

NWP 59 – Water Reclamation and Reuse Facilities: As proposed in the Federal Register, this proposed nationwide permit would appear to allow utilization of existing natural waterbodies as treatment devices. According to 35 Ill. Admin. Code 301.440 such utilization is not permissible. Therefore, the Illinois EPA denies 401 certification for NWP 59.

401 Certification General Conditions

General Conditions 1 through 12 shall be applicable to all NWPs that are granted 401 certification.

General Condition 1: Waterbodies that Require Individual Certification

Pursuant to 35 Ill. Adm. Code Section 302.105(d)(6), an individual 401 water quality certification will be required for activities permitted under these Nationwide Permits for discharges to waters designated by the State of Illinois as waters of particular biological significance or Outstanding Resource Waters under 35 Ill. Adm. Code 302.105(b). Biologically Significant Streams (BSS) are cataloged in Illinois DNR's publication

“Integrating Multiple Taxa in a Biological Stream Rating System” and may be identified at: <https://www2.illinois.gov/dnr/conservation/BiologicalStreamratings/Pages/default.aspx>.

General Condition 2: Water Quality Impairments

Pursuant to 35 Ill. Adm. Code Sections 302.105(a), 302.105(c)(2)(B), and 395.401(a), an individual 401 water quality certification will be required for activities permitted under these Nationwide Permits that may cause a discharge that, whether temporarily or permanently, may cause or contribute to additional loading of any pollutant, or deterioration of any water quality parameter, such as pH or dissolved oxygen, where such pollutant or parameter is also designated by the State of Illinois as a cause of water quality impairment of the particular segment of the receiving water body according to the Illinois Environmental Protection Agency's Section 303(d) list. The most recent Illinois Integrated Water Quality Report and Section 303(d) List can be found at <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/303d-list.aspx>.

General Condition 3: Threatened and Endangered Species

Pursuant to 35 Ill. Admin. Code Section 302.105(f)(1)(F), prior to proceeding with any work in furtherance of activities permitted under these Nationwide Permits, potential impacts to State threatened or endangered species and Natural Areas shall be determined in accordance with applicable consultation procedures established under 17 Ill. Admin Code Part 1075. The Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT) is available to complete consultation at <http://dnr.illinois.gov/EcoPublic/>. If IDNR determines that adverse impacts to protected natural resources are likely, the applicant shall address those identified concerns with IDNR through the consultation process. Please contact IDNR, Impact Assessment Section at 217-785-5500 if you have any questions regarding consultation.

General Condition 4: TMDLs

Pursuant to 35 Ill. Admin. Code Sections 302.105(a), 302.105(c)(2)(B), and 395.401(a), activities permitted under these Nationwide Permits that may cause a discharge that, whether temporarily or permanently, may cause or contribute to additional loading of any pollutant, or deterioration of any water quality parameter, such as pH or dissolved oxygen, where such pollutant or parameter is addressed by a USEPA approved Total Maximum Daily Load (TMDL) report for the receiving water body shall develop and implement additional measures and or procedures which ensure consistency with the load allocations, assumptions and requirements of the TMDL report. TMDL program information and water listings are available at <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/reports.aspx>.

General Condition 5: Prohibitions

Pursuant to 35 Ill. Admin. Code Section 395.401(a), the applicant shall not cause:

- a. violation of applicable provisions of the Illinois Environmental Protection Act;
- b. water pollution defined and prohibited by the Illinois Environmental Protection Act;
- c. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
- d. interference with water use practices near public recreation areas or water supply intakes.

General Condition 6: Erosion and Sedimentation Control Measures

Pursuant to the Illinois Environmental Protection Act Section 39(a)[415 ILCS 5/39(a)] and 35 Ill. Admin. Code Sections 302.203 and 395.402(b)(2), the applicant shall implement all necessary sedimentation and erosion control measures consistent with the current edition of

the “Illinois Urban Manual” found at <https://illinoisurbanmanual.org/>. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins, silt fencing and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. All areas affected by construction shall be seeded and stabilized as soon after construction as possible.

General Condition 7: NPDES Stormwater Construction Permit

Pursuant to the Illinois Environmental Protection Act Section 39(a)[415 ILCS 5/39(a)] and 35 Ill. Admin. Code Section 395.402(b)(2), the applicant shall be responsible for obtaining an NPDES Storm Water Permit required by the federal Clean Water Act prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be applied for at <https://www2.illinois.gov/epa/topics/forms/water-permits/storm-water/Pages/construction.aspx>.

General Condition 8: Spill Response Plan

Pursuant to 35 Ill. Admin. Code Sections 395.401, 302.203, and 302.208, the applicant shall ensure that a spill avoidance and response plan has been developed and implemented for management of accidental releases of petroleum, oil, and lubricant products to the aquatic environment during construction and for emergency notification of applicable downstream water supply operators. Absorbent pads, containment booms and skimmers shall be available to facilitate the cleanup of petroleum spills. If floating hydrocarbon (oil and gas) products are observed, the applicant or his designated individual will be responsible for directing that work be halted so that appropriate corrective measures are taken in accordance with the plan prior to resuming work.

General Condition 9: Hydraulic Machinery

Pursuant to 35 Ill. Admin. Code Sections 302.203, 302.304, and 302.515, all hydraulic machinery utilized for the permitted activity and used in or immediately adjacent to waters of the State shall utilize biodegradable or bio-based hydraulic fluids to minimize pollution in the case of broken or leaking hydraulic equipment.

General Condition 10: Temporary Structures and Work

Pursuant to 35 Ill. Admin. Code Sections 302.203, 395.204, and 395.401(b), temporary work pads, cofferdams, access roads and other temporary fills are approved provided that such activities are constructed with clean coarse aggregate or non-erodible non-earthen fill material that will not cause siltation. Sandbags, pre-fabricated rigid materials, sheet piling, inflatable bladders and fabric lined basins may be used for temporary facilities. Temporary fills within streams, creeks or rivers shall utilize adequate bypass measures (i.e. dam and pump, flumes, culverts, etc.) to minimize sedimentation and erosion and to maintain normal stream flow during construction.

General Condition 11: Construction Site Dewatering

Pursuant to Illinois Environmental Protection Act Section 39(a)[415 ILCS 5/39(a)] and 35 Ill. Admin. Code Section 395.402(b)(2), dewatering of a construction site is authorized provided the dewatering activity is limited to the immediate work area within a cofferdam or otherwise isolated from waters of the State, and the work site is free from sources of contamination including those of natural origin. Dewatering activities shall incorporate Best Management Practices in accordance with the current edition of the “Illinois Urban Manual”

<https://illinoisurbanmanual.org/>. Practice Standard for Dewatering (no. 813) or as otherwise appropriate to ensure that return flows from the dewatering activity are free of unnatural turbidity and floating debris and meet applicable water quality standards. Dewatering or discharge of flush water from construction of drilled piers or boreholes is not authorized and must be conducted in accordance with an NPDES permit issued by the Illinois EPA.

General Condition 12: Discharged Material Quality

Pursuant to 35 Ill. Admin. Code Sections 302.203, 302.208, and 395.401(b), any spoil material excavated, dredged or otherwise produced must not be returned to the water body but must be deposited in a self-contained area in compliance with all state statutes. Except as specifically allowed by special condition, any backfilling must be done with clean material that is predominantly sand or larger size material, with no more than 20% passing a #230 U. S. sieve and placed in a manner to prevent violation of applicable water quality standards.

401 Certification Special Conditions

Special Conditions including the conditional exclusions of 401 certification coverage that are listed within the Attachment: "Special Conditions for Illinois EPA 401 Water Quality Certifications of Certain Nationwide Permits" shall be applicable as stated therein.

Should you have any questions or comments regarding the content of this nationwide certification, please contact Darren Gove at 217-782-3362.

Sincerely,

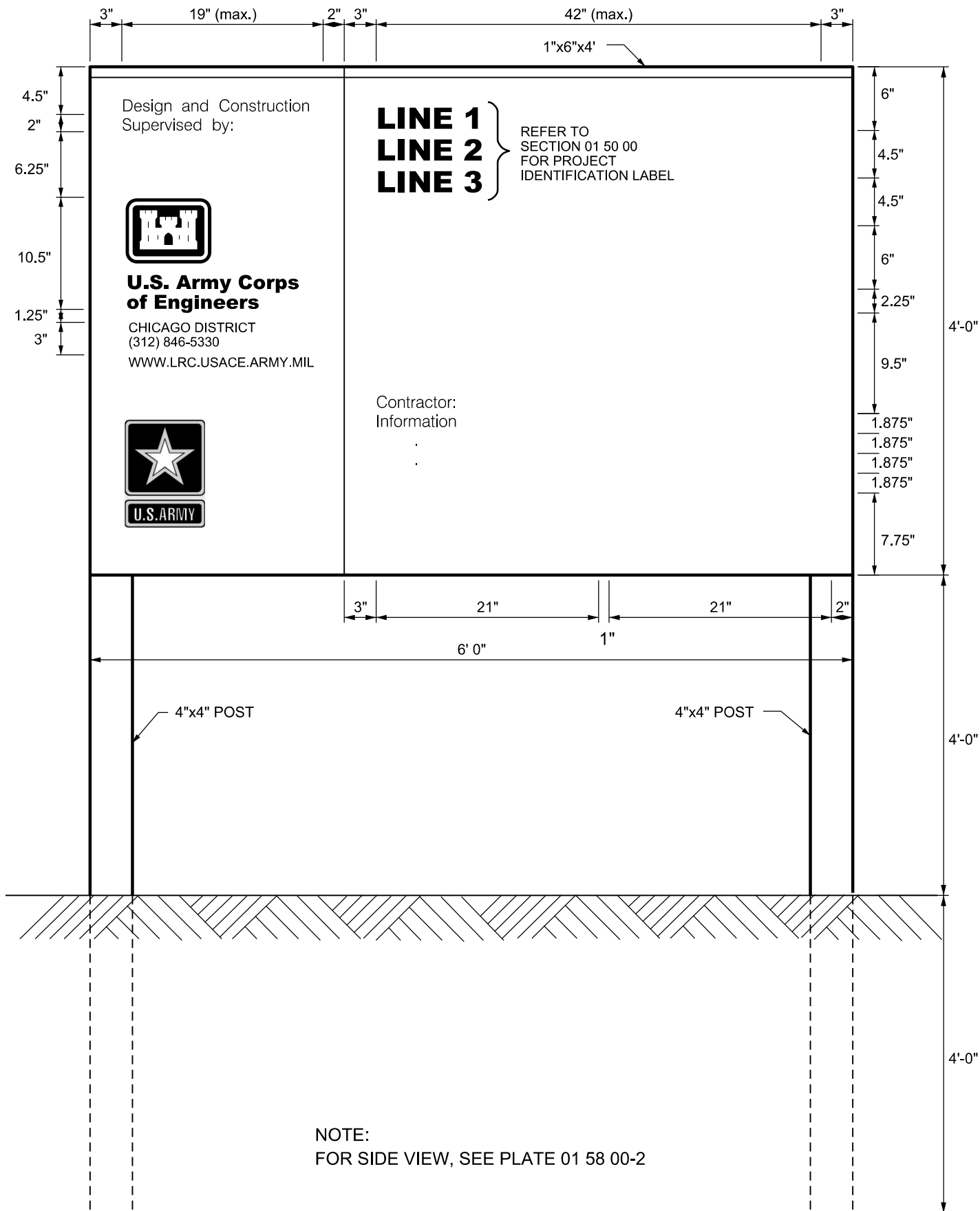
ORIGINAL SIGNED

Darin E. LeCrone, P.E.
Manager, Permit Section
Division of Water Pollution Control

DEL:DRG:C-0210-20.docx

Attachment: Special Conditions for Illinois EPA 401 Water Quality Certifications of Certain Nationwide Permits Regarding Federal Register [Docket Number: COE-2020-0002] Proposal to Reissue and Modify Nationwide Permits dated September 15, 2020

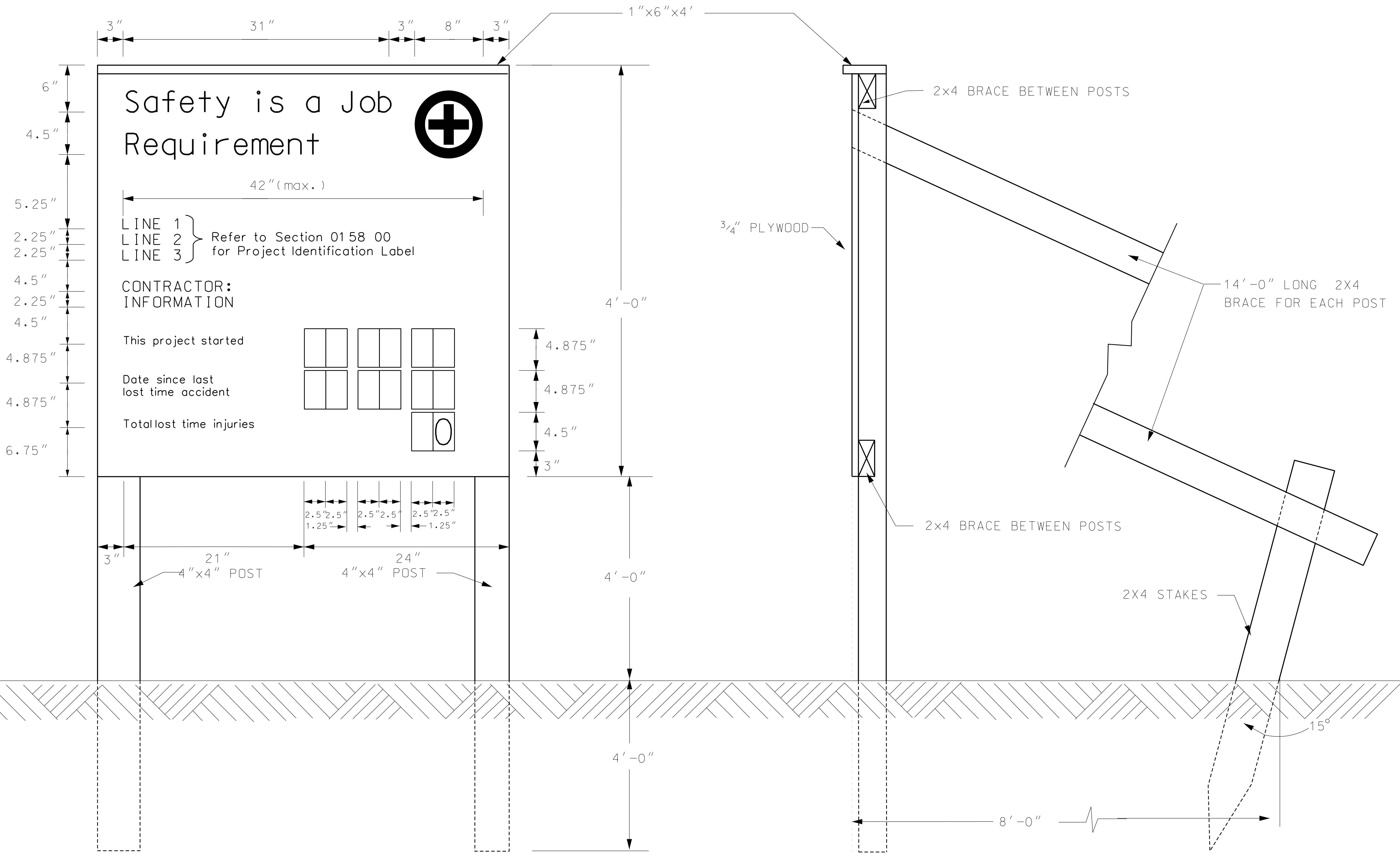
cc: Records Unit
CoE, Chicago District
CoE, Louisville District (Indianapolis Office)
CoE, Louisville District (Newburgh Regulatory Office)
CoE, Memphis District
CoE, St. Louis District
IDNR, Bartlett
IDNR, OWR, Chicago
IDNR, OWR, Springfield
USEPA, Region 5
USFWS, Rock Island, Barrington and Marion



GENERIC PROJECT IDENTIFICATION SIGN

NOT TO SCALE

PLATE 01 58 00-1



GENERIC SAFETY PERFORMANCE SIGN
NOT TO SCALE

PLATE 01 58 00-2

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 78 00

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02/15

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CLOSEOUT SUBMITTALS
02/15

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E1971 (2005; R 2011) Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings

GREEN SEAL (GS)

GS-37 (2017) Cleaning Products for Industrial and Institutional Use

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

Final Cleaning

SD-11 Closeout Submittals

Intermediate Working CAD Drawing Submittal

Final CAD Drawing Submittal, G, CS, AE

Final CAD Drawing Backcheck Submittal; G, CS, AE

Final Approved Shop Drawings; G, CS, AE

Final Approved Specifications; G, CS, AE

1.3 DEFINITIONS

1.3.1 Contract Documents

The contract documents consist of the drawings and specifications. After the contract has been awarded, all amendments issued during solicitation are incorporated into the contract documents. The government will provide the contract documents on an optical disc (CD or DVD) and two sets of

full size hard copies of the drawings, to the Contractor at the preconstruction meeting. The hard copies of the drawings will become the Contractor's "Working Hardcopy Drawings". The Drawings were developed using Bentley Systems Microstation. The drawings will be provided in the native CAD format and pdf format. The specifications were developed in SpecsIntact and only the pdf file will be provided. The contract documents provided to the contractor are typically referred to as the Contract Set.

1.3.2 Survey Files

Survey data that is collected during construction by the contractor shall be provided to the Government as completed at the Intermediate Working CAD Drawing Submittal and the Final CAD Drawing Submittal. Data includes both the ASCII point code file and the Survey CADD File. Both files shall contain the following minimum meta data: Surveyor Name, Date of Survey, Horizontal and Vertical Datums. The Final CAD Drawings Submittal should be updated based on any field surveys completed during construction.

1.3.3 Working Hardcopy Drawings

Hard Copy Drawings from the Contract Set provided by the government, is the basis that will be used by the Contractor to record any revisions that were uncovered during construction. Working Hardcopy drawings are the printed, hardcopy sets of drawings that are revised by markup during the execution of the project to show the current as-built conditions. It must be maintained at the jobsite at all times.

1.3.4 Working CAD Drawings

Electronic Computer Aided Drawings (CAD) Drawings from the Contract Set provided by the government is the basis that will be used by the Contractor to record any revisions that were uncovered during construction. Working CAD Drawings are the electronic CAD Files that are revised in tandem with the Working Hardcopy Drawings during execution of the project to show current as-built conditions.

1.3.5 Shop Drawings

Shop drawings as defined by the FAR, are drawings showing fabrication, assembly, or installation, as well as diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data. The shop drawing typically shows more detail than the Contract Documents. It is drawn to explain the fabrication and/or installation of the items.

1.3.6 Final Hardcopy Drawings

The Final Hardcopy Drawings are the completed Working Hardcopy Drawings including all markup revisions which reflect final as-built conditions. The drawings included all of the hand written markups that have occurred, since the contract set was provided to the contractor.

1.3.7 Final CAD Drawings

The Final CAD Drawings are the completed Working CAD Drawings that incorporate all changes shown on the Final Hardcopy Drawings and reflect the final as-built conditions of the project.

1.3.8 Plotted Final CAD Drawings

The Plotted Final CAD Drawings are plotted from the Final CAD Drawings. The Plotted Final CAD Drawings should reflect the all of the revisions shown in the Final Hardcopy Drawings.

1.3.9 As-built Drawings

The as-built Drawings consist of the Final CAD Drawings and Final Hardcopy Drawings, which include modifications during construction, field requested changes, and Contractor designs required during construction. If the Working CAD Drawings and Working Hardcopy Drawings are properly maintained during construction, when project construction is complete, the as-built Drawings should be near completion.

1.3.10 Record Drawings

The Record Drawings are the final as-built drawings accepted by the government. The final submittal from the contractor include the Final CAD Drawings, Final Hardcopy Drawings, and Plotted Final CAD Drawings.

1.4 Drawing Preparation

It may be necessary to revise the Working CAD Drawings and Working Hardcopy Drawings to correctly show the features of the project as it has been constructed. These working hardcopy drawings must be neat, legible and accurate. The Working CAD Drawings must follow AEC CADD standards. These drawings are part of the permanent records of this project and must be submitted to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor must be satisfactorily replaced by the Contractor at no expense to the Government.

For additional guidance and support developing As-builts to USACE standards, please see the following:

<http://www.lrc.usace.army.mil/BusinessWithUs.aspx>

1.4.1 Working Hardcopy Drawing and Working CAD Drawing Preparation

Revise the Working Hardcopy Drawings by the red-line process to show the as-built conditions during the construction of the project. Keep the Working Hardcopy Drawings current and at least one set available on the jobsite at all times. Changes from the contract drawings, which are made during the course of construction must be accurately and neatly recorded as they occur by means of details and notes. The Working Hardcopy Drawings must be updated in tandem with Working CAD Drawings. Routine updates, must occur at the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The working hard copy drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working CAD drawings and working hardcopy drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of Working CAD drawings and Working Hardcopy Drawings. Show on the Working CAD and Hardcopy drawings, but not limited to, the following information:

- a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, show by offset dimensions to two permanently fixed surface features the end of each run including each change in direction on the record drawings. Locate valves, splice boxes and similar appurtenances by dimensioning along the utility run from a reference point. Also record the average depth below the surface of each run
- b. The location and dimensions of any changes within the building structure.
- c. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.
- d. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or provided by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.
- f. Changes or modifications which result from the final inspection.
- g. Where contract drawings or specifications present options, show only the option selected for construction on the final as-built prints.
- h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, provide a contour map of the final borrow pit/spoil area elevations.
- i. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.
- j. Modifications (include within change order price the cost to change working and final record drawings to reflect modifications) and compliance with the following procedures.
- k. Follow directions in the modification for posting descriptive changes.
- l. Place a Modification at the location of each deletion.
- m. For new details or sections which are added to a drawing, place a Modification by the detail or section title.
- n. For minor changes, place a Modification by the area changed on the drawing (each location).
- o. For major changes to a drawing, place a Modification by the title of the affected plan, section, or detail at each location.
- p. For changes to schedules or drawings, place a Modification either by the schedule heading or by the change in the schedule.

q. The Modification size must be 1/2 inch diameter unless the area where the delta is to be placed is crowded. Smaller size delta must be used for crowded areas.

1.4.1.1 Working Hardcopy Drawings

The Working Hard Copy Drawings are defined above. The following "base" colors must be used in the markups: red, green, and blue:

- a. Deletions (Red) - Over-strike deleted graphic items (lines), lettering in notes and leaders.
- b. Additions (Green) - Added items, lettering in notes and leaders.
- c. Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes.

1.4.1.2 Working CAD Drawings

Only employ personnel proficient in the preparation of CAD drawings to modify the contract drawings or prepare additional new drawings. Additions and corrections must be equal in quality and detail to that of the originals. Line colors, line weights, lettering, layering conventions, and symbols must be the same as the original line colors, line weights, lettering, layering conventions, and symbols. If additional drawings are required, prepare them using the specified electronic file format applying the same graphic standards specified for original drawings. The title block and drawing border to be used for any new final record drawings must be identical to that used on the contract drawings. Any additional sheets added to Working Hardcopy Drawings must be developed and contained in the Working CAD Drawings. Accomplish additions and corrections to the Working CAD Drawings using Microstation V8i. The electronic files will be supplied on optical disc (CD or DVD). Provide all program files and hardware necessary to prepare final record drawings. The Contracting Officer will review final hardcopy drawings and final CAD drawings for accuracy and return them to the Contractor for required corrections, changes, additions, and deletions.

- a. All changes must be made on the layer/level as the original item.
- b. When final revisions have been completed, show the wording "RECORD DRAWINGS / AS-BUILT CONDITIONS" followed by the name of the Contractor in letters at least 3/16 inch high on the cover sheet drawing. Mark all other contract drawings either "Record" drawing denoting no revisions on the sheet or "Revised Record" denoting one or more revisions. Date original contract drawings in the revision block.

1.5 CAD Drawing Submittal format

CAD Drawings submitted to the government, must be placed on an optical disc (CD or DVD).

- (1) Label the optical disc with the following information:

Project Name
Date optical disc was created
Contract Number
Contractors Name

- (2) Use the same directory structure and file names as the contract

set provided by the Government.

(3) Include the following files:

A list of files in either a Microsoft Word or ASCII text file, containing the electronic file names and sheet titles where applicable.

Microstation *.dgn files for all CADD files.

Survey Point Code File *.txt - for any survey data collected

Adobe PDF copy for all CADD files.

1.6 Intermediate Working CAD Drawing Submittal

Provide the Working CAD Drawings to the Contracting Officer at two intermediate stages of construction, prior to the end of the Construction. The first will occur when approximately 25% of the project has been constructed and the other will occur when approximately 75% of the project has been constructed. The Contracting Officer will provide the Contractor with 10 days notice when the Working CAD Drawings are requested. Contractor must attend a meeting with the Government to review the *.dgn files, within 15 days after each submission.

1.7 Final Hardcopy Drawing and Final CAD Drawing Review and Approval

1.7.1 Final CAD Drawing Submittal

Within 15 days after the final inspection, submit Final CAD Drawings, Final Working Hardcopy, and Plotted Final CAD Drawings for Government review and approval.

All other documents which may include design analysis, catalog cuts, certification documents that are not available in native electronic format must be scanned and included.

1.7.2 Final CAD Drawing Backcheck Submittal

The Government will submit any necessary revisions within 15 days. Within 15 days the Contractor will incorporate the revisions and resubmit the Plotted Final Hardcopy Drawing and Final CAD Drawing to the Government. All corrections must be included in this submittal.

The Final CAD Drawings must be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the customer's CAD system. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final record drawing files and marked prints as specified will be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of Final CAD Drawings must be accomplished before final payment is made to the Contractor. Upon approval the drawings, become the Record Drawings.

1.7.3 Special Conditions

For projects where portions of construction are to be occupied or activated before overall project completion, including portions of utility systems, as-built drawings for those portions of the facility being

occupied or activated must be supplied at the time the facility is occupied or activated.

In the event the Contractor accomplishes additional work which changes the as-built conditions of the facility, after submission and approval of the final hardcopy and cad drawings, the Contractor must update the drawings.

1.7.4 Final Approved Shop Drawings

Provide final approved project shop drawings 30 days after transfer of the completed facility.

1.7.4.1 Final Approved Specifications

Provide final record construction contract specifications, including modifications thereto, 30 days after transfer of the completed facility.

1.8 Retainage

a. The cost of as-built document preparation includes all requirements of this clause:

1. Maintenance of working as-built drawings
2. Conversion of submittals and other miscellaneous documents into electronic files
3. Creation of an optical disc containing all required files.
4. Submittal of as-built documents in the required media forms and numbers of copies

If the Contractor fails to maintain the working hardcopy drawings and working cad drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount that, in the Contracting Officer's judgment, represents the estimated cost of bringing the as-built documents up to date. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of the working drawings.

b. Retainage for the as-built drawings in the amount of \$50,000 or 1% of the present construction value, whichever is the greater, will be withheld from the amounts due to the Contractor when progress under the contract reaches 75% completion. This amount will be withheld until the final As-built Drawings are accepted by the Government. If an acceptable as-built drawing submittal is not provided within 45 calendar days from the date the Contractor received the approved working as-built drawings, the Government reserves the right to unilaterally modify the contract to de-obligate the aforementioned amount from the final Contract amount.

No separate payment will be made for providing approved as-built drawings required under this contract. All costs in connection therewith must be considered a subsidiary obligation of the Contractor.

1.9 Project Record Documents

1.9.1 Final Approved Shop Drawings

Provide final approved project shop drawings 30 days after transfer of the completed facility.

1.10 Warranty Management

1.10.1 1.11.2 Performance Bond

The Contractor's Performance Bond must remain effective throughout the construction period.

- a. In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.
- b. In the event sufficient funds are not available to cover the construction warranty work performed by the Government at the Contractor's expense, the Contracting Officer will have the right to recoup expenses from the bonding company.
- c. Following oral or written notification of required construction warranty repair work, respond in a timely manner. Written verification will follow oral instructions. Failure of the Contractor to respond will be cause for the Contracting Officer to proceed against the Contractor.

1.10.2 Pre-Warranty Conference

Prior to contract completion, and at a time designated by the Contracting Officer, meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty will be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, provide the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contact will be located within the local service area of the warranted construction, be continuously available, and be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

1.10.3 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Contracting Officer, respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. Submit a report on any warranty item that has been repaired during the warranty period. Include within the report the

cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the timeframe specified, the Government will perform the work and backcharge the construction warranty payment item established.

- a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.
- b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.
- c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.
- d. The "Construction Warranty Service Priority List" is as follows:

Code 1-Life Safety Systems
Fire suppression systems.

Code 1-Electrical
(1) Power Failure (entire area or any building operational after 1600 hours).
(2) Security lights.
(3) Smoke detectors.

Code 3-Electrical
Street lights.

Code 1-Gas
(1) Leaks and breaks.
(2) No gas to family housing unit or cantonment area.

Code 1-Heat
Area power failure affecting heat.

Code 2-Water (Exterior)
No water to facility.

Code 3-All other work not listed above.

1.11 Cleanup

Provide final cleaning in accordance with ASTM E1971 and submit two copies of the listing of completed final clean-up items. Leave premises "broom clean." Comply with GS-37 for general purpose cleaning and bathroom cleaning. Use only nonhazardous cleaning materials, including natural cleaning materials, in the final cleanup. Clean interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition. Clean debris from roofs, gutters, downspouts and drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site. Recycle, salvage, and return construction and demolition waste from project in accordance with the Waste Management Plan. Promptly and legally transport and dispose of any trash. Do not burn, bury, or otherwise dispose of trash on the project site.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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SECTION 31 00 00

EARTHWORK

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PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

1.1.1 Excavation

All excavation is considered incidental to this Contract.

1.1.2 Piping Trench Excavation

All trench excavation is incidental to this Contract. Replace unstable trench bottoms with a selected granular material. Include the additional width at manholes and similar structures, the furnishing, placing and removal of sheeting and bracing, pumping and bailing, and all incidentals necessary to complete the work required by this section.

The maximum trench width for the watermain pipe and all proposed storm sewers shall be 5-feet. The maximum trench width for the water services shall be 4-feet. Contractor will not be compensated for any trench width greater.

Trench excavation shall adhere to Standard Drawing No. 2 of the most recent edition of the Standard Specifications for Water and Sewer Construction in Illinois. Trench excavation shall allow a 4-inch Select Granular Material bed to be installed below the bottom of the proposed pipe and is incidental to the pipe installation items.

1.1.3 Topsoil Requirements

Separate excavation, hauling, and spreading or piling of topsoil and related miscellaneous operations will be considered subsidiary obligations of the Contractor, covered under the contract unit price for excavation.

1.1.4 Select Granular Material

Select granular material is considered incidental to this Contract and includes furnishing and placing the granular material, excavation and disposal of unsatisfactory material, and additional requirements for sheeting and bracing, pumping, bailing, cleaning, and other incidentals necessary to complete the work.

Trench excavation shall adhere to Standard Drawing No. 2 of the most recent edition of the Standard Specifications for Water and Sewer Construction in Illinois. Trench excavation shall allow a 4-inch Select Granular Material bed to be installed below the bottom of the proposed pipe and is incidental to the pipe installation items.

1.2 PAYMENT PROCEDURES

Payment will constitute full compensation for all labor, equipment, tools, supplies, and incidentals necessary to complete the work.

1.2.1 Piping Trench Excavation

Payment for trench excavation will constitute full payment for excavation and backfilling, including specified overdepth except in rock or unstable trench bottoms.

1.2.2 Unclassified Excavation

Unclassified excavation is considered incidental to this Contract.

1.3 CRITERIA FOR BIDDING

Base bids on the following criteria:

- a. Surface elevations are as indicated.
- b. Pipes or other artificial obstructions, except those indicated, will not be encountered.

1.4 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)

AASHTO T 180 (2017) Standard Method of Test for
Moisture-Density Relations of Soils Using
a 4.54-kg (10-lb) Rammer and a 457-mm
(18-in.) Drop

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C600 (2017) Installation of Ductile-Iron Mains
and Their Appurtenances

ASTM INTERNATIONAL (ASTM)

ASTM C136/C136M (2019) Standard Test Method for Sieve
Analysis of Fine and Coarse Aggregates

ASTM D698 (2012; E 2014; E 2015) Laboratory
Compaction Characteristics of Soil Using
Standard Effort (12,400 ft-lbf/cu. ft.
(600 kN-m/cu. m.))

ASTM D1140 (2017) Standard Test Methods for
Determining the Amount of Material Finer
than 75- μ m (No. 200) Sieve in Soils by
Washing

ASTM D1556/D1556M (2015; E 2016) Standard Test Method for
Density and Unit Weight of Soil in Place
by Sand-Cone Method

ASTM D1557 (2012; E 2015) Standard Test Methods for
Laboratory Compaction Characteristics of

Soil Using Modified Effort (56,000
ft-lbf/ft³) (2700 kN-m/m³)

ASTM D2167	(2015) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2487	(2017; E 2020) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2937	(2017; E 2017; E 2018) Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method
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 D6938	(2017a) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual
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1.5 DEFINITIONS

1.5.1 Satisfactory Materials

Satisfactory materials comprise any materials classified by ASTM D2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, SP, SM, SW-SM, SC, SW-SC, SP-SM, SP-SC, CL, ML, CL-ML, CH, MH, and free from debris or other foreign materials. Satisfactory materials for grading comprise stones less than 8 inches, except for fill material for pavements and railroads which comprise stones less than 3 inches in any dimension. The Contracting Officer has the final approval of the material used.

1.5.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter or frozen material. Notify the Contracting Officer when encountering any contaminated materials.

1.5.3 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be

identified as cohesionless only when the fines are nonplastic. Perform testing, required for classifying materials, in accordance with [ASTM D4318](#), [ASTM C136/C136M](#) and [ASTM D1140](#).

1.5.4 Degree of Compaction

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum density obtained by the test procedure presented in [ASTM D1557](#) abbreviated as a percent of laboratory maximum density. Since [ASTM D1557](#) applies only to soils that have 30 percent or less by weight of their particles retained on the [3/4 inch](#) sieve, express the degree of compaction for material having more than 30 percent by weight of their particles retained on the [3/4 inch](#) sieve as a percentage of the maximum density in accordance with [AASHTO T 180](#) and corrected with [ASTM D4718/D4718M](#). To maintain the same percentage of coarse material, use the "remove and replace" procedure as described in NOTE 8 of Paragraph 7.2 in [AASHTO T 180](#).

1.5.5 Topsoil

Material suitable for topsoils obtained from offsite areas and excavations is defined as: Natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than [one inch](#) diameter, brush, weeds, toxic substances, and other material detrimental to plant growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.

1.5.6 Unstable Material

Unstable materials are too wet to properly support the utility pipe, conduit, or appurtenant structure.

1.5.7 Initial Backfill and Select Granular Material

1.5.7.1 General Requirements

The Material shall be of acceptable quality, free from large or frozen lumps, wood or other extraneous matter. It shall consist of suitable gravel, crushed stone, or recycled concrete aggregate. The material shall be in accordance with the Illinois Department of Transportation gradation CA-6 or CA-7, as shown in the table below:

Coarse Aggregate Gradations Sieve Size Percent									
GRAD NO	1 1/2 in.	1 in.	3/4 in.	1/2 in.	3/8 in.	NO. 4	NO. 16	NO. 50	NO. 200
CA-6	100	95±5		75±15		43±13	25±15		9±4
CA-7	100	95±5		45±15		5±5			

1.5.8 Porous Granular Materials

Provide porous granular materials in accordance with Section 207 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction (CA-7 Only).

1.5.9 Aggregate Base Course

Provide aggregate base course Type B in accordance with Section 351 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

1.5.10 Subbase Granular Material

Provide subbase granular material, Type B in accordance with Section 311 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

1.6 SYSTEM DESCRIPTION

Subsurface soil boring logs were not taken.

1.6.1 Classification of Excavation

No consideration will be given to the nature of the materials, and all excavation will be designated as unclassified excavation.

1.6.1.1 Common Excavation

Include common excavation with the satisfactory removal and disposal of all materials not classified as rock excavation.

1.6.2 Dewatering Work Plan

Submit procedures for accomplishing dewatering work.

1.7 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Dewatering Work Plan; G, CS, AE

SD-03 Product Data

Utilization of Excavated Materials; G, CS

Opening of any Excavation Pit

SD-06 Test Reports

Testing

Within 24 hours of conclusion of physical tests, submit 3 copies of test results, including calibration curves and results of calibration tests.

SD-07 Certificates

Testing

PART 2 PRODUCTS

2.1 DETECTION WIRE FOR NON-METALLIC PIPING

Insulate a single strand, solid copper detection wire with a minimum of 12 AWG with blue colored 30 mil minimum thickness HDPE insulation. Tracer wire shall be placed above the pipe within the limits of the bedding and extend through all valves, vaults and fittings and shall be brought up into and to the top of valve boxes for means of future conductive tracing at locations to be approved by the Contracting Officer.

2.2 MATERIAL FOR RIP-RAP

Provide filter fabric and rock conforming to IDOT Section Number 281 & 282 of the latest edition of the Standard Specifications for Road and Bridge Construction in Illinois for construction indicated.

PART 3 EXECUTION

3.1 GENERAL EXCAVATION

Perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Perform the grading in accordance with the typical sections shown and the tolerances specified in paragraph FINISHING. Transport satisfactory excavated materials and place in fill or embankment within the limits of the work. Excavate unsatisfactory materials encountered within the limits of the work below grade and replace with satisfactory materials as directed. Include such excavated material and the satisfactory material ordered as replacement in excavation. Dispose surplus satisfactory excavated material not required for fill and unsatisfactory excavated material as specified in paragraph DISPOSITION OF SURPLUS MATERIAL. During construction, perform excavation and fill in a manner and sequence that will provide proper drainage at all times. Excavate material required for fill or embankment in excess of that produced by excavation within the grading limits from other approved areas selected by the Contractor as specified.

3.1.1 Ditches, Gutters, and Channel Changes

Finish excavation of ditches, gutters, and channel changes by cutting accurately to the cross sections, grades, and elevations shown on the Drawings. Do not excavate ditches and gutters below grades shown. Backfill the excessive open ditch or gutter excavation with satisfactory, thoroughly compacted, material or with suitable stone or cobble to grades shown. Dispose excavated material as shown or as directed, except in no case allow material be deposited a maximum 4 feet from edge of a ditch. Maintain excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the work.

3.1.2 Drainage Structures

Make excavations to the lines, grades, and elevations shown, or as directed. Provide trenches and foundation pits of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Clean rock or other hard foundation material of loose debris and cut to a firm, level, stepped, or

serrated surface. Remove loose disintegrated rock and thin strata. Do not disturb the bottom of the excavation when concrete or masonry is to be placed in an excavated area. Do not excavate to the final grade level until just before the concrete or masonry is to be placed.

3.1.3 Drainage

Provide for the collection and disposal of surface and subsurface water encountered during construction. Completely drain construction site during periods of construction to keep soil materials sufficiently dry. Construct storm drainage features (ponds/basins) at the earliest stages of site development, and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein. 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. Maintain drainage ditches when removing existing culverts with all required erosion and sediment control materials.

3.1.4 Dewatering

Control groundwater flowing toward or into excavations to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. Do not permit French drains, sumps, ditches or trenches within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Take control measures by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open provide a dry trench. Provide pumps necessary to dewater trenches and work areas.

3.1.5 Trench Excavation Requirements

Excavate the trench as recommended by the manufacturer of the pipe to be installed. Slope trench walls below the top of the pipe, or make vertical, and of such width as recommended in the manufacturer's printed installation manual. Provide vertical trench walls where no manufacturer's printed installation manual is available. Shore trench walls, cut back to a stable slope, or provide with equivalent means of protection for employees who may be exposed to moving ground or cave in, as determined by the Contractor's Safety Engineer or other competent person; refer to USACE publication EM 385-1-1. Excavate trench walls which are cut back to at least the angle of repose of the soil. Give special attention to slopes which may be adversely affected by weather or moisture content.

The maximum trench width shall not exceed the dimensions established in Article 550.04 in the IDOT Standard Specifications for Road and Bridge Construction unless stated otherwise on the plans.

Where recommended trench widths are exceeded, provide redesign, stronger pipe, or special installation procedures by the Contractor. The Contractor is responsible for the cost of redesign, stronger pipe, or

special installation procedures without any additional cost to the Government.

3.1.5.1 Bottom Preparation

Grade the bottoms of trenches accurately to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Excavate bell holes to the necessary size at each joint or coupling to eliminate point bearing. Remove stones of 1.5 **inch** or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, to avoid point bearing.

All installed pipe shall include a 4" select granular material base meeting IDOT CA-6 or CA-7 gradation requirements. All granular material is incidental to the storm sewer installation pay item.

3.1.5.2 Removal of Unyielding Material

Where unyielding material is encountered in the bottom of the trench, remove such material six **inches** below the required grade and replaced with suitable materials as provided in paragraph BACKFILLING AND COMPACTION.

3.1.5.3 Removal of Unstable Material

Where unstable material is encountered in the bottom of the trench, remove such material to the depth directed and replace it to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the Contractor is responsible for excavating the resulting material and replacing it without additional cost to the Government.

3.1.5.4 Excavation for Appurtenances

Provide excavation for manholes, catch-basins, inlets, or similar structures of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Clean rock or loose debris and cut to a firm surface either level, stepped, or serrated, as shown or as directed. Remove loose disintegrated rock and thin strata. Specify removal of unstable material. When concrete or masonry is to be placed in an excavated area, take special care not to disturb the bottom of the excavation. Do not excavate to the final grade level until just before the concrete or masonry is to be placed.

3.1.5.5 Jacking, Boring, and Tunneling

Unless otherwise indicated, provide excavation by open cut except that sections of a trench may be jacked, bored, or tunneled if, in the opinion of the Contracting Officer, the pipe, cable, or duct can be safely and properly installed and backfill can be properly compacted in such sections.

3.1.6 Underground Utilities

The Contractor is responsible for movement of construction machinery and equipment over pipes and utilities during construction. Perform work adjacent to non-Government utilities as indicated in accordance with procedures outlined by utility company. Excavation made with power-driven equipment is not permitted within **2 feet** of known Government-owned utility

or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Contracting Officer. Report damage to utility lines or subsurface construction immediately to the Contracting Officer.

3.1.7 Pipe and Culvert Removal

Remove piping in accordance with Section 551 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction. Remove culverts in accordance with Section 501 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.1.8 Pavement Removal

Removal of all HMA and PCC pavement (street, driveways, sidewalks, curb and gutter, etc.) shall be performed in accordance with Section 440 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.1.9 Exploratory Excavation

This work shall consist of vacuum excavation to locate utilities where conflicts may occur for utility, storm and culvert pipe, water main and water services, and other known utilities. The width and depth of the excavation shall be sufficient to locate the utility. Upon completion, excavations shall be backfilled with self-consolidating granular backfill material approved by the Engineer to finished grade.

3.2 OPENING AND DRAINAGE OF EXCAVATION

Notify the Contracting Officer sufficiently in advance of the [opening of any excavation pit](#) to permit elevations and measurements of the undisturbed ground surface to be taken. Except as otherwise permitted, excavation areas providing adequate drainage. Transport overburden and other spoil material to designated spoil areas or otherwise dispose of as directed. Ensure that excavation of any area, or dumping of spoil material results in minimum detrimental effects on natural environmental conditions.

3.3 GRADING AREAS

Where indicated, divide work into grading areas within which satisfactory excavated material will be placed in embankments, fills, and required backfills. Do not haul satisfactory material excavated in one grading area to another grading area except when so directed in writing. Place and grade stockpiles of satisfactory and unsatisfactory as specified. Keep stockpiles in a neat and well drained condition, giving due consideration to drainage at all times. Clear, grub, and seal by rubber-tired equipment, the ground surface at stockpile locations; separately stockpile excavated satisfactory and unsatisfactory materials. Protect stockpiles of satisfactory materials from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, remove and replace such material with satisfactory material from approved sources.

3.4 GROUND SURFACE PREPARATION

3.4.1 General Requirements

Remove and replace unsatisfactory material with satisfactory materials, as directed by the Contracting Officer, in surfaces to receive fill or in excavated areas. Scarify the surface to a depth of 6 inches before the fill is started. Plow, step, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that the fill material will bond with the existing material. When subgrades are less than the specified density, break up the ground surface to a minimum depth of 6 inches, pulverizing, and compacting to the specified density. When the subgrade is part fill and part excavation or natural ground, scarify the excavated or natural ground portion to a depth of 12 inches and compact it as specified for the adjacent fill.

3.4.2 Frozen Material

Do not place material on surfaces that are muddy, frozen, or contain frost. Finish compaction by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil being compacted. Moisten material as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used.

3.5 UTILIZATION OF EXCAVATED MATERIALS

Use satisfactory material removed from excavations, insofar as practicable, in the construction of fills, embankments, subgrades, shoulders, bedding (as backfill), and for similar purposes. Submit procedure and location for disposal of unused satisfactory material. Dispose surplus satisfactory excavated material not required for fill and unsatisfactory excavated material as specified in paragraph DISPOSITION OF SURPLUS MATERIAL. Stockpile and use coarse rock from excavations for constructing slopes or embankments adjacent to streams, or sides and bottoms of channels and for protecting against erosion. Do not dispose excavated material to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.

3.6 BURIED TAPE AND DETECTION WIRE

3.6.1 Buried Detection Wire

Bury detection wire directly above non-metallic piping at a distance not to exceed 12 inches above the top of pipe. Extend the wire continuously and unbroken, from manhole to manhole. Terminate the ends of the wire inside the manholes at each end of the pipe, with a minimum of 3 feet of wire, coiled, remaining accessible in each manhole. Furnish insulated wire over its entire length. Install wires at manholes between the top of the corbel and the frame, and extend up through the chimney seal between the frame and the chimney seal. For force mains, terminate the wire in the valve pit at the pump station end of the pipe.

Tracer wire shall be placed above the pipe within the limits of the bedding and extend through all valves, vaults and fittings and shall be brought up into and to the top of valve boxes for means of future conductive tracing at locations to be approved by the Contracting Officer.

3.7 FILLING, BACKFILLING AND COMPACTION

Place fill and backfill beneath and adjacent to any and all type of structures, in successive horizontal layers of loose material not more than 8 inches in depth, or in loose layers not more than 5 inches in depth when using hand-operated compaction equipment. Compact to at least 90 percent of laboratory maximum density for cohesive materials or 95 percent of laboratory maximum density for cohesionless materials, except as otherwise specified. Perform compaction in such a manner as to prevent wedging action or eccentric loading upon or against the structure. Moisture condition fill and backfill material to a moisture content that will readily facilitate obtaining the specified compaction.

Prepare ground surface on which backfill is to be placed and provide compaction requirements for backfill materials in conformance with the applicable portions of paragraphs GROUND SURFACE PREPARATION. Finish compaction by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

3.7.1 Trench Backfill

Backfill trenches to the grade shown. Backfill the trench to a height approved by the Contracting Officer above the top of pipe prior to performing the required pressure tests. Leave the joints and couplings uncovered during the pressure test if requested by the Contracting Officer.

For the watermain installation, the final 12-inches of trench backfill underneath the proposed HMA binder course shall be CA-6.

3.7.1.1 Replacement of Unyielding Material

Replace unyielding material removed from the bottom of the trench with select granular material or initial backfill material.

3.7.1.2 Replacement of Unstable Material

Replace unstable material removed from the bottom of the trench or excavation with select granular material placed in layers not exceeding 6 inches loose thickness.

3.7.1.3 Bedding and Initial Backfill

Provide bedding of the type and thickness shown. Place initial backfill material and compact it with approved tampers to a height of at least one foot above the utility pipe or conduit. Bring up the backfill evenly on both sides of the pipe for the full length of the pipe. Take care to ensure thorough compaction of the fill under the haunches of the pipe. Except as specified otherwise in the individual piping section, provide bedding for buried piping in accordance with AWWA C600, Type 4, except as specified herein. Compact backfill to top of pipe to 95 percent of ASTM D698 maximum density. Provide plastic piping with bedding to spring line of pipe. Provide materials as follows:

The Material shall be of acceptable quality, free from large or frozen lumps, wood or other extraneous matter. It shall consist of suitable gravel, crushed stone, or recycled concrete aggregate. The material shall be in accordance with the Illinois Department of Transportation gradation CA-6 or CA-7, as shown in the table below

Coarse Aggregate Gradations Sieve Size Percent									
GRAD NO	1 1/2 in.	1 in.	3/4 in.	1/2 in.	3/8 in.	NO. 4	NO. 16	NO. 50	NO. 200
CA-6	100	95±5		75±15		43±13	25±15		9±4
CA-7	100	95±5		45±15		5±5			

3.7.1.4 Final Backfill

Fill the remainder of the trench, except for special materials for roadways, railroads and airfields, with satisfactory material. Place backfill material and compact as follows:

3.7.1.4.1 Roadways, Railroads, and Airfields

Place backfill up to the required elevation as specified. Do not permit water flooding or jetting methods of compaction.

3.7.1.4.2 Turfed or Seeded Areas and Miscellaneous Areas

Deposit backfill in layers of a maximum of 12 inches loose thickness, and compact it to 85 percent maximum density for cohesive soils and 90 percent maximum density for cohesionless soils. Do not permit compaction by water flooding or jetting. Apply this requirement to all other areas not specifically designated above.

3.7.2 Backfill for Appurtenances

After the manhole, catchbasin, inlet, or similar structure has been constructed, place backfill in such a manner that the structure is not be damaged by the shock of falling earth. Deposit the backfill material, compact it as specified for final backfill, and bring up the backfill evenly on all sides of the structure to prevent eccentric loading and excessive stress.

3.8 Porous Granular Embankment

Install porous granular embankment in accordance with Section 207 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.9 Aggregate Base Course

Install aggregate base course Type B in accordance with Section 351 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.10 Subbase Granular Material

Install subbase granular material, Type B in accordance with Section 311 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.11 SPECIAL REQUIREMENTS

Special requirements for both excavation and backfill relating to the specific utilities are as follows:

3.11.1 Water Lines

Excavate trenches to a depth that provides a minimum cover of 5.5 feet from the existing ground surface, or from the indicated finished grade, whichever is lower, to the top of the pipe.

3.11.2 Rip-Rap Construction

Construct rip-rap on bedding material and filter fabric in accordance with Sections 281 and 282 of the latest edition of the IDOT Standard Specifications For Road And Bridge Construction. Trim and dress indicated areas to conform to cross sections, lines and grades shown within a tolerance of 0.1 foot.

Class RR 4 (A4) Rip-rap with 6-inches of bedding material and filter fabric shall be used for the construction.

3.12 SUBGRADE PREPARATION

3.12.1 Compaction

Finish compaction by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

Contracting Officer shall approve final compaction method and limits.

3.13 FINISHING

Finish the surface of excavations, embankments, and subgrades to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown. Provide the degree of finish for graded areas within 0.1 foot of the grades and elevations indicated except that the degree of finish for subgrades specified in paragraph SUBGRADE PREPARATION. Finish gutters and ditches in a manner that will result in effective drainage. Finish the surface of areas to be turfed to a smoothness suitable for the application of turfing materials. Repair graded, topsoiled, or backfilled areas prior to acceptance of the work, and re-established grades to the required elevations and slopes.

3.13.1 Subgrade and Embankments

During construction, keep embankments and excavations shaped and drained. Maintain ditches and drains along subgrade to drain effectively at all times. Do not disturb the finished subgrade by traffic or other operation. Protect and maintain the finished subgrade in a satisfactory condition until ballast, subbase, base, or pavement is placed. Do not permit the storage or stockpiling of materials on the finished subgrade. Do not lay subbase, base course, ballast, or pavement until the subgrade has been checked and approved, and in no case place subbase, base, surfacing, pavement, or ballast on a muddy, spongy, or frozen subgrade.

3.13.2 Grading Around Structures

Construct areas within 5 feet outside of each building and structure line true-to-grade, shape to drain, and maintain free of trash and debris until final inspection has been completed and the work has been accepted.

3.14 PLACING TOPSOIL

On areas to receive topsoil, prepare the compacted subgrade soil to a 2 inch depth for bonding of topsoil with subsoil. Spread topsoil evenly to a thickness of 4 inches and grade to the elevations and slopes shown. Do not spread topsoil when frozen or excessively wet or dry. Obtain material required for topsoil in excess of that produced by excavation within the grading limits from offsite areas.

3.15 TESTING

Perform testing by a Corps validated commercial testing laboratory or the Contractor's validated testing facility. Submit qualifications of the Corps validated commercial testing laboratory or the Contractor's validated testing facilities. If the Contractor elects to establish testing facilities, do not permit work requiring testing until the Contractor's facilities have been inspected, Corps validated and approved by the Contracting Officer.

- a. Determine field in-place density in accordance with ASTM D1556/D1556M, or, ASTM D2167, or ASTM D6938.
- b. Check the calibration curves furnished with the moisture gauges along with density calibration checks as described in ASTM D6938; check the calibration of both the density and moisture gauges at the beginning of a job on each different type of material encountered and at intervals as directed by the Contracting Officer. ASTM D2937, use the Drive Cylinder Method only for soft, fine-grained, cohesive soils. When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, remove the material, replace and recompact to meet specification requirements.
- c. Perform tests on recompacted areas to determine conformance with specification requirements. Appoint a registered professional civil engineer to certify inspections and test results. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.

3.15.1 Fill and Backfill Material Gradation

One test per 100 cubic yards stockpiled or in-place source material. Determine gradation of fill and backfill material in accordance with ASTM C136/C136M or ASTM D1140.

3.15.2 In-Place Densities

- a. One test per 3000 square feet, or fraction thereof, of each lift of fill or backfill areas compacted by other than hand-operated machines.

- b. One test per 3000 square feet, or fraction thereof, of each lift of fill or backfill areas compacted by hand-operated machines.
- c. One test per 500 linear feet, or fraction thereof, of each lift of embankment or backfill for roads.

3.15.3 Check Tests on In-Place Densities

If ASTM D6938 is used, check in-place densities by ASTM D1556/D1556M as follows:

- a. One check test per lift for each 3000 square feet, or fraction thereof, of each lift of fill or backfill compacted by other than hand-operated machines.
- b. One check test per lift for each 3000 square feet, of fill or backfill areas compacted by hand-operated machines.
- c. One check test per lift for each 500 linear feet, or fraction thereof, of embankment or backfill for roads.

3.15.4 Moisture Contents

In the stockpile, excavation, or borrow areas, perform a minimum of two tests per day per type of material or source of material being placed during stable weather conditions. During unstable weather, perform tests as dictated by local conditions and approved by the Contracting Officer.

3.15.5 Optimum Moisture and Laboratory Maximum Density

Perform tests for each type material or source of material to determine the optimum moisture and laboratory maximum density values. One representative test per 500 cubic yards of fill and backfill, or when any change in material occurs which may affect the optimum moisture content or laboratory maximum density.

3.15.6 Tolerance Tests for Subgrades

Perform continuous checks on the degree of finish specified in paragraph SUBGRADE PREPARATION during construction of the subgrades.

3.15.7 Displacement of Sewers

After other required tests have been performed and the trench backfill compacted to the finished grade surface, inspect the pipe to determine whether significant displacement has occurred. Conduct this inspection in the presence of the Contracting Officer. Inspect pipe sizes larger than 36 inches, while inspecting smaller diameter pipe by shining a light or laser between manholes or manhole locations, or by the use of television cameras passed through the pipe. If, in the judgment of the Contracting Officer, the interior of the pipe shows poor alignment or any other defects that would cause improper functioning of the system, replace or repair the defects as directed at no additional cost to the Government.

3.16 DISPOSITION OF SURPLUS MATERIAL

Surplus material and excavated unsatisfactory material not required or suitable for filling or backfilling, and brush, refuse, stumps, roots, and timber shall be removed from Government property and properly disposed of

in accordance with all applicable laws and regulations.

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SECTION 31 11 00

CLEARING AND GRUBBING

11/18

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Tree Wound Paint

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Tree Wound Paint

Use bituminous based paint from standard manufacture specially formulated for tree wounds.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Protection

3.1.1.1 Roads and Walks

Keep roads and walks free of dirt and debris at all times.

3.1.1.2 Trees, Shrubs, and Existing Facilities

Protect trees and vegetation to be left standing from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require.

3.1.1.3 Utility Lines

Protect existing utility lines that are indicated to remain from damage. Notify the Contracting Officer immediately of damage to or an encounter with an unknown existing utility line. The Contractor is responsible for the repair of damage to existing utility lines that are indicated or made known to the Contractor prior to start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, notify the Contracting Officer in ample time to minimize interruption of the service.

3.2 CLEARING

Clearing consists of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. Clearing also includes the removal and disposal of structures that obstruct, encroach upon, or otherwise obstruct the work. Cut off flush with or below the original ground surface trees, stumps, roots, brush, and other vegetation in areas to be cleared, except such trees and vegetation as may be indicated or directed to be left standing. Trim dead branches **1-1/2 inches** or more in diameter on trees designated to be left standing within the cleared areas and trim all branches to the heights indicated or directed. Neatly cut close to the bole of the tree or main branches, limbs and branches to be trimmed. Paint, with an approved tree-wound paint, cuts more than **1-1/2 inches** in diameter.

3.2.1 Tree Removal

Where indicated or directed, trees and stumps that are designated as trees shall be removed from areas outside those areas designated for clearing and grubbing. This work includes the felling of such trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Dispose of trees as specified in paragraph DISPOSAL OF MATERIALS.

3.2.2 Pruning

Prune and Trim trees designated to be left standing within the cleared areas of dead branches **1-1/2 inches** or more in diameter; and trim branches to heights and in a manner as indicated. Neatly cut limbs and branches to be trimmed close to the bole of the tree or main branches. Paint cuts more than **1-1/4 inches** in diameter with an approved tree wound paint.

3.2.3 Grubbing

Grubbing consists of the removal and disposal of stumps, roots larger than **3 inches** in diameter, and matted roots from the designated grubbing areas. Remove material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, to a depth of not less than **18 inches** below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract, such as areas for buildings, and areas to be paved. Fill depressions made by grubbing with suitable material and compact to make the surface conform with the original adjacent surface of the ground.

3.2.4 Tree Root Pruning

The work shall be performed according to Article 201.06 of the Standard Specifications for Road and Bridge Construction in Illinois and the following:

Before any trenching or excavation in the area of a tree, tree roots shall be cut with appropriate root pruning equipment to a minimum of 24" deep. The cuts shall be made 6" to 12" closer to the tree than the construction limit. This allows for root regeneration (within the 6" to 12" area) during the construction period. Pruning shall not be done at the construction limit, since the cut surfaces of the roots will remain exposed resulting in root dieback.

The application of Fertilizer Nutrients and Supplemental Watering shall be performed according to Article 201.06 of the Standard Specifications for Road and Bridge Construction in Illinois. The Fertilizer Nutrients and Supplemental Watering shall not be paid for separately.

Removed material shall be disposed outside the right of way according to Article 202.03 of the latest edition of the Standard Specifications for Road and Bridge Construction in Illinois.

3.3 DISPOSAL OF MATERIALS

Dispose of excess materials in accordance with the approved solid waste management permit and include those materials in the solid waste management report.

All wood or wood like materials, except for salable timber, remaining from clearing, pruning or grubbing such as limbs, tree tops, roots, stumps, logs, rotten wood, and other similar materials shall become the property of the Contractor and disposed of as specified. All non-saleable timber and wood or wood like materials remaining from timber harvesting such as limbs, tree tops, roots, stumps, logs, rotten wood, and other similar materials shall become the property of the Contractor and disposed as specified.

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02/17

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SECTION 32 01 16.71

COLD MILLING ASPHALT PAVING
02/17

PART 1 GENERAL

1.1 UNIT PRICES

1.1.1 Measurement

The quantity of milled pavement will be the number of square yards completed and accepted as determined by the Contracting Officer. Determine the number of square yards of milled pavement by measuring the length and width of the milled surface within the specified work area. Measure the width of the area to the closest inch and measure the length of the area to the closest foot.

1.1.2 Payment

Payment will be to the nearest square yard, unless specified otherwise by Section 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES. No payment will be made for milling outside the specified area of work.

1.2 QUALITY ASSURANCE

1.2.1 Grade

Mill pavement such that the finished surface conforms to the lines, grades, and cross sections indicated. The maximum allowable deviation of the finished milled pavement surfaces from the established plan grade line and elevation will be 0 inches. The deviations from the plan grade line and elevation will not be permitted in areas of pavements where closer conformance with planned grade and elevation is required for the proper functioning of appurtenant structures involved.

1.2.2 Surface Smoothness

The maximum allowable deviation of the finished surfaces from the testing edge in the transverse or longitudinal direction will be 1/4 inch.

1.2.3 Traffic Control

Provide all necessary traffic controls during milling operations.

1.3 EQUIPMENT, TOOLS, AND MACHINES

Maintain in a satisfactory working condition equipment, tools, and machines used in the performance of the work.

1.3.1 Cold-Milling Machine

Provide a cold-milling machine which is self-propelled, capable of milling the pavement to a specified depth and smoothness and of establishing grade control; with means of controlling transverse slope and dust produced during the pavement milling operation. Machine will have capability of adding water in front of equipment to minimize dust during milling

operation. The machine will have the ability to remove the millings or cuttings from the pavement and load them into a truck. The milling machine will not damage any part of the pavement structure that is not to be removed.

1.3.2 Cleaning Equipment

Provide cleaning equipment suitable for removing and cleaning loose material from the pavement surface.

1.3.3 Straightedge

Furnish and maintain at the site, in good condition, one 12 foot straightedge or other suitable device for each milling machine, for testing the finished surface. Make straightedge available for Government use. Use straightedges constructed of aluminum or other lightweight metal, with blades of box or box-girder cross section with flat bottom reinforced to insure rigidity and accuracy. Use straightedges with handles to facilitate movement on the pavement.

1.4 ENVIRONMENTAL REQUIREMENTS

Do not perform milling when there is accumulation of snow or ice on the pavement surface.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 MILLING OPERATION

A minimum of seven days notice is required, prior to start work, for the Contracting Officer to coordinate the milling operation with other activities at the site. Make sufficient passes so that the designated area is milled to the grades and cross sections indicated. Mill the pavement in depth increments that will not damage the pavement below the designated finished grade. If scabbing occurs, the surface will not meet smoothness requirements. Take steps to modify the process as needed to prevent scabbing from occurring. Repair or replace, as directed, items damaged during milling such as manholes, valve boxes, utility lines, pavement that is torn, cracked, gouged, broken, or undercut. Remove the milled material from the pavement and load into trucks.

3.2 GRADE AND SURFACE-SMOOTHNESS TESTING

3.2.1 Grade-Conformance Tests

Test the finished milled surface of the pavement for conformance with the plan-grade requirements and for acceptance by the Contracting Officer by running lines of levels at intervals of 25 feet longitudinally and 25 feet transversely to determine the elevation of the completed pavement. Correct variations from the designated grade line and elevation in excess of the plan-grade requirements as directed. Skin patching for correcting low areas will not be permitted. Remove and replace the deficient low area. Remove sufficient material to allow at least 1 inch of asphalt concrete to be placed.

3.2.2 Surface-Smoothness Tests

After completion of the final milling, the finished milled surface will be tested by the Government with a straightedge. Other approved devices may be used, provided that when satisfactorily and properly operated, such devices reveal all surface irregularities exceeding the tolerances specified. Correct surface irregularities that depart from the testing edge by more than $1/4$ inch. Skin patching for correcting low areas will not be permitted. Remove and replace the deficient low area. Remove sufficient material to allow at least 1 inch of asphalt concrete to be placed.

3.3 REMOVAL OF MILLED MATERIAL

Material that is removed will become the property of the Contractor and removed from the site.

3.4 Butt Joint

Butt joints shall be performed in accordance with Section 406 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

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SECTION 32 05 33

LANDSCAPE ESTABLISHMENT

08/17

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Stand of Turf

100 percent ground cover of the established species.

1.2 RELATED REQUIREMENTS

Section 32 92 19 SEEDING applies to this section for installation of seed requirements, with additions and modifications herein.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Fertilizer; G, CS

SD-07 Certificates

Maintenance Inspection Report

1.4 DELIVERY, STORAGE AND HANDLING

1.4.1 Delivery

Deliver fertilizer to the site in original containers bearing manufacturer's chemical analysis, name, trade name, or trademark, and indication of conformance to state and federal laws. Instead of containers, fertilizer, may be furnished in bulk with a certificate indicating the above information.

1.4.2 Storage

1.4.2.1 Fertilizer Storage

Store material in designated areas. Store fertilizer in cool, dry locations away from contaminants.

1.4.2.2 Antidesiccant's Storage

Do not store with fertilizers or other landscape maintenance materials.

1.4.3 Handling

Do not drop or dump materials from vehicles.

PART 2 PRODUCTS

2.1 POST-PLANT FERTILIZER

2.1.1 Granular Fertilizer

Organic nitrogen, phosphorus, and potassium granular controlled release fertilizer shall be applied at a 1:1:1 ratio. Each fertilizer shall be installed at a rate of 90 lbs/acre of areas that are seeded.

2.2 WATER

Source of water must be approved by the Contracting Officer, and be of suitable quality for irrigation.

PART 3 EXECUTION

3.1 EXTENT OF WORK

Provide landscape construction maintenance to include overseeding, aeration, fertilizing, watering, and weeding, unless indicated otherwise, and at all areas inside or outside the limits of the construction that are disturbed by the Contractor's operations.

3.1.1 Policing

Police all landscaped areas. Policing includes removal of leaves, branches and limbs regardless of length or diameter, dead vegetation, paper, trash, cigarette butts, garbage, rocks or other debris. Collected debris must be promptly removed and disposed of at an approved disposal site.

3.1.2 Drainage System Maintenance

Remove all obstructions and debris from surface and subsurface drain lines to allow water to flow unrestricted in swales, gutters, catch basins, culverts, ditches, storm drain curb inlets, and yard drains. Remove grates and clear debris in catch basins. Open drainage channels are to be maintained free of all debris and vegetation at all times. Edges of these channels must be clear of any encroachment by vegetation.

3.2 GROUNDCOVER ESTABLISHMENT PERIOD

Groundcover establishment period will commence on the date that inspection by the Contracting Officer shows that the new or renovated turf furnished under this contract has been satisfactorily installed to a 100 percent stand of coverage. The establishment period must continue for a period of 365 days.

3.2.1 Frequency of Maintenance

Begin maintenance immediately after turf has been installed. Inspect areas once a week during the installation and establishment period and perform needed maintenance promptly.

3.2.2 Promotion of Growth

Maintain groundcover in a manner that promotes proper health, growth, natural color. Turf must have a neat uniform manicured appearance, free of bare areas, ruts, holes, weeds, pests, dead vegetation, debris, and unwanted vegetation that present an unsightly appearance. Mow, remove excess clippings, eradicate weeds, water, fertilize, overseed, aerate, topdress and perform other operations necessary to promote growth, as approved by Contracting Officer and consistent with approved Integrated Pest Management Plan. Remove noxious weeds common to the area from planting areas by mechanical means.

3.2.3 Post-Fertilizer Application

Apply turf fertilizer in a manner that promotes health, growth, vigor, color and appearance of cultivated turf areas. The method of application, fertilizer type and frequencies must be determined by the laboratory soil analysis results the requirements of the particular turf species. Apply fertilizer by approved methods in accordance with the manufacturer's recommendations.

3.2.4 Turf Watering

Perform irrigation in a manner that promotes the health, growth, color and appearance of cultivated vegetation and that complies with all Federal, State, and local water agencies and authorities directives. The Contractor must be responsible to prevent over watering, water run-off, erosion, and ponding due to excessive quantities or rate of application. Abide by state, local or other water conservation regulations or restrictions in force during the establishment period.

3.2.5 Turf Aeration

Upon completion of weed eradication operations and Contracting Officer's approval to proceed, aerate turf areas by approved device. Core, by pulling soil plugs, to a minimum depth of 1 inches. Leave all soil plugs that are produced in the turf area. After aeration operations are complete, topdress entire area 1/4 inch depth.

3.2.6 Replanting

Replant in accordance with Section 32 92 19 SEEDING and within specified planting dates areas which do not have a satisfactory stand of turf.

3.2.7 Final Inspection and Acceptance

Final inspection will be make upon written request from the Contractor at least 10 days prior to the last day of the turf establishment period. Final turf acceptance will be based upon a satisfactory stand of turf.

3.3 FIELD QUALITY CONTROL

3.3.1 Maintenance Inspection Report

Provide maintenance inspection report to assure that landscape maintenance is being performed in accordance with the specifications and in the best interest of plant growth and survivability. Site observations must be documented at the start of the establishment period, then quarterly

following the start, and at the end of establishment period. Submit results of site observation visits to the Contracting Officer within 7 calendar days of each site observation visit.

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 - 1.1.1.1 Area
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SECTION 32 11 23

AGGREGATE BASE COURSE AND SUBBASE GRANULAR MATERIAL
05/22

PART 1 GENERAL

1.1 UNIT PRICES

1.1.1 Measurement

1.1.1.1 Area

Measure the quantity of ABC and subbase granular material completed and accepted, in square yards, unless specified otherwise by Section 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES.

1.1.1.2 Volume

Measure the quantity of ABC and subbase granular material completed and accepted, in cubic yards. Determine the volume of material in-place and accepted by the average job thickness obtained in accordance with paragraph LAYER THICKNESS and the dimensions shown on the drawings, unless specified otherwise by Section 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES.

1.1.2 Payment

1.1.2.1 Base Course Material

Quantities of ABC and subbase granular material, determined as specified above, will be paid for at the respective contract unit prices, which will constitute full compensation for the construction and completion of the ABC, unless specified otherwise by Section 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES.

1.1.3 Waybills and Delivery Tickets

Submit copies of waybills and delivery tickets during progress of the work. Before the final payment is allowed, file certified waybills and certified delivery tickets for all aggregates actually used.

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.

ASTM INTERNATIONAL (ASTM)

ASTM C88 (2018) Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate

ASTM C117 (2017) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing

ASTM C131/C131M	(2020) Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136/C136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D75/D75M	(2019) Standard Practice for Sampling Aggregates
ASTM D1556/D1556M	(2015; E 2016) Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D1557	(2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³) (2700 kN-m/m ³)
ASTM D2487	(2017; E 2020) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3665	(2012; R 2017) Standard Practice for Random Sampling of Construction Materials
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 D4791	(2019) Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	(2013; R 2017) Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6938	(2017a) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM E11	(2020) Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves

1.3 DEFINITIONS

For the purposes of this specification, the following definitions apply.

1.3.1 Aggregate Base Course

Provide aggregate base course Type B in accordance with Section 351 of the

latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

1.3.2 Subbase Granular Material

Provide subbase granular material, Type B in accordance with Section 311 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

1.3.3 Degree of Compaction

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum laboratory dry density obtained by the test procedure presented in [ASTM D1557](#) abbreviated as a percent of laboratory maximum dry density. Since [ASTM D1557](#) applies only to soils that have 30 percent or less by weight of their particles retained on the [3/4 inch](#) sieve, express the degree of compaction for material having more than 30 percent by weight of their particles retained on the [3/4 inch](#) sieve as a percentage of the laboratory maximum dry density in accordance with [ASTM D1557](#) Method C and corrected with [ASTM D4718/D4718M](#).

1.4 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section [01 33 00](#) SUBMITTAL PROCEDURES:

[SD-03 Product Data](#)

[Plant, Equipment, and Tools; G, CS](#)

[Waybills and Delivery Tickets; G, CS](#)

[SD-06 Test Reports](#)

[Initial Tests; G, CS](#)

[In-Place Tests; G, CS](#)

1.5 QUALITY ASSURANCE

Perform sampling and testing using a laboratory approved in accordance with Section [01 45 00.00 10](#) QUALITY CONTROL. Do not start work requiring testing until the testing laboratory has been inspected and approved. Test the materials to establish compliance with the specified requirements and perform testing at the specified frequency. Furnish copies of test results within 24 hours of completion of the tests.

1.5.1 Sampling

Take samples for laboratory testing in conformance with [ASTM D75/D75M](#).

1.5.2 Tests

1.5.2.1 Gradation Analysis

Perform gradation analysis in conformance with [ASTM C117](#) and [ASTM C136/C136M](#) using sieves conforming to [ASTM E11](#)..

1.5.2.2 Liquid Limit and Plasticity Index

Determine liquid limit and plasticity index in accordance with [ASTM D4318](#).

1.5.2.3 Moisture-Density Determinations

Determine the laboratory maximum dry density and optimum moisture content in accordance with paragraph DEGREE OF COMPACTION.

1.5.2.4 Field Density Tests

Measure field density in accordance with [ASTM D1556/D1556M](#), or [ASTM D6938](#). For the method presented in [ASTM D1556/D1556M](#) use the base plate as shown in the drawing. For the method presented in [ASTM D6938](#) check the calibration curves and adjust them, if necessary, using only the sand cone method as described in Annex A2 of [ASTM D6938](#). Use [ASTM D6938](#) to determine the moisture content of the soil. Check the calibration curves furnished with the moisture gauges along with density calibration checks as described in [ASTM D6938](#). Make the calibration checks of both the density and moisture gauges using the prepared containers of material method, as described in Annex A2 of [ASTM D6938](#), on each different type of material being tested at the beginning of a job and at intervals as directed. Submit calibration curves and related test results prior to using the device or equipment being calibrated.

1.5.2.5 Wear Test

Perform wear tests on course material in conformance with [ASTM C131/C131M](#).

1.5.2.6 Flat and Elongated Pieces

Determine flat and elongated pieces on course material in conformance with [ASTM D4791](#), Method A.

1.5.2.7 Soundness

Perform soundness tests on GCA in accordance with [ASTM C88](#).

1.5.2.8 Fractured Faces

Perform fractured faces test on coarse aggregate in conformance with [ASTM D5821](#).

1.6 ENVIRONMENTAL REQUIREMENTS

Perform construction when the atmospheric temperature is above 35 degrees F. When the temperature falls below 35 degrees F, protect all completed areas by approved methods against detrimental effects of freezing. Correct completed areas damaged by freezing, rainfall, or other weather conditions to meet specified requirements.

1.7 ACCEPTANCE

1.7.1 Tolerances

Acceptance of ABC or subbase granular material is based on compliance with the tolerances presented in Table 1. Remove any materials found to be non-compliant and replace with compliant material or rework, as directed, to meet the requirements of this specification

TABLE 1	
Measurement	Tolerance
Grade	Plus 1/4 inch, Minus 1/2 inch
Smoothness	Plus/Minus 3/8 inch
Individual Test Total Thickness	Plus/Minus
Average Job Thickness	Plus/Minus
Compaction	Minimum 100 percent

1.7.2 Test Section

A test section is not required.

PART 2 PRODUCTS

2.1 AGGREGATES

2.1.1 Aggregate Base Course

Provide aggregate base course Type B in accordance with Section 351 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

2.1.2 Subbase Granular Material

Provide subbase granular material, Type B in accordance with Section 311 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

2.1.3 Porous Granular Material

Provide IDOT gradation CA-7.

2.2 LIQUID LIMIT AND PLASTICITY INDEX

Apply liquid limit and plasticity index requirements to the completed course and to any component that is blended to meet the required gradation. Limit the portion of any component or of the completed course passing the No. 40 sieve to be either nonplastic or have a maximum liquid limit of 25 and a maximum plasticity index of 5.

2.3 TESTS, INSPECTIONS, AND VERIFICATIONS

2.3.1 Initial Tests

Perform one of each of the following **initial tests** on the proposed material prior to commencing construction to demonstrate that the proposed material meets all specified requirements when furnished, if required by the Contracting Officer. Complete this testing for each source if materials from more than one source are proposed. Submit certified copies of test results for approval a minimum of 30 days before material is required for the work.

- a. Gradation Analysis.
- b. Liquid limit and plasticity index.
- c. Moisture-density relationship.
- d. Wear.
- e. Flat and Elongated Pieces.
- f. Fractured Faces

2.3.2 Approval of Material

Tentative approval of material will be based on initial test results.

2.4 EQUIPMENT, TOOLS, AND MACHINES

All **plant, equipment, and tools** used in the performance of the work are subject to approval by the Government before the work is started. Maintain all plant, equipment, and tools in satisfactory working condition at all times. Submit a list of proposed equipment, including descriptive data. Use equipment capable of minimizing segregation, producing the required compaction, meeting grade controls, thickness control, and smoothness requirements as set forth herein.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

When the ABC or subbase granular material is constructed in more than one lift, clean the previously constructed lift of loose and foreign matter by sweeping with power sweepers or power brooms. Use hand brooms in areas where power cleaning is not practicable. Provide adequate drainage during the entire period of construction to prevent water from collecting or standing on the working area.

3.2 STOCKPILING MATERIAL

Clear and level storage sites prior to stockpiling of material. Stockpile all materials, including approved material available from excavation and grading, in the manner and at the locations designated. Stockpile aggregates on the cleared and leveled areas designated to prevent segregation. Stockpile materials obtained from different sources separately.

3.3 PREPARATION OF UNDERLYING COURSE OR SUBGRADE

Clean the underlying course or subgrade of all foreign substances prior to constructing the base course(s). Do not construct base course(s) on underlying course or subgrade that is frozen. Construct the surface of the underlying course or subgrade to meet specified compaction and surface tolerances. Correct ruts or soft yielding spots in the underlying courses, areas having inadequate compaction, and deviations of the surface from the specified requirements set forth herein by loosening and removing soft or unsatisfactory material and adding approved material, reshaping to line and grade, and recompacting to specified density requirements. For cohesionless underlying courses or subgrades containing sands or gravels, as defined in [ASTM D2487](#), stabilize the surface prior to placement of the base course(s). Stabilize by mixing ABC or subbase granular material into the underlying course and compacting by approved methods. Proof roll in accordance with paragraph PROOF ROLLING. Consider the stabilized material as part of the underlying course and meet all requirements of the underlying course. Do not allow traffic or other operations to disturb the finished underlying course and maintain in a compliant condition until the base course is placed.

3.4 GRADE CONTROL

Provide a finished and completed base course conforming to the lines, grades, and cross sections shown. Place line and grade stakes as necessary for control.

3.5 MIXING AND PLACING MATERIALS

3.5.1 Mixing

Mix the coarse and fine aggregates in a stationary plant. Make adjustments in mixing procedures or in equipment to obtain true grades, to minimize segregation or degradation, to obtain the required water content, and to produce a satisfactory base course meeting all requirements of this specification.

3.5.2 Placing

Place the mixed material on the prepared subgrade or subbase in lifts of uniform thickness with an approved spreader. Place the lifts so that when compacted they are true to the grades or levels required with the least possible surface disturbance. Where the base course is placed in more than one lift, clean the previously constructed lift of loose and foreign matter by sweeping with power sweepers, power brooms, or hand brooms. Make adjustments in placing procedures or equipment to obtain true grades, to minimize segregation and degradation, to adjust the water content, and to produce an acceptable base course.

3.6 LAYER THICKNESS

Compact the completed base course to the thickness indicated. Limit individual compacted lifts to a maximum thickness of [6 inches](#) and a minimum thickness of [3 inches](#). Compact the base course(s) to a total thickness that is within the tolerances of paragraph ACCEPTANCE of the thickness indicated. Where the measured thickness is more than [1/2 inch](#) deficient, correct such areas by scarifying, adding new material of proper gradation, reblading, and recompacting as directed. Where the measured thickness is more than [1/2 inch](#) thicker than indicated, the course will be

considered as conforming to the specified thickness requirements. However, the requirements for wearing course thickness and plan grade are still applicable. The average job thickness will be the average of all thickness measurements taken for the job and within the tolerances of paragraph ACCEPTANCE of the thickness indicated.

3.7 COMPACTION

Compact each lift of the base course, as specified, with approved compaction equipment. For cohesive soils, maintain water content during the compaction procedure to within plus or minus 2 percent of the optimum water content determined from laboratory tests as specified and for cohesionless soils, maintain the water content to facilitate compaction without bulking. Begin rolling at the outside edge of the surface and proceed to the center, overlapping on successive trips at least one-half the width of the roller. Slightly vary the length of alternate trips of the roller. Adjust speed of the roller as needed so that displacement of the aggregate does not occur. Compact mixture with hand-operated power tampers in all places not accessible to the rollers. Continue compaction until each lift is compacted through the full depth to meet the compaction requirements of Table 1. Make such adjustments in compacting or finishing procedures to obtain true grades, to minimize segregation and degradation, to reduce or increase water content, and to produce a compliant base course. Remove any materials found to be non-compliant and replace with compliant material or rework, as directed, to meet the requirements of this specification.

3.8 PROOF ROLLING

In addition to the compaction specified, proof roll areas as required by Contracting Officer with a heavy pneumatic-tired roller having four or more tires abreast, each tire loaded to a minimum of 30,000 pounds and inflated to a minimum of 125 psi. A coverage is defined as the application of one tire print over the designated area. In the areas designated, apply proof rolling to the top of the underlying material on which the base course is laid and to the top of the completed base course. Maintain water content of the underlying material and each lift of the base course as specified in Paragraph COMPACTION from start of compaction to completion of proof rolling of that lift. Remove any base course materials or any underlying materials that produce permanent deformation exceeding 3/8 inch by proof rolling and replace with satisfactory materials. Then recompact and proof roll to meet these specifications.

3.9 EDGES OF BASE COURSE

Place approved material along the outer edges of the base course in sufficient quantity to compact to the thickness of the course being constructed. When the course is being constructed in two or more lifts, simultaneously roll and compact at least a 2 foot width of this material with the rolling and compacting of each lift of the base course.

3.10 FINISHING

Finish the surface of the top lift of base course after final compaction and proof rolling by cutting any overbuild to grade and rolling with a steel-wheeled roller. Do not add thin lifts of material to the top lift of base course to meet grade. If the elevation of the top lift of base course exceeds the tolerances of paragraph ACCEPTANCE, scarify the top

lift to a depth of at least 3 inches and blend new material in and compact and proof roll to bring to grade. Make adjustments to rolling and finishing procedures to minimize segregation and degradation, obtain grades, maintain moisture content, and produce an acceptable base course. If the surface become rough, corrugated, uneven in texture, or traffic marked prior to completion, scarify the non-compliant portion and rework and recompact it or replace as directed.

3.11 SMOOTHNESS TEST

Construct the top lift so that the surface shows no deviations exceeding the tolerances of paragraph ACCEPTANCE when tested with a 12 foot straightedge. Test the entire area in both a longitudinal and a transverse direction on parallel lines. Perform the transverse lines at a maximum spacing of 15 feet or less apart, as directed. Perform the longitudinal lines at the centerline of each placement lane, regardless of whether multiple lanes are allowed to be paved at the same time, and at the 1/8th point in from each side of the lane. Hold the straightedge in contact with the surface and moved ahead one-half the length of the straightedge for each successive measurement. Determine the amount of surface irregularity by placing the freestanding (unleveled) straightedge on the pavement surface and measuring the maximum gap between the straightedge and the pavement surface. Determine measurements along the entire length of the straight edge. Correct deviations exceeding this amount by removing material and replacing with new material, or by reworking existing material and compacting it to meet these specifications.

3.12 FIELD QUALITY CONTROL

3.12.1 In-Place Tests

Perform each of the following in-place tests on samples taken from the placed and compacted ABC and subbase granular material. Determine sample locations using random sampling in accordance with ASTM D3665. Take samples and test at the rates indicated.

- a. Perform density tests on every lift of material placed and at a frequency of one set of tests for every 250 square yards, or portion thereof, of completed area. Gradations containing more than 30 percent retained on the 3/4 inch sieve can produce inconsistent compacted density values when tested in accordance with paragraph DEGREE OF COMPACTION.
- b. Perform gradation analysis on every lift of material placed and at a frequency of one sieve analysis for every 500 square yards, or portion thereof, of material placed.
- c. Perform liquid limit and plasticity index tests at the same frequency as the sieve analysis.
- d. Measure the thickness of the base course at intervals providing at least one measurement for each 500 square yards of base course or part thereof. Measure the thickness using test holes, at least 3 inch in diameter through the base course.

3.12.2 Approval of Material

Final approval of the materials will be based on tests for gradation, liquid limit, and plasticity index performed on samples taken from the

completed and fully compacted course(s).

3.13 TRAFFIC

Completed portions of the base course can be opened to limited traffic, provided there is no marring or distorting of the surface by the traffic. Do not allow heavy equipment on the completed base course except when necessary for construction. When it is necessary for heavy equipment to travel on the completed base course, protect the area against marring or damage to the completed work. Repair damage to meet these specifications.

3.14 MAINTENANCE

Maintain the base course in a satisfactory condition until the full pavement section is completed and accepted. Immediately repair any defects and repeat repairs as often as necessary to keep the area intact. Retest any base course that was not paved over prior to the onset of winter to verify that it still complies with the requirements of this specification. Rework or replace any area of base course that is damaged as necessary to comply with this specification.

3.15 DISPOSAL OF UNSATISFACTORY MATERIALS

Dispose of any unsuitable materials that have been removed outside the limits of Government-controlled land. No additional payments will be made for materials that have to be replaced.

-- End of Section --

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05/17

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SECTION 32 12 13

BITUMINOUS TACK AND PRIME COATS
05/17

PART 1 GENERAL

1.1 UNIT PRICES

1.1.1 Measurement

The bituminous material paid for will be the measured quantities of residual bituminous material used in the accepted work, provided that the measured quantities are not 10 percent over the specified quantities, unless specified otherwise by Section 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES. Any amount of bituminous material more than 10 percent over the specified quantity will be deducted from the measured quantities. Express measured quantities in 2000 pound tons. Correct volumes measured at temperatures other than 60 degrees F in accordance with ASTM D1250 using a coefficient of expansion of 0.00025 per degree F for asphalt emulsion.

1.1.2 Payment

The quantities of bituminous material, determined as specified above, will be paid for at the respective contract unit prices, unless specified otherwise by Section 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES. Payment will constitute full compensation for all operations necessary to complete the work as specified herein.

1.1.3 Waybills and Delivery Tickets

Submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the Contracting Officer certified waybills and certified delivery tickets for all bituminous materials used in the construction of the pavement covered by the contract. These submittals are required for Unit Pricing bid only. Do not remove bituminous material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

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 D1250

(2019; E 2020) Standard Guide for Use of the Joint API and ASTM Adjunct for Temperature and Pressure Volume Correction Factors for Generalized Crude Oils, Refined Products, and Lubricating Oils: API MPMS Chapter 11.1

ASTM D2995

(1999; R 2009) Determining Application

Rate of Bituminous Distributors

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Waybills and Delivery Tickets

1.4 QUALITY ASSURANCE

Certificates of compliance for asphalt materials delivered will be obtained and checked to ensure that specification requirements are met. Quantities of applied material will be determined. Payment will be for amount of residual asphalt applied. Tack coat materials will not be diluted. Prime coat materials when emulsions are used can be diluted on site with potable water up to 1 part emulsion to 1 part water.

1.5 DELIVERY, STORAGE, AND HANDLING

Inspect the materials delivered to the site for contamination and damage. Unload and store the materials with a minimum of handling.

1.6 EQUIPMENT, TOOLS AND MACHINES

1.6.1 General Requirements

Equipment, tools and machines used in the work are subject to approval. Maintain in a satisfactory working condition at all times. Calibrate equipment such as asphalt distributors, scales, batching equipment, spreaders and similar equipment within 12 months of their use. If the calibration expires during project, recalibrate the equipment before work can continue.

1.6.2 Bituminous Distributor

Provide a self propelled distributor with pneumatic tires of such size and number to prevent rutting, shoving or otherwise damaging the surface being sprayed. Calibrate the distributor in accordance with ASTM D2995. Design and equip the distributor to spray the bituminous material in a uniform coverage at the specified temperature, at readily determined and controlled total liquid rates from 0.03 to 1.0 gallons per square yard, with a pressure range of 25 to 75 psi and with an allowable variation from the specified rate of not more than plus or minus 5 percent, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying bituminous material manually to areas inaccessible to the distributor. The distributor will be capable of circulating and agitating the bituminous material during the heating process.

1.6.3 Heating Equipment for Storage Tanks

Use steam, electric, or hot oil heaters for heating the bituminous material. Provide steam heaters consisting of steam coils and equipment for producing steam, so designed that the steam cannot come in contact with the bituminous material. Fix an armored thermometer to the tank with a temperature range from 40 to 400 degrees F so that the temperature of the bituminous material may be determined at all times.

1.6.4 Power Brooms and Power Blowers

Use power brooms and power blowers suitable for cleaning the surfaces to which the bituminous coat is to be applied.

1.7 ENVIRONMENTAL REQUIREMENTS

Apply bituminous coat only when the surface to receive the bituminous coat is dry. A limited amount of moisture (approximately 0.03 gallon/square yard) can be sprayed on the surface of unbound material when prime coat is used to improve coverage and penetration of asphalt material. Apply bituminous coat only when the atmospheric temperature in the shade is 50 degrees F or above and when the temperature has not been below 35 degrees F for the 12 hours prior to application, unless otherwise directed.

PART 2 PRODUCTS

2.1 TACK COAT

Provide Tack Coat in accordance with Section 406 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

PART 3 EXECUTION

3.1 PREPARATION OF SURFACE

Immediately before applying the bituminous coat, remove all loose material, dirt, clay, or other objectionable material from the surface to be treated by means of a power broom or blower supplemented with hand brooms. Apply treatment only when the surface is dry and clean.

3.2 APPLICATION RATE

The exact quantities within the range specified, which may be varied to suit field conditions, will be determined by the Contracting Officer.

3.2.1 Tack Coat

Apply bituminous material for the tack coat in quantities of not less than 0.03 gallons nor more than 0.10 gallons per square yard of residual asphalt onto the pavement surface as approved by the Contracting Officer. Do not dilute asphalt emulsion when used as a tack coat.

3.3 APPLICATION TEMPERATURE

3.3.1 Viscosity Relationship

Apply asphalt at a temperature that will provide a viscosity between 10 and 60 seconds, Saybolt Furol, or between 20 and 120 centistokes, kinematic. Furnish the temperature viscosity relation to the Contracting

Officer.

3.3.2 Temperature Ranges

The viscosity requirements determine the application temperature to be used. The following is a normal range of application temperatures:

Cutback Asphalts	
MC-30	85-190 degrees F
SC-70, MC-70, RC-70	120-225 degrees F
SC-250, MC-250, RC-250	165-270 degrees F
Asphalt Emulsion	
All Grades	70-160 degrees F
Asphalt Cement	
All Grades	275-350 degrees F

Some of these temperatures for rapid cure cutbacks are above the flash point of the material and care should be taken in their heating.

3.4 APPLICATION

3.4.1 General

Following preparation and subsequent inspection of the surface, apply the bituminous prime or tack coat with the bituminous distributor at the specified rate with uniform distribution over the surface to be treated. Properly treat all areas and spots, not capable of being sprayed with the distributor, with the hand spray. Until the succeeding layer of pavement is placed, maintain the surface by protecting the surface against damage and by repairing deficient areas at no additional cost to the Government. If required, spread clean dry sand to effectively blot up any excess bituminous material. No smoking, fires, or flames other than those from the heaters that are a part of the equipment are permitted within 25 feet of heating, distributing, and transferring operations of cutback materials. Prevent all traffic, except for paving equipment used in constructing the surfacing, from using the underlying material, whether primed or not, until the surfacing is completed. The bituminous coat requirements are described herein.

3.4.2 Tack Coat

Apply on all milled asphalt pavement and between HMA lifts. A tack coat should be applied to every bound surface (asphalt or concrete pavement) that is being overlaid with asphalt mixture and at transverse and longitudinal joints. Apply the tack coat when the surface to be treated is clean and dry. Immediately following the preparation of the surface for treatment, apply the bituminous material by means of the bituminous distributor, within the limits of temperature specified herein and at a rate as specified above in paragraph APPLICATION RATE. Apply the bituminous material so that uniform distribution is obtained over the

entire surface to be treated. Treat lightly coated areas and spots missed by the distributor by spraying with a hand wand or using other approved method. Following the application of bituminous material, allow the surface to cure without being disturbed for period of time necessary to permit setting of the tack coat. Apply the bituminous tack coat only as far in advance of the placing of the overlying layer as required for that day's operation. Maintain and protect the treated surface from damage until the succeeding course of pavement is placed.

3.5 CURING PERIOD

Following application of the bituminous material and prior to application of the succeeding layer of asphalt mixture allow the bituminous coat to cure and water or volatiles to evaporate prior to overlaying. Maintain the tacked surface in good condition until the succeeding layer of pavement is placed, by protecting the surface against damage and by repairing and recoating deficient areas.

3.6 FIELD QUALITY CONTROL

Obtain certificates of compliance for all asphalt material delivered to the project. Obtain samples of the bituminous material under the supervision of the Contracting Officer. The sample may be retained and tested by the Government at no cost to the Contractor.

3.7 TRAFFIC CONTROLS

Keep traffic off surfaces freshly treated with bituminous material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

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ROAD-MIX ASPHALT PAVING
11/20

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 156 (2013; R 2017) Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures

ASTM INTERNATIONAL (ASTM)

ASTM D979/D979M (2015) Sampling Bituminous Paving Mixtures

ASTM D2041/D2041M (2011) Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

ASTM D2726/D2726M (2019) Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures

ASTM D3203/D3203M (2017) Standard Test Method for Percent Air Voids in Compacted Asphalt Mixtures

ASTM D3665 (2012; R 2017) Standard Practice for Random Sampling of Construction Materials

ASTM D3666 (2016) Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

ASTM D5361/D5361M (2016) Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Contractor Quality Control; G, CS, AE

SD-06 Test Reports

QC Monitoring

SD-07 Certificates

Laboratory Accreditation and Validation

1.3 ACCEPTANCE

1.3.1 Acceptability of Work

Acquire the services of an independent commercial laboratory to perform acceptance testing. Acceptance of the plant produced mix and in-place requirements will be on a lot to lot basis. The materials and the pavement itself will be accepted on the basis of production testing. The Government may make check tests from split samples to validate the results of the production testing. Testing performed by the Government does not reduce the required testing of the independent commercial laboratory. Split samples will be taken for Government testing to reduce the variability between the independent commercial laboratory and the Government's test results. When the difference between the independent commercial laboratory and the Government's test results for split samples exceed the acceptable range of two results for multilaboratory precision for the appropriate test method (i.e. ASTM) then at least one of the laboratories is determined to be in error. An evaluation of procedures and equipment in both laboratories will be made to determine the cause(s) for the differences. Develop steps to correct procedures and equipment to bring multilaboratory precision to within acceptable limits.

1.3.2 Acceptance Requirements

Provide all sampling and testing required for acceptance. Where appropriate, acceptance for individual lots of asphalt pavement will be made based on laboratory air voids, in-place density, smoothness, and grade in accordance with the following paragraphs. Surface smoothness and grade determinations will be made on the lot as a whole. Exceptions or adjustments to this will be made in situations where the mix within one lot is placed as part of both the intermediate and surface courses, thus smoothness and grade measurements for the entire lot cannot be made.

1.3.3 Pavement Lots

A standard lot for all requirements is equal to one day's production or 2,000 tons, whichever is smaller. Divide each lot into four equal sublots in order to evaluate laboratory air voids and in-place density. When operational conditions cause a lot to be terminated before the specified four sublots have been completed, use the following procedure to adjust the lot size and number of tests for the lot. Where three sublots have been completed, they constitute a lot. Where one or two sublots have been completed, incorporate them into the next lot and the total number of sublots (i.e. 5 or 6 sublots) is used for acceptance criteria. Include partial lots at the end of asphalt production into the previous lot. Complete and report all theoretical maximum density, laboratory air voids, and in-place density testing within 24 hours after construction of each

lot.

1.3.4 Sublot Sampling

Take one mixture sample for each subplot in accordance with [ASTM D979/D979M](#) from a random truck or another location for determining theoretical maximum density, laboratory air voids, any additional testing the Government desires, and Contractor Quality Control. All samples will be selected randomly, using commonly recognized methods of assuring randomness conforming to [ASTM D3665](#) and employing tables of random numbers or computer programs.

1.3.5 Additional Sampling and Testing

The Government reserves the right to direct additional samples and tests for any area which appears to deviate from the specification requirements. The cost of any additional testing will be paid for by the Government. Testing in these areas will be treated as a separate lot. Acceptance will be made for the quantity of asphalt pavement represented by these tests in accordance with the provisions of this section.

1.3.6 Theoretical Maximum Density (TMD)

Measure theoretical maximum density one time for each subplot in accordance with [ASTM D2041/D2041M](#) for purposes of calculating laboratory air voids and determining in-place density. The average TMD for each lot will be determined as the average TMD of the random subplot samples. When the TMD on both sides of a longitudinal joint is different, the average of these two TMD values will be used as the TMD needed to calculate the percent joint density.

1.3.7 Laboratory Air Voids

Provide three test specimens prepared from the same sample for each set of laboratory compacted specimens. Compact the specimens within 2 hours of the time the mixture was loaded into trucks at the asphalt plant. Do not reheat samples prior to compaction. Provide insulated containers as necessary to maintain the sample temperature. Measure the bulk density of laboratory compacted specimens in accordance with [ASTM D2726/D2726M](#). Determine laboratory air voids from one set (three laboratory compacted specimens) for each subplot sample in accordance with [ASTM D3203/D3203M](#).

1.3.8 In-place Density

Obtain one random [4 inch](#) or [6 inch](#) diameter core from the mat and joint of each subplot in accordance with [ASTM D5361/D5361M](#) for determining in-place density. Cut samples neatly with a diamond core drill bit. Obtain random cores that are the full thickness of the layer being placed. Select core locations randomly using the procedures contained in [ASTM D3665](#). Locate cores for mat density no closer than [12 inches](#) from a transverse or longitudinal joint including the pavement edge. Center all cores for joint density on the joint. Discard samples that are clearly defective as a result of sampling and take an additional random core. When the random core is less than [1 inch](#) thick, it will not be included in the analysis. In this case, obtain another random core sample. Clean and tack coat dry core holes before filling with asphalt mixture. Fill all core holes with asphalt mixture and compact using a standard Marshall hammer to the density specified. Provide all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Measure in-place density in accordance with [ASTM D2726/D2726M](#) using each core obtained from

the mat and joint.

1.3.9 Laboratory Accreditation and Validation

Provide laboratories to perform acceptance testing, and Contractor Quality Control testing that meet the requirements of [ASTM D3666](#). Provide laboratories with a masonry saw having a diamond blade for trimming pavement cores and samples. Perform all required test methods by an accredited laboratory. Schedule and provide payment for laboratory inspections. Additional payment or a time extension due to failure to acquire the required laboratory accreditation is not allowed. Submit a certificate of compliance signed by the manager of the laboratory stating that it meets these requirements to the Government prior to the start of construction. At a minimum, include the following certifications:

- a. Qualifications of personnel; laboratory manager, supervising technician, and testing technicians.

1.4 ENVIRONMENTAL REQUIREMENTS

Do not place the asphalt mixture upon a wet surface or when the surface temperature of the underlying course is less than specified in [Table 1](#). The temperature requirements may be waived by the Government, if requested; however, meet all other requirements including compaction.

Table 1 . Surface Temperature Limitations of Underlying Course	
Mat Thickness, inches	Degrees F
3 or greater	40
Less than 3	45

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Perform the work consisting of pavement courses composed of mineral aggregate and asphalt material heated and mixed in a central mixing plant and placed on a prepared course. Provide asphalt pavement designed and constructed in accordance with this section conforming to the lines, grades, thicknesses, and typical cross sections shown on the drawings. Construct each course to the depth, section, or elevation required by the drawings and rolled, finished, and approved before the placement of the next course.

2.1.1 Asphalt Mixing Plant

Provide plants used for the preparation of asphalt mixture conforming to the requirements of [AASHTO M 156](#) with the following changes:

2.1.1.1 Truck Scales

Weigh the asphalt mixture on approved scales, or on certified public scales at no additional expense to the Government. Inspect and seal scales at least annually by an approved calibration laboratory.

2.1.1.2 Inspection of Plant

Provide access to the Government at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant; verifying weights, proportions, and material properties; checking the temperatures maintained in the preparation of the mixtures and for taking samples. Provide assistance as requested, for the Government to procure any desired samples.

2.1.1.3 Storage bins

The asphalt mixture can be stored in non-insulated storage bins for a period of time not exceeding 3 hours. The asphalt mixture can be stored in insulated storage bins for a period of time not exceeding 8 hours. Provide the mix drawn from bins that meets the same requirements as mix loaded directly into trucks.

2.1.2 Hauling Equipment

Provide trucks used for hauling asphalt mixture that have tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, lightly coat the truck beds with a minimum amount of paraffin oil, lime solution, or other approved material. Do not use petroleum based products as a release agent. Provide each truck with a suitable cover to protect the mixture from adverse weather, contamination, and loss of material during hauling. When necessary due to long haul distance and cold weather, provide insulated truck beds with covers (tarps) that are securely fastened.

2.1.3 Asphalt Pavers

Provide mechanical spreading and finishing equipment consisting of a self-powered paver, capable of spreading and finishing the mixture to the specified line, grade, and cross section. Provide paver screed capable of laying a uniform mixture to meet the specified thickness, smoothness, and grade without physical or temperature segregation, the full width of the material being placed. Provide a paver with a vibrating screed to be used during all placement.

2.1.3.1 Receiving Hopper

Provide paver with a receiving hopper of sufficient capacity to permit a uniform spreading operation and a distribution system to place the mixture uniformly in front of the screed without segregation. Provide a screed that effectively produces a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

2.1.4 Rollers

Provide rollers in good condition and operate at slow speeds to avoid displacement of the asphalt mixture. Provide sufficient number, type, and weight of rollers to compact the mixture to the required density while it is still in a workable condition. Do not use equipment which causes excessive crushing of the aggregate.

2.2 HMA Products

2.2.1 Hot-Mix Asphalt Surface Course

HMA surface course shall conform to the following IDOT Mixture: HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50.

2.2.2 Hot-Mix Asphalt Binder Course and Class D Patching

HMA Binder Course and Class D Patching shall conform to the following IDOT mixture: HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50.

Hot-Mix Asphalt Driveway Pavement

HMA driveway pavement shall conform to the following IDOT Mixture: HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50.

2.3 RECYCLED HOT MIX ASPHALT

Provide Reclaimed Asphalt Pavement (RAP) as allowed by Illinois DOT.

2.4 Thermoplastic Pavement Markings

Provide thermoplastic pavement markings in accordance with Section 780 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

PART 3 EXECUTION

3.1 [CONTRACTOR QUALITY CONTROL](#)

3.1.1 General Quality Control Requirements

Submit the Quality Control Plan. Do not produce hot-mix asphalt for acceptance until the quality control plan has been approved. In the quality control plan, address all elements which affect the quality of the pavement including, but not limited to:

- a. Mix Design

RAP/RAS Use

- c. Placing and Compaction
- d. Contractor Responsibilities
- e. Production
- f. Control Charts

3.1.2 Quality Control Testing

Perform all quality control tests applicable to these specifications and as set forth in the Quality Control Program. Use the independent commercial laboratory for acceptance testing in paragraph ACCEPTANCE. Use in-house capabilities or the independent commercial laboratory for quality control testing. Required elements of the testing program include, but are not limited to tests for the control of asphalt content, aggregate gradation, aggregate moisture, moisture in the asphalt mixture,

temperatures, VMA, and in-place density. Develop a Quality Control Testing Plan as part of the Quality Control Program.

3.1.2.1 Temperatures

Check temperatures at least four times per lot, at necessary locations to determine the temperature at the dryer, the asphalt cement binder in the storage tank, the asphalt mixture at the plant, and the asphalt mixture at the job site.

3.1.2.2 In-Place Density

Conduct any necessary testing to ensure the specified density is achieved. A nuclear gauge or other non-destructive testing device can be used to monitor pavement density.

3.1.2.3 Additional Testing

Perform any additional testing deemed necessary to control the process.

3.1.2.4 QC Monitoring

Submit all QC test results to the Government on a daily basis as the tests are performed. The Government reserves the right to monitor any of the Contractor's quality control testing and to perform duplicate testing as a check to the Contractor's quality control testing.

3.1.3 Sampling

When directed by the Government, sample and test any material which appears to not meet specification requirements unless such material is voluntarily removed and replaced or deficiencies corrected. Perform all sampling in accordance with standard procedures specified.

3.1.4 Control Charts

For process control, establish and maintain linear control charts on both individual samples and the running average of last four samples for the parameters listed in Table 4, as a minimum. Post the control charts as directed by the Government and maintain current at all times. Identify the following on the control charts: the project number, the test parameter being plotted, the individual sample numbers, the Action and Suspension Limits listed in Table 4 applicable to the test parameter being plotted, and the test results. Also show target values (JMF) on the control charts as indicators of central tendency for the cumulative percent passing, asphalt content, and laboratory air voids parameters. When the test results exceed either applicable Action Limit, take immediate steps to bring the process back in control. When the test results exceed either applicable Suspension Limit, halt production until the problem is solved. When the Suspension Limit is exceeded for individual values or running average values, the Government has the option to require removal and replacement of the material represented by the samples or to leave in place and base acceptance on mixture volumetric properties and in place density. Use the control charts as part of the process control system for identifying trends so that potential problems can be corrected before they occur. Make decisions concerning mix modifications based on analysis of the results provided in the control charts. In the Quality Control Plan, indicate the appropriate action to be taken to bring the process into control when certain parameters exceed

their Action Limits.

Table 4. Action and Suspension Limits for the Parameters to be Plotted on Individual and Running Average Control Charts				
	Individual Samples		Running Average of	
Parameter to be Plotted	Action Limit	Suspension Limit	Action Limit	Suspension Limit
No. 4 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	6	8	4	5
No. 30 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	4	6	3	4
No. 200 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	1.4	2.0	1.1	1.5
Asphalt content, percent deviation from JMF target; plus or minus value	0.4	0.5	0.2	0.3
Stability, pounds (minimum) (NA for Superpave)				
75 Blow JMF	1800	1700	1900	1800
50 Blow JMF	1000	900	1100	1000
Flow, 0.01 inch (NA for Superpave)				
75 Blow JMF	8 min.	7 min.	9 min.	8 min.
	16 max.	17 max.	15 max.	16 max.
50 Blow JMF	8 min.	7 min.	9 min.	8 min.
	18 max.	19 max.	17 max.	18 max.
Laboratory Air Voids, percent deviation from JMF target value	No specific action and suspension limits set since this parameter is used for acceptance			
In-place Mat Density, percent of TMD	No specific action and suspension limits set since this parameter is used for acceptance			
In-place Joint Density, percent of TMD	No specific action and suspension limits set since this parameter is used for acceptance			
VMA				
Gradation 1	13.5	13.0	13.3	13.0
Gradation 2	14.5	14.0	14.3	14.0
Gradation 3	15.5	15.0	15.3	15.0

3.2 PREPARATION OF THE UNDERLYING SURFACE

Immediately before placing the asphalt mixture, clean the underlying course of dust and debris. Apply a tack coat in accordance with Section 32 12 13 BITUMINOUS TACK AND PRIME COATS.

3.3 Aggregate Base Course, Subbase Granular Material, and Porous Granular Material

Place aggregate base course, subbase granular material, and porous granular material in conformance with Sections 31 00 00 EARTHWORK and 32 11 23 AGGREGATE BASE COURSE AND SUBBASE GRANULAR MATERIAL underneath

proposed HMA pavements (driveway and roadway).

3.4 TRANSPORTING AND PLACING

3.4.1 Transporting

Transport asphalt mixture from the mixing plant to the site in clean, tight vehicles. Schedule deliveries so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver. Provide adequate artificial lighting for night placements. Hauling over freshly placed material will not be permitted until the material has been compacted as specified, and allowed to cool to 140 degrees F.

3.4.2 Placing

Place the mix in lifts of adequate thickness and compact at a temperature suitable for obtaining density, surface smoothness, and other specified requirements. Upon arrival, place the mixture to the full width by an asphalt paver; strike off in a uniform layer of such depth that, when the work is completed, the required thickness is obtained and the surface conforms to the grade and contour indicated. Do not broadcast waste mixture onto the mat or recycle into the paver hopper. Collect waste mixture and dispose off site. Regulate the speed of the paver to eliminate pulling and tearing of the asphalt mat. Begin placement of the mixture along the centerline of a crowned section or on the high side of areas with a one-way slope. Place the mixture in consecutive adjacent strips having a minimum width of 10 feet. Offset the longitudinal joint in one course from the longitudinal joint in the course immediately below by at least 1 foot; however, locate the joint in the surface course at the centerline of the pavement. Offset transverse joints in one course by at least 10 feet from transverse joints in the previous course. Offset transverse joints in adjacent lanes a minimum of 10 feet. On isolated areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture can be spread and luted by hand tools.

3.5 COMPACTION OF MIXTURE

3.5.1 General

- a. After placing, thoroughly and uniformly compact the mixture by rolling. Compact the surface as soon as possible without causing displacement, cracking, or shoving. Determine the sequence of rolling operations and the type of rollers used with the exception that application of more than three passes with a vibratory roller in the vibrating mode is prohibited. Maintain the speed of the roller, at all times, sufficiently slow to avoid displacement of the asphalt mixture and to be effective in compaction. Correct at once any displacement occurring as a result of reversing the direction of the roller, or from any other cause.
- b. Furnish sufficient rollers to handle the output of the plant. Continue rolling until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained. To prevent adhesion of the mixture to the roller, keep the wheels properly moistened, but excessive water is not permitted. In areas not accessible to the roller, thoroughly compact the mixture with hand tampers or small compactors. Remove the full depth of any mixture that becomes loose and broken, mixed with dirt, contains

check-cracking, or is in any way defective. Replace with fresh asphalt mixture and immediately compact to conform to the surrounding area. Perform this work at no expense to the Government. Skin patching is not allowed.

3.5.2 Segregation

The Government can sample and test any material that looks deficient. When the in-place material appears to be segregated, the Government has the option to sample the material. If the material fails to meet these specification requirements, remove and replace the extent of the segregated material the full depth of the layer of asphalt mixture at no additional cost to the Government. When segregation occurs in the mat, take appropriate action to correct the process so that additional segregation does not occur.

3.6 JOINTS

Construct joints to ensure a continuous bond between the courses and to obtain the required density. Provide all joints with the same texture as other sections of the course and meet the requirements for smoothness and grade.

3.6.1 Transverse Joints

Do not pass the roller over the unprotected end of the freshly laid mixture, except when necessary to form a transverse joint. When necessary to form a transverse joint, construct by means of placing a bulkhead or by tapering the course. Utilize a dry saw cut on the transverse joint full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. Remove the cutback material from the project. In both methods, provide a light tack coat of asphalt material to all contact surfaces before placing any fresh mixture against the joint.

3.6.2 Longitudinal Joints

Provide a joint that meets density and smoothness requirements for joints and has uniform texture. Cut back longitudinal joints which are irregular, damaged, uncompacted, cold (less than 175 degrees F at the time of placing adjacent lanes), or otherwise defective, a maximum of 3 inches from the top of the course with a cutting wheel to expose a clean, sound, near vertical surface for the full depth of the course. Remove all cutback material from the project. Provide a light tack coat of asphalt material to all contact surfaces prior to placing any fresh mixture against the joint.

3.7 Class D Patching

Install Class D Patching in accordance with Section 442 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.8 HMA Driveway

Install HMA driveway pavements in accordance with Section 406 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.9 Thermoplastic Pavement Markings

Install thermoplastic pavement markings of the sizes specified in accordance with Section 780 of the latest edition of the IDOT Standard Specifications for Road and Bridge Construction

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SECTION 32 16 19

CONCRETE CURBS, GUTTERS, DRIVEWAYS AND SIDEWALKS
05/18

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 182 (2005; R 2017) Standard Specification for
Burlap Cloth Made from Jute or Kenaf and
Cotton Mats

ASTM INTERNATIONAL (ASTM)

ASTM A615/A615M (2020) Standard Specification for Deformed
and Plain Carbon-Steel Bars for Concrete
Reinforcement

ASTM A1064/A1064M (2017) Standard Specification for
Carbon-Steel Wire and Welded Wire
Reinforcement, Plain and Deformed, for
Concrete

ASTM C31/C31M (2021a) Standard Practice for Making and
Curing Concrete Test Specimens in the Field

ASTM C94/C94M (2021b) Standard Specification for
Ready-Mixed 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 C172/C172M (2017) Standard Practice for Sampling
Freshly Mixed Concrete

ASTM C173/C173M (2016) Standard Test Method for Air
Content of Freshly Mixed Concrete by the
Volumetric Method

ASTM C231/C231M (2017a) 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 C920	(2018) Standard Specification for Elastomeric Joint Sealants
ASTM D1751	(2018) Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	(2018) Standard Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D5893/D5893M	(2016) Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

INTERNATIONAL CODE COUNCIL (ICC)

ICC A117.1	(2017) Standard And Commentary Accessible and Usable Buildings and Facilities
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1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Concrete; G, CS, AE

SD-06 Test Reports

Field Quality Control

1.3 EQUIPMENT, TOOLS, AND MACHINES

1.3.1 General Requirements

Plant, equipment, machines, and tools used in the work will be subject to approval and must be maintained in a satisfactory working condition at all times. Use equipment capable of producing the required product, meeting grade controls, thickness control and smoothness requirements as specified. Discontinue using equipment that produces unsatisfactory results. Allow the Contracting Officer access at all times to the plant and equipment to ensure proper operation and compliance with specifications.

1.3.2 Slip Form Equipment

Slip form paver or curb forming machines, will be approved based on trial use on the job and must be self-propelled, automatically controlled,

crawler mounted, and capable of spreading, consolidating, and shaping the plastic concrete to the desired cross section in one pass.

1.4 ENVIRONMENTAL REQUIREMENTS

1.4.1 Placing During Cold Weather

Do not place concrete when the air temperature reaches 40 degrees F and is falling, or is already below that point. Placement may begin when the air temperature reaches 35 degrees F and is rising, or is already above 40 degrees F. Make provisions to protect the concrete from freezing during the specified curing period. If necessary to place concrete when the temperature of the air, aggregates, or water is below 35 degrees F, placement and protection must be approved in writing. Approval will be contingent upon full conformance with the following provisions. Prepare and protect the underlying material so that it is entirely free of frost when the concrete is deposited. Provide covering or other means as needed to maintain the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing, and at a temperature above freezing for the remainder of the curing period.

1.4.2 Placing During Warm Weather

The temperature of the concrete as placed must not exceed 85 degrees F except where an approved retarder is used. Cool the mixing water and aggregates as necessary to maintain a satisfactory placing temperature. The placing temperature must not exceed 95 degrees F at any time.

PART 2 PRODUCTS

2.1 CONCRETE

Provide concrete conforming to the applicable requirements of ASTM C94/C94M except as otherwise specified. Concrete must have a minimum compressive strength of 3500 psi at 28 days. Size of aggregate must not exceed 1-1/2 inches. Submit copies of certified delivery tickets for all concrete used in the construction.

2.1.1 Air Content

Use concrete mixtures that have an air content by volume of concrete of 5 to 7 percent, based on measurements made immediately after discharge from the mixer.

2.1.2 Slump

Use concrete with a slump of 3 inches plus or minus 1 inch for hand placed concrete or 1 inch plus or minus 1/2 inch for slipformed concrete as determined in accordance with ASTM C143/C143M.

2.1.3 Reinforcement Steel

Use reinforcement bars conforming to ASTM A615/A615M. Use wire mesh reinforcement conforming to ASTM A1064/A1064M.

2.2 CONCRETE CURING MATERIALS

2.2.1 Impervious Sheet Materials

Use impervious sheet materials conforming to [ASTM C171](#), type optional, except that polyethylene film, if used, must be white opaque.

2.2.2 Burlap

Use burlap conforming to [AASHTO M 182](#).

2.2.3 White Pigmented Membrane-Forming Curing Compound

Use white pigmented membrane-forming curing compound conforming to [ASTM C309](#), Type 2.

2.3 CONCRETE PROTECTION MATERIALS

Use concrete protection materials consisting of a linseed oil mixture of equal parts, by volume, of linseed oil and either mineral spirits, naphtha, or turpentine. At the option of the Contractor, commercially prepared linseed oil mixtures, formulated specifically for application to concrete to provide protection against the action of deicing chemicals may be used, except that emulsified mixtures are not acceptable.

2.4 JOINT FILLER STRIPS

2.4.1 Contraction Joint Filler for Curb and Gutter

Use hard-pressed fiberboard contraction joint filler for curb and gutter.

2.4.2 Expansion Joint Filler, Premolded

Unless otherwise indicated, use [1/2 inch](#) thick premolded expansion joint filler conforming to [ASTM D1751](#) or [ASTM D1752](#).

2.5 JOINT SEALANTS

Use cold-applied joint sealant conforming to [ASTM C920](#) or [ASTM D5893/D5893M](#).

2.6 FORM WORK

Design and construct form work to ensure that the finished concrete will conform accurately to the indicated dimensions, lines, and elevations, and within the tolerances specified. Use wood or steel forms that are straight and of sufficient strength to resist springing during depositing and consolidating concrete.

2.6.1 Wood Forms

Use forms that are surfaced plank, [2 inches](#) nominal thickness, straight and free from warp, twist, loose knots, splits or other defects. Use forms with a nominal length of [10 feet](#). Radius bends may be formed with [3/4 inch](#) boards, laminated to the required thickness.

2.6.2 Steel Forms

Use channel-formed sections with a flat top surface and welded braces at each end and at not less than two intermediate points. Use forms with

interlocking and self-aligning ends. Provide flexible forms for radius forming, corner forms, form spreaders, and fillers as needed. Use forms with a nominal length of 10 feet and that have a minimum of 3 welded stake pockets per form. Use stake pins consisting of solid steel rods with chamfered heads and pointed tips designed for use with steel forms.

2.6.3 Sidewalk Forms

Use sidewalk forms that are of a height equal to the full depth of the finished sidewalk.

2.6.4 Curb and Gutter Forms

Use curb and gutter outside forms that have a height equal to the full depth of the curb or gutter. Use rigid forms for curb returns, except that benders or thin plank forms may be used for curb or curb returns with a radius of 10 feet or more, where grade changes occur in the return, or where the central angle is such that a rigid form with a central angle of 90 degrees cannot be used. Back forms for curb returns may be made of 1-1/2 inch benders, for the full height of the curb, cleated together. In lieu of inside forms for curbs, a curb "mule" may be used for forming and finishing this surface, provided the results are approved.

2.7 Detectable Warning System

Detectable Warning Systems shown on the Contract plans are to meet requirements of ICC A117.1 - Section 705.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

Construct subgrade to the specified grade and cross section prior to concrete placement.

3.1.1 Sidewalk Subgrade

Place and compact the subgrade in accordance with Section 31 00 00 EARTHWORK and 32 11 23 AGGREGATE BASE COURSE AND SUBBASE GRANULAR MATERIAL. Test the subgrade for grade and cross section with a template extending the full width of the sidewalk and supported between side forms.

3.1.2 Curb and Gutter Subgrade

Place and compact the subgrade in accordance with Section 31 00 00 EARTHWORK and Section 32 11 23 AGGREGATE BASE COURSE AND SUBBASE GRANULAR MATERIAL. Test the subgrade for grade and cross section by means of a template extending the full width of the curb and gutter. Use subgrade materials equal in bearing quality to the subgrade under the adjacent pavement.

3.1.3 Driveway Subgrade

Place and compact the subgrade in accordance with Section 31 00 00 EARTHWORK and 32 11 23 AGGREGATE BASE COURSE AND SUBBASE GRANULAR MATERIAL. Test the subgrade for grade and cross section with a template extending the full width of the driveway and supported between side forms.

3.1.4 Maintenance of Subgrade

Maintain subgrade in a smooth, compacted condition in conformity with the required section and established grade until the concrete is placed. The subgrade must be in a moist condition when concrete is placed. Prepare and protect subgrade so that it is free from frost when the concrete is deposited.

3.2 FORM SETTING

Set forms to the indicated alignment, grade and dimensions. Hold forms rigidly in place by a minimum of 3 stakes per form placed at intervals not to exceed 4 feet. Use additional stakes and braces at corners, deep sections, and radius bends, as required. Use clamps, spreaders, and braces where required to ensure rigidity in the forms. Remove forms in a manner that will not injure the concrete. Do not use bars or heavy tools against the concrete when removing the forms. Promptly and satisfactorily repair concrete found to be defective after form removal. Clean forms and coat with form oil each time before concrete is placed. Wood forms may, instead, be thoroughly wetted with water before concrete is placed, except that with probable freezing temperatures, oiling is mandatory.

3.2.1 Sidewalks and Driveways

Set forms for sidewalks and driveways with the upper edge true to line and grade with an allowable tolerance of 1/8 inch in any 10 foot long section. After forms are set, grade and alignment must be checked with a 10 foot straightedge. Sidewalks must have a transverse slope that shall not exceed 2%. Do not remove side forms less than 12 hours after finishing has been completed.

3.2.2 Curbs and Gutters

Remove forms used along the front of the curb not less than 2 hours nor more than 6 hours after the concrete has been placed. Do not remove forms used along the back of curb until the face and top of the curb have been finished, as specified for concrete finishing. Do not remove gutter forms while the concrete is sufficiently plastic to slump in any direction.

3.3 DRIVEWAY AND SIDEWALK CONCRETE PLACEMENT AND FINISHING

3.3.1 Formed Sidewalks and Driveways

Place concrete in the forms in one layer. When consolidated and finished, the sidewalks and driveways must be of the thickness indicated. Use a strike-off guided by side forms after concrete has been placed in the forms to bring the surface to proper section to be compacted. Consolidate concrete by tamping and spading or with an approved vibrator. Finish the surface to grade with a strike off.

3.3.2 Concrete Finishing

After straightedging, when most of the water sheen has disappeared, and just before the concrete hardens, finish the surface with a wood or magnesium float or darby to a smooth and uniformly fine granular or sandy texture free of waves, irregularities, or tool marks. Produce a scored surface by brooming with a fiber-bristle brush in a direction transverse to that of the traffic, followed by edging.

3.3.3 Edge and Joint Finishing

Finish all slab edges, including those at formed joints, with an edger having a radius of $\frac{1}{8}$ inch. Edge transverse joints before brooming. Eliminate the flat surface left by the surface face of the edger with brooming. Clean and solidly fill corners and edges which have crumbled and areas which lack sufficient mortar for proper finishing with a properly proportioned mortar mixture and then finish.

3.3.4 Surface and Thickness Tolerances

Finished surfaces must not vary more than $\frac{5}{16}$ inch from the testing edge of a 10-foot straightedge. Permissible deficiency in section thickness will be up to $\frac{1}{4}$ inch.

3.4 CURB AND GUTTER CONCRETE PLACEMENT AND FINISHING

3.4.1 Formed Curb and Gutter

Place concrete to the required section in a single lift. Consolidate concrete using approved mechanical vibrators. Curve shaped gutters must be finished with a standard curb "mule".

3.4.2 Curb and Gutter Finishing

Approved slipformed curb and gutter machines may be used in lieu of hand placement.

3.4.3 Concrete Finishing

Float and finish exposed surfaces with a smooth wood float until true to grade and section and uniform in texture. Brush floated surfaces with a fine-hair brush using longitudinal strokes. Round the edges of the gutter and top of the curb with an edging tool to a radius of $\frac{1}{2}$ inch. Immediately after removing the front curb form, rub the face of the curb with a wood or concrete rubbing block and water until blemishes, form marks, and tool marks have been removed. Brush the front curb surface, while still wet, in the same manner as the gutter and curb top. Finish the top surface of gutter to grade with a wood float.

3.4.4 Joint Finishing

Finish curb edges at formed joints as indicated.

3.4.5 Surface and Thickness Tolerances

Finished surfaces must not vary more than $\frac{1}{4}$ inch from the testing edge of a 10-foot straightedge. Permissible deficiency in section thickness will be up to $\frac{1}{4}$ inch.

3.5 CONCRETE PATCH

All existing pavement removed due to the removal and replacement of combination concrete curb and gutter where full depth HMA pavement replacement is not being performed shall be replaced with eight-inch (8") concrete patch. Saw cutting shall be required to secure a straight joint. The patch shall be a minimum of 8-inches wide.

3.6 SIDEWALK AND DRIVEWAY JOINTS

Construct sidewalk joints to divide the surface into rectangular areas. Space transverse contraction joints at a distance equal to the sidewalk width or 5 feet on centers, whichever is less, and continuous across the slab. Construct longitudinal contraction joints along the centerline of all sidewalks and driveways 10 feet or more in width. Construct transverse expansion joints at sidewalk returns and opposite expansion joints in adjoining curbs. Where the sidewalk is not in contact with the curb, install transverse expansion joints as indicated. Form expansion joints around structures and features which project through or into the sidewalk pavement, using joint filler of the type, thickness, and width indicated. Expansion joints are not required between sidewalks and curb that abut the sidewalk longitudinally.

3.6.1 Sidewalk and Driveway Contraction Joints

Form contraction joints in the fresh concrete by cutting a groove in the top portion of the slab to a depth of at least one-fourth of the sidewalk and driveway slab thickness. Unless otherwise approved or indicated, either use a jointer to cut the groove or saw a groove in the hardened concrete with a power-driven saw. Construct sawed joints by sawing a groove in the concrete with a 1/8 inch blade. Provide an ample supply of saw blades on the jobsite before concrete placement is started. Provide at least one standby sawing unit in good working order at the jobsite at all times during the sawing operations.

3.6.2 Sidewalk and Driveway Expansion Joints

Form expansion joints using 1/2 inch joint filler strips. Joint filler in expansion joints surrounding structures and features within the sidewalk may consist of preformed filler material conforming to ASTM D1752 or building paper. Hold joint filler in place with steel pins or other devices to prevent warping of the filler during floating and finishing. Immediately after finishing operations are completed, round joint edges using an edging tool having a radius of 1/8 inch. Remove any concrete over the joint filler. At the end of the curing period, clean the top of expansion joints and fill with cold-applied joint sealant. Use joint sealant that is gray or stone in color. Thoroughly clean the joint opening before the sealing material is placed. Do not spill sealing material on exposed surfaces of the concrete. Apply joint sealing material only when the concrete at the joint is surface dry and atmospheric and concrete temperatures are above 50 degrees F. Immediately remove any excess material on exposed surfaces of the concrete and clean the concrete surfaces.

3.6.3 Reinforcement Steel Placement

Accurately and securely fasten reinforcement steel in place with suitable supports and ties before the concrete is placed. Place reinforcement steel per Village and IDOT details.

3.7 CURB AND GUTTER JOINTS

Construct curb and gutter joints at right angles to the line of curb and gutter.

3.7.1 Contraction Joints

Construct contraction joints directly opposite contraction joints in abutting portland cement concrete pavements and spaced so that monolithic sections between curb returns will not be less than 5 feet nor greater than 15 feet in length.

- a. Construct contraction joints (except for slip forming) by means of 1/8 inch thick separators and of a section conforming to the cross section of the curb and gutter. Remove separators as soon as practicable after concrete has set sufficiently to preserve the width and shape of the joint and prior to finishing.
- b. When slip forming is used, cut the contraction joints in the top portion of the gutter/curb hardened concrete in a continuous cut across the curb and gutter, using a power-driven saw. Cut the contraction joint to a depth of at least one-fourth of the gutter/curb depth using a 1/8 inch saw blade.

3.7.2 Expansion Joints

Form expansion joints by means of preformed expansion joint filler material cut and shaped to the cross section of curb and gutter. Construct expansion joints in curb and gutter directly opposite expansion joints of abutting portland cement concrete pavement using the same type and thickness of joints as joints in the pavement. Where curb and gutter do not abut portland cement concrete pavement, provide expansion joints at least 1/2 inch in width at intervals not less than 30 feet nor greater than 120 feet. Seal expansion joints immediately following curing of the concrete or as soon thereafter as weather conditions permit. Seal expansion joints and the top 1 inch depth of curb and gutter contraction-joints with joint sealant. Thoroughly clean the joint opening before the sealing material is placed. Do not spill sealing material on exposed surfaces of the concrete. Concrete at the joint must be surface dry and atmospheric and concrete temperatures must be above 50 degrees F at the time of application of joint sealing material. Immediately remove excess material on exposed surfaces of the concrete and clean concrete surfaces.

3.8 CURING AND PROTECTION

3.8.1 General Requirements

Protect concrete against loss of moisture and rapid temperature changes for at least 7 days from the beginning of the curing operation. Protect unhardened concrete from rain and flowing water. All equipment needed for adequate curing and protection of the concrete must be on hand and ready for use before actual concrete placement begins. Protect concrete as necessary to prevent cracking of the pavement due to temperature changes during the curing period.

3.8.1.1 Mat Method

Cover the entire exposed surface with two or more layers of burlap. Overlap mats at least 6 inches. Thoroughly wet the mat with water prior to placing on concrete surface and keep the mat continuously in a saturated condition and in intimate contact with concrete for not less than 7 days.

3.8.1.2 Impervious Sheeting Method

Wet the entire exposed surface with a fine spray of water and then cover with impervious sheeting material. Lay sheets directly on the concrete surface with the light-colored side up and overlapped 12 inches when a continuous sheet is not used. Use sheeting that is not less than 18-inches wider than the concrete surface to be cured. Secure sheeting using heavy wood planks or a bank of moist earth placed along edges and laps in the sheets. Satisfactorily repair or replace sheets that are torn or otherwise damaged during curing. Sheeting must remain on the concrete surface to be cured for not less than 7 days.

3.8.1.3 Membrane Curing Method

Apply a uniform coating of white-pigmented membrane-curing compound to the entire exposed surface of the concrete as soon after finishing as the free water has disappeared from the finished surface. Coat formed surfaces immediately after the forms are removed and in no case longer than 1 hour after the removal of forms. Do not allow concrete surface to dry before application of the membrane. If drying has occurred, moisten the surface of the concrete with a fine spray of water and apply the curing compound as soon as the free water disappears. Apply curing compound in two coats by hand-operated pressure sprayers at a coverage of approximately 200 square feet/gallon for the total of both coats. Apply the second coat in a direction approximately at right angles to the direction of application of the first coat. The compound must form a uniform, continuous, coherent film that will not check, crack, or peel and must be free from pinholes or other imperfections. If pinholes, abrasion, or other discontinuities exist, apply an additional coat to the affected areas within 30 minutes. Respray concrete surfaces that are subjected to heavy rainfall within 3 hours after the curing compound has been applied by the method and at the coverage specified above. Respray areas where the curing compound is damaged by subsequent construction operations within the curing period. Take precautions necessary to ensure that the concrete is properly cured at sawed joints, and that no curing compound enters the joints. Tightly seal the top of the joint opening and the joint groove at exposed edges before the concrete in the region of the joint is resprayed with curing compound. Use a method used for sealing the joint groove that prevents loss of moisture from the joint during the entire specified curing period. Provide approved standby facilities for curing concrete pavement at a location accessible to the jobsite for use in the event of mechanical failure of the spraying equipment or other conditions that might prevent correct application of the membrane-curing compound at the proper time. Adequately protect concrete surfaces to which membrane-curing compounds have been applied during the entire curing period from pedestrian and vehicular traffic, except as required for joint-sawing operations and surface tests, and from other possible damage to the continuity of the membrane.

3.8.2 Backfilling

After curing, remove debris and backfill, grade, and compact the area adjoining the concrete to conform to the surrounding area in accordance with lines and grades indicated.

3.8.3 Protection

Protect completed concrete from damage until accepted. Repair damaged concrete and clean concrete discolored during construction. Remove and

reconstruct concrete that is damaged for the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable. Dispose of removed material as directed.

3.8.4 Protective Coating

Apply a protective coating of linseed oil mixture to the exposed-to-view concrete surface after the curing period, if concrete will be exposed to de-icing chemicals within 6 weeks after placement. Moist cure concrete to receive a protective coating.

3.8.4.1 Application

Complete curing and backfilling operation prior to applying two coats of protective coating. Concrete must be surface dry and clean before each application. Spray apply at a rate of not more than 50 square yards/gallon for first application and not more than 70 square yards/gallon for second application, except that the number of applications and coverage for each application for commercially prepared mixture must be in accordance with the manufacturer's instructions. Protect coated surfaces from vehicular and pedestrian traffic until dry.

3.8.4.2 Precautions

Do not heat protective coating by direct application of flame or electrical heaters and protect the coating from exposure to open flame, sparks, and fire adjacent to open containers or applicators. Do not apply material at ambient or material temperatures lower than 50 degrees F.

3.9 FIELD QUALITY CONTROL

Submit copies of all test reports within 24 hours of completion of the test.

3.9.1 General Requirements

Perform the inspection and tests described and meet the specified requirements for inspection details and frequency of testing. Based upon the results of these inspections and tests, take the action and submit reports as required below, and additional tests to ensure that the requirements of these specifications are met.

3.9.2 Concrete Testing

3.9.2.1 Strength Testing

Take concrete samples in accordance with ASTM C172/C172M not less than once a day nor less than once for every 250 cubic yards of concrete placed. Mold cylinders in accordance with ASTM C31/C31M for strength testing by an approved laboratory. Each strength test result must be the average of 2 test cylinders from the same concrete sample tested at 28 days, unless otherwise specified or approved. Concrete specified on the basis of compressive strength will be considered satisfactory if the averages of all sets of three consecutive strength test results equal or exceed the specified strength, and no individual strength test result falls below the specified strength by more than 500 psi.

3.9.2.2 Air Content

Determine air content in accordance with ASTM C173/C173M or ASTM C231/C231M. Use ASTM C231/C231M with concretes and mortars made with relatively dense natural aggregates. Make two tests for air content on randomly selected batches of each class of concrete placed during each shift. Make additional tests when excessive variation in concrete workability is reported by the placing foreman or the Government inspector. Notify the placing foreman if results are out of tolerance. The placing foreman must take appropriate action to have the air content corrected at the plant. Additional tests for air content will be performed on each truckload of material until such time as the air content is within the tolerance specified.

3.9.2.3 Slump Test

Perform two slump tests on randomly selected batches of each class of concrete for every 250 cubic yards, or fraction thereof, of concrete placed during each shift. Perform additional tests when excessive variation in the workability of the concrete is noted or when excessive crumbling or slumping is noted along the edges of slip-formed concrete.

3.9.3 Thickness Evaluation

Determine the anticipated thickness of the concrete prior to placement by passing a template through the formed section or by measuring the depth of opening of the extrusion template of the curb forming machine. If a slip form paver is used for sidewalk placement, construct the subgrade true to grade prior to concrete placement. The thickness will be determined by measuring each edge of the completed slab.

3.9.4 Surface Evaluation

Provide finished surfaces for each category of the completed work that are uniform in color and free of blemishes and form or tool marks.

3.10 SURFACE DEFICIENCIES AND CORRECTIONS

3.10.1 Thickness Deficiency

When measurements indicate that the completed concrete section is deficient in thickness by more than 1/4 inch the deficient section will be removed, between regularly scheduled joints, and replaced.

3.10.2 High Areas

In areas not meeting surface smoothness and plan grade requirements, reduce high areas either by rubbing the freshly finished concrete with carborundum brick and water when the concrete is less than 36 hours old or by grinding the hardened concrete with an approved surface grinding machine after the concrete is 36 hours old or more. The area corrected by grinding the surface of the hardened concrete must not exceed 5 percent of the area of any integral slab, and the depth of grinding must not exceed 1/4 inch. Remove and replace pavement areas requiring grade or surface smoothness corrections in excess of the limits specified.

3.10.3 Appearance

Exposed surfaces of the finished work will be inspected by the Contracting

Officer and deficiencies in appearance will be identified. Remove and replace areas which exhibit excessive cracking, discoloration, form marks, or tool marks or which are otherwise inconsistent with the overall appearances of the work.

3.11 DETECTABLE WARNING SYSTEM

Install Detectable Warning Systems required by Contract plans in accordance with **ICC A117.1**, Section 705, and by manufacturers' installation instructions.

-- End of Section --

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DIVISION 32 - EXTERIOR IMPROVEMENTS

SECTION 32 31 13

CHAIN LINK FENCES AND GATES

11/21

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SECTION 32 31 13

CHAIN LINK FENCES AND GATES
11/21

PART 1 GENERAL

1.1 SUBMITTALS

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

SD-02 Shop Drawings

Erection/Installation Drawings; G, CS, AE

SD-03 Product Data

Fence Assembly; G, CS, AE

Concrete

SD-08 Manufacturer's Instructions

Fence Assembly

Hardware Assembly

Accessories

1.2 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 SYSTEM DESCRIPTION

Submit manufacturer's catalog data for complete fence assembly, hardware assembly and accessories.

2.2 FENCES

Provide chain-link fencing in accordance with Section 664 of the latest edition of the IDOT Standard Specifications of Road and Bridge Construction.

2.3 MATERIALS

2.3.1 Concrete

Provide concrete conforming to [ASTM C94/C94M](#), and obtaining a minimum 28-day compressive strength of [3,000 psi](#).

2.3.2 Grout

Provide grout of proportions one part portland cement to three parts clean, well-graded sand and a minimum amount of water to produce a workable mix.

PART 3 EXECUTION

Submit manufacturer's [erection/installation drawings](#) and instructions that detail proper assembly and materials in the design for fence, gate, hardware and accessories.

Provide complete installation conforming to [ASTM F567](#).

3.1 PREPARATION

Ensure final grading and established elevations are complete prior to commencing fence installation.

3.1.1 Clearing and Grading

Clear fence line of trees, brush, and other obstacles to install fencing for a distance of [5 feet](#) inside; and [5 feet](#) outside the fence. Establish a graded, compacted fence line prior to fencing installation.

3.2 INSTALLATION

3.2.1 Security

Install new chain link fencing, remove existing fencing, and perform related work to provide continuous security for facility.

3.2.2 Fence Installation

Install fence on prepared surfaces to line and grade indicated. Install fence in accordance with fence manufacturer's written installation instructions except as modified herein.

3.2.2.1 Post Spacing

Provide line posts spaced equidistantly apart, not exceeding [8 feet](#) on center.

3.2.3 Excavation

Provide excavations for post footings which are in virgin or compacted soil, of minimum sizes as indicated. Space footings for line posts [8 feet](#) on center maximum and at closer intervals when indicated, with bottoms of the holes approximately [3 inches](#) below the bottoms of the posts. Set bottom of each post not less than [36 inches](#) below finished grade when in firm, undisturbed soil. Set posts deeper, as required, in soft and problem soils and for heavy, lateral loads. Remove excavated soil from

Government property.

When solid rock is encountered near the surface, drill into the rock at least 12 inches for line posts and at least 18 inches for end, pull, corner, and gate posts. Drill holes at least 1 inch greater in diameter than the largest dimension of the placed post. If solid rock is below the soil overburden, drill to the full depth required except that penetration into rock need not exceed the minimum depths specified above.

3.2.4 Setting Posts

Remove loose and foreign materials from holes and moisten the soil prior to placing concrete. Provide tops of footings that are trowel finished and sloped or domed to shed water away from posts. Set hold-open devices, sleeves, and other accessories in concrete.

Keep exposed concrete moist for at least 7 calendar days after placement or cured with a membrane curing material, as approved. Grout all posts set into sleeved holes in concrete with an approved grouting material. Maintain vertical alignment of posts in concrete construction until concrete has set.

3.2.4.1 Earth

Provide concrete bases of dimensions indicated on the manufactures installation drawings. Compact concrete to eliminate voids, and finish to a dome shape.

3.2.4.2 Concrete Slabs and Walls

Set posts into zinc-coated sleeves, set in concrete slab or wall, to a minimum depth of 12 inches. Fill sleeve joint with lead, nonshrink grout, or other approved material. Set posts for support of removable fence sections into sleeves that provide a tight sliding joint and hold posts aligned and plumb without use of lead or setting material.

3.2.4.3 Bracing

Brace gate, corner, end, and pull posts to nearest post with a horizontal brace used as a compression member, placed at least 12 inches below top of fence, and two diagonal tension rods.

3.2.4.4 Tolerances

Provide posts that are straight and plumb within a vertical tolerance of 1/4 inch after the fabric has been stretched. Provide fencing and gates that are true to line with no more than 1/2 inch deviation from the established centerline between line posts. Repair defects as directed.

3.2.5 Concrete Strength

Provide concrete that has attained at least 75 percent of its minimum 28-day compressive strength, but in no case sooner than 7 calendar days after placement, before rails, tension wire, or fabric are installed. Do not stretch fabric and wires or hang gates until the concrete has attained its full design strength.

3.2.6 Top Rails

Provide top rails that run continuously through post caps or extension arms, bending to radius for curved runs. Provide expansion couplings as recommended by the fencing manufacturer.

3.2.7 Brace Assembly

Provide bracing assemblies at end and gate posts and at both sides of corner and pull posts, with the horizontal brace located at midheight of the fabric.

Install brace assemblies so posts are plumb when the diagonal rod is under proper tension. Provide two complete brace assemblies at corner and pull posts where required for stiffness and as indicated.

3.2.8 Tension Wire Installation

Install tension wire by weaving them through the fabric and tying them to each post with not less than 7-gauge galvanized wire or by securing the wire to the fabric with 10-gauge ties or clips spaced 24 inches on center.

3.2.9 Fabric Installation

Provide fabric in single lengths between stretch bars with bottom barbs placed approximately 1-1/2 inches above the ground line. Pull fabric taut and tied to posts, rails, and tension wire with wire ties and bands.

Install fabric on the security side of fence, unless otherwise directed. Ensure fabric remains under tension after the pulling force is released.

3.2.10 Stretcher Bar Installation

Thread stretcher bars through or clamped to fabric 4 inches on center and secured to posts with metal bands spaced 15 inches on center.

3.2.11 Tie Wires

Provide tie wires that are U-shaped to the pipe diameters to which attached. Twist ends of tie wires not less than two full turns and bent so as not to present a hazard.

3.2.12 Fasteners

Install nuts for tension bands and hardware on the side of the fence opposite the fabric side. Peen ends of bolts to prevent removal of nuts.

3.2.13 Zinc-Coating Repair

Clean and repair galvanized surfaces damaged by welding or abrasion, and cut ends of fabric, or other cut sections with specified galvanizing repair material applied in strict conformance with the manufacturer's printed instructions.

3.2.14 Accessories Installation

3.2.14.1 Post Caps

Install post caps as recommended by the manufacturer.

3.3 CLOSEOUT ACTIVITIES

Remove waste fencing materials and other debris from the work site.

3.4 Fence Removal

Prior to removal of the fence the Contractor shall coordinate with the Engineer as to if the fence should be salvaged. If the Engineer determines that fence should be salvaged the Contractor shall deliver the fence to a location approved by the Engineer. All associated hardware and appurtenances of the existing fence including but not limited to post, foundations, fittings, gates, and accessories shall be removed and disposed of by the Contractor. All post or foundation holes shall be backfilled and compacted to the satisfaction of the Engineer.

Any part of the fence that is not called out to be removed and damaged by the Contractor's work shall be replaced to the satisfaction of the Engineer at the expense of the Contractor.

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SEEDING

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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. DEPARTMENT OF AGRICULTURE (USDA)

AMS Seed Act (1940; R 1988; R 1998) Federal Seed Act

1.2 DEFINITIONS

1.2.1 Stand of Turf

95 percent ground cover of the established species.

1.3 RELATED REQUIREMENTS

Section 31 00 00 EARTHWORK and Section 32 05 33 LANDSCAPE ESTABLISHMENT applies to this section for pesticide use and plant establishment requirements, with additions and modifications herein.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Fertilizer

Include physical characteristics, and recommendations.

SD-07 Certificates

State Certification and Approval for Seed

SD-08 Manufacturer's Instructions

Erosion Control Materials

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery

1.5.1.1 Seed Protection

Protect from drying out and from contamination during delivery, on-site storage, and handling.

1.5.1.2 Fertilizer Delivery

Deliver to the site in original, unopened containers bearing manufacturer's chemical analysis, name, trade name, trademark, and indication of conformance to state and federal laws. Instead of containers, fertilizer may be furnished in bulk with certificate indicating the above information.

1.5.2 Storage

1.5.2.1 Seed and Fertilizer Storage

Store in cool, dry locations away from contaminants.

1.5.2.2 Topsoil

Prior to stockpiling topsoil, treat growing vegetation with application of appropriate specified non-selective herbicide. Clear and grub existing vegetation three to four weeks prior to stockpiling topsoil.

1.5.2.3 Handling

Do not drop or dump materials from vehicles.

1.6 TIME RESTRICTIONS AND PLANTING CONDITIONS

1.6.1 Restrictions

Do not plant when the ground is frozen, snow covered, muddy, or when air temperature exceeds 85 degrees Fahrenheit.

1.7 TIME LIMITATIONS

1.7.1 Seed

Apply seed within twenty four hours after seed bed preparation.

PART 2 PRODUCTS

2.1 SEED

2.1.1 Classification

Provide State-approved seed of the latest season's crop delivered in original sealed packages, bearing producer's guaranteed analysis for percentages of mixtures, purity, germination, weedseed content, and inert material. Label in conformance with AMS Seed Act and applicable state seed laws. Wet, moldy, or otherwise damaged seed will be rejected. Field mixes will be acceptable when field mix is performed on site in the presence of the Contracting Officer

Seed mixtures shall conform to IDOT mixture classes 1 and 6 as indicated in Section 250 of the latest edition of the Standard Specifications for Road and Bridge Construction in Illinois.

2.1.2 Planting Dates

Temporary seeding shall be established as requested and final seeding dates shall be coordinated with the Engineer.

2.2 TOPSOIL

2.2.1 On-Site Topsoil

Surface soil stripped and stockpiled on site and modified as necessary to meet the requirements specified for topsoil in paragraph COMPOSITION. When available topsoil must be existing surface soil stripped and stockpiled on-site in accordance with Section 31 00 00 EARTHWORK.

2.2.2 Off-Site Topsoil

Conform to requirements specified in paragraph COMPOSITION. Additional topsoil must be furnished by the Contractor.

2.2.3 Composition

Topsoil shall meet the requirements as specified in Section 1009 of the latest edition of the Illinois DOT Standard Specifications for Road and Bridge Construction.

2.3 FERTILIZER

2.3.1 Granular Fertilizer

Fertilizer shall meet the requirements as specified in Section 1081.08 of the latest edition of the Illinois DOT Standard Specifications for Road and Bridge Construction.

2.4 WATER

Source of water must be approved by Contracting Officer and of suitable quality for irrigation, containing no elements toxic to plant life.

2.5 EROSION CONTROL MATERIALS

Erosion control material must conform to the following:

2.5.1 Erosion Control Blanket

100 percent agricultural straw or 70 percent agricultural straw/30 percent coconut fiber matrix stitched with a degradable nettings, designed to degrade within 12 months.

2.5.2 Turf Reinforcement Mat

Provide Turf Reinforcement Mat in accordance with Section 251 of the latest edition of the Illinois DOT Standard Specifications for Road and Bridge Construction.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 EXTENT OF WORK

Provide soil preparation prior to planting (including soil conditioners as required), fertilizing, seeding, and surface topdressing of all newly graded finished earth surfaces, unless indicated otherwise, and at all areas inside or outside the limits of construction that are disturbed by the Contractor's operations.

3.1.1.1 Topsoil

Provide 4 inches of off-site topsoil or on-site topsoil to meet indicated finish grade. After areas have been brought to indicated finish grade, incorporate fertilizer into soil a minimum depth of 4 inches by disking, harrowing, tilling or other method approved by the Contracting Officer. Remove debris and stones larger than 3/4 inch in any dimension remaining on the surface after finish grading. Correct irregularities in finish surfaces to eliminate depressions. Protect finished topsoil areas from damage by vehicular or pedestrian traffic.

3.1.1.2 Fertilizer Application Rates

Install fertilizer in accordance with Section 250 of the latest edition of the Illinois DOT Standard Specifications for Road and Bridge Construction.

3.2 SEEDING

3.2.1 Seed Application Seasons and Conditions

Immediately before seeding, restore soil to proper grade. Do not seed when ground is muddy, frozen, snow covered, or in an unsatisfactory condition for seeding. If special conditions exist that may warrant a variance in the above seeding dates or conditions, submit a written request to the Contracting Officer stating the special conditions and proposed variance. Apply seed within twenty four hours after seedbed preparation. Sow seed by approved sowing equipment. Sow one-half the seed in one direction, and sow remainder at right angles to the first sowing.

3.2.2 Seed Application Method

Install Seed in accordance with Section 250 of the latest edition of the Illinois DOT Standard Specifications for Road and Bridge Construction.

3.2.3 Rolling

Immediately after seeding, firm entire area except for slopes in excess of 3 to 1 with a roller not exceeding 90 pounds for each foot of roller width.

3.2.4 Erosion Control Material

Install in accordance with manufacturer's instructions, where indicated or as directed by the Contracting Officer.

3.2.5 Watering

Start watering areas seeded as required by temperature and wind

conditions. Apply water at a rate sufficient to insure thorough wetting of soil to a depth of 2 inches without run off. During the germination process, seed is to be kept actively growing and not allowed to dry out.

3.3 PROTECTION OF TURF AREAS

Immediately after turfing, protect area against traffic and other use.

3.4 RESTORATION

Restore to original condition existing turf areas which have been damaged during turf installation operations at the Contractor's expense. Keep clean at all times at least one paved pedestrian access route and one paved vehicular access route to each building. Clean other paving when work in adjacent areas is complete.

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UTILITY HORIZONTAL DIRECTIONAL DRILLING

11/19

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Statement of [Qualifications](#) and Records; [G](#), [CS](#)[Horizontal Directional Drilling Plan](#); [G](#), [CS](#)

SD-03 Product Data

Pipe; [G](#), [CS](#)Drilling Fluids; [G](#), [CS](#)Additives; [G](#), [CS](#)

SD-07 Certificates

Drill Rod

SD-11 Closeout Submittals

Record Drawings

Complete Work Logs of Guided Directional Drill Operations

1.2 QUALITY CONTROL

1.2.1 [Qualifications](#)

Ensure that the field supervisor and workers assigned to this project are experienced in work of this nature and have successfully completed similar projects of similar length, pipe type, pipe size, and soil type using directional drilling in the last three (3) years. As part of the bid submission, submit project descriptions which include, at a minimum, a listing of the location(s), date of project(s), owner, pipe type and material, size installed, length of installation, manufacturer of equipment used, and other information relevant to the successful completion of the project.

1.2.2 Safety

Include in directional drilling equipment machine safety requirements a common grounding system to prevent electrical shock in the event of

underground electrical cable strike. Ensure the grounding system connects all pieces of interconnecting machinery; the drill, mud mixing system, drill power unit, drill rod trailer, operator's booth, worker grounding mats, and any other interconnected equipment to a common ground. Equip the drill with an "electrical strike" audible and visual warning system that notifies the system operators of an electrical strike.

1.2.3 Horizontal Directional Drilling Plan

Provide a plan prepared, signed, and sealed by a licensed Professional Engineer. Submit supporting calculations, certifications, and material product data demonstrating the strength of the product pipes for acceptance before the beginning of the installation. Demonstrate that the proposed material satisfies the purpose of the utility and withstands the design and construction stresses and pressures. The HDD Plan shall include the following:

1.2.3.1 Layout Plan

Provide a plan location of the operation, including entry and exit points, discussing the relationship of the equipment, pipe assembly, and staging areas.

1.2.3.2 Utility Profile

Provide a profile of the utility plotted at a scale appropriate for the work.

1.2.3.3 Equipment List

Provide a directional drilling equipment list including: drilling rig, drill bit, back-reamer, mud mixing and pumping systems, down-hole tools, guidance system, and rig safety system. Provide calibration records for guidance system.

1.2.3.4 Drilling Fluid Management Plan

Provide a drilling fluid management plan to include drilling fluid types and specifications, cleaning and recycling equipment, estimated flow rates, procedures for minimizing drilling fluid escape, and the method/location for final disposal of waste drilling fluids. Provide a frac out control plan, including frac control materials that will be onsite and contact information for emergency personnel.

1.2.3.5 Pedestrian Access

When and where installations disrupt pedestrian use of sidewalk for periods exceeding two consecutive days, provide an alternate route that meets current ADA requirements.

1.2.3.6 Method and Procedures

Provide an outline of the methods and procedures, describing the pilot hole drilling procedure, the reaming operation, and the pullback procedure, including drawings, schedule of operations, specifications, and method of operation. Include pipe storage and handling details and pipeline assembly and installation procedures.

1.2.3.7 Safety Data Sheets

Submit safety data sheets for fluids and additives.

1.2.3.8 Revisions

If site conditions change and require modification to the HDD Plan, submit revised drilling plan to achieve successful installation. Explain, in the revised submittal, the anticipated and encountered conditions that mandated the change in plans.

1.3 DELIVERY, STORAGE, AND HANDLING

Inspect materials delivered to the site for damage. All materials found during inspection or during the progress of work to have cracks, flaws, surface abrasions, or other defects will be rejected. Remove defective materials from the job site.

Protect stored piping from moisture and dirt and place on level surface. Store plastic piping protected from direct sunlight.

PART 2 PRODUCTS

2.1 EQUIPMENT

2.1.1 Drill Rod

Select the appropriate drill rod to be used. Submit certified statement that the [drill rod](#) has been inspected and is in satisfactory condition for its intended use.

2.2 MATERIALS

2.2.1 [Pipe](#)

2.2.1.1 Type K Copper Tubing

Install Type K Copper tubing in accordance with Section 33 11 00 WATER UTILITY DISTRIBUTION PIPING.

2.2.2 [Drilling Fluids](#)

Use a high quality bentonite or other approved drilling fluid to ensure hole stability, cuttings transport, bit and electronics cooling, and hole lubrication to reduce drag on the drill pipe and the product pipe. Use only fluid with a composition which complies with all Federal, State, and local environmental regulations.

2.2.3 [Additives](#)

Use admixtures as required to address soil conditions and water conditions such as water hardness, acidity, and alkalinity.

PART 3 EXECUTION

3.1 INSTALLATION

Ensure all utilities are located and clearly marked prior to start of excavation or drilling.

3.1.1 Drill Set-Up

Design and construct the drill entrance and exit pits.

3.1.1.1 Drilling Fluids

Mix the bentonite or other approved drilling fluid with potable water (of proper pH) to ensure no contamination is introduced into the soil during the drilling, reaming, or pipe installation process. Make any required additive adjustments.

3.1.2 Drill Entrance and Exit Pits

Drill entrance and exit pits are required. Maintain at minimum size to allow only the minimum amount of drilling fluid storage prior to transfer to mud recycling or processing system or removal from the site.

Do not allow drilling mud to flow freely on the site or around the entrance or exit pits. Remove spilled mud and restore ground to original condition.

3.1.3 Drill Entrance and Exit Angle

Ensure entrance and exit angles and elevation profile maintains adequate cover to reduce risk of drilling fluid breakouts and ground exit occurs as specified herein. Ensure that entrance and exit angles generate pullback forces that do not exceed manufacturer's recommended value.

3.1.4 Pilot Hole

The type and size of the pilot string cutting head and the diameter of the drill pipe are at the Contractor's discretion.

Drill the pilot hole along the path shown on the plan and profile drawings. Pilot hole tolerances are as follows:

- a. Vertical Tolerance: Maintain 5.5' of vertical cover.
- b. Horizontal Tolerance: Install at locations as directed by the Contracting Officer in the field.
- c. Curve Radius: No curve is acceptable with a radius less than 100 feet or as directed by Contracting Officer in the field.
- d. Entry Point Location: Make pilot hole entry point as directed by the Contracting Officer in the field.
- e. Exit Point Location: Make the exit point location as directed by the Contracting Officer in the field.
- f. Mandatory pipeline cover requirements are as shown on the drawings or as specified.

3.1.5 Guidance Systems

Walkover guidance systems are not acceptable for this project; use a magnetic survey tool locator installed behind the pilot string cutting head and an electric grid (tru-tracker) system for this project. Ensure

proper calibration of all equipment before commencing directional drilling operation.

3.1.6 Reaming

Conduct reaming operations at the Contractor's discretion. Determine the type of back reamer to be utilized by the type of subsurface soil conditions that are encountered during the pilot hole drilling operation. The reamer type is at the Contractor's discretion.

3.1.7 Pull Back

Fully assemble the entire pipeline to be installed via direction drill prior to commencement of pull back operations.

Support the pipeline during pullback operations in a manner to enable it to move freely and prevent damage. Install the pipeline in one continuous pull.

Minimize torsion stress by using a swivel to connect the pull section to the reaming assembly.

Maximum allowable tensile force imposed on the pull section is not to exceed 90 percent of the pipe manufacturer's safe pull (or tensile) strength. If the pull section is made up of multiple pipe size or materials, the lowest safe pull strength value governs and the maximum allowable tensile force is not to exceed 90 percent of this value.

Minimize external pressure during installation of the pullback section in the reamed hole. Replace damaged pipe resulting from external pressure at no cost to the Government. Buoyancy modification is at the discretion of the Contractor.

3.1.8 Drilling Fluids Disposal

Collect drilling fluid returns in the entrance pit, exit pit, or spoils recovery pit. Immediately clean up any drilling fluid spills or overflows from these pits.

Dispose of fluids in a manner that is in compliance with all permits and applicable Federal, State, and local regulations. Disposal of the drilling fluids may occur on approved land owned by the Government subject to written approval from the Contracting Officer. Spread the drilling slurry over the Government-approved disposal area and plow into the soil.

Conduct disposal in compliance with all relative environmental regulations, right-of-way and work space agreements, and permit requirements.

3.2 FIELD QUALITY CONTROL

3.2.1 Daily Work Log

Maintain a work log of construction events and operations including, but not limited to, the following for each day's work:

- a. Hours worked.
- b. Log of each drill rod added or withdrawn during drilling, reaming, and

pull back.

- c. Groundwater control operations.
- d. Description of soil conditions encountered.
- e. Tools and equipment in use, drilling fluid, fluid pumping rate, and drilling head location.
- f. Any unusual conditions or events.
- g. Reasons for operational shutdown in event work is halted.

3.2.2 Drill Logs

Maintain drilling logs that accurately provide drill bit location (both horizontally and vertically) at least every 2 feet along the drill path. In addition, keep logs that record, as a minimum the following, every 15 minutes throughout each drill pass, back ream pass, or pipe installation pass:

- a. Drilling Fluid Pressure
- b. Drilling Fluid Flow Rate
- c. Drill Thrust Pressure
- d. Drill Pullback Pressure
- e. Drill Head Torque

Make all instrumentation, readings, and logs available to the Contracting Officer at all times during operation.

3.2.3 Field Tests

Perform field tests and provide labor, equipment, and incidentals required for testing. Submit test results, identifying any results that do not meet requirements, to the Contracting Officer within four days of test completion. Provide corrective action and retest pipe not meeting requirements. Provide corrective action as recommended by the pipe manufacturer and subject to approval by the Contracting Officer.

3.3 CLOSEOUT ACTIVITIES

Immediately upon completion of work, remove all rubbish and debris from the job site. Remove all construction equipment and implements of service leaving the entire area involved in a neat condition acceptable to the Contracting Officer.

Immediately clean "blow holes" or "breakouts" of drilling fluid to the surface and return the surface area to its original condition. Dispose of all drilling fluids, soils, and separated materials in compliance with Federal, State, and local environmental regulations.

Submit an electronic copy and three hard copies of the record drawings to the Contracting Officer within five days after completing the pull back. Include in the record drawings a plan, profile, and all information recorded during the progress of the work. Clearly tie the record drawings

to the project's survey control. Maintain, and submit upon completion,
signed [complete work logs of guided directional drill operations](#).

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SECTION 33 11 00

WATER UTILITY DISTRIBUTION PIPING
02/18, CHG 1: 02/22

PART 1 GENERAL

1.1 UNIT PRICES

Measurement and payment will be based on completed work performed in accordance with the drawings, specifications, and the Contract payment schedules.

1.1.1 Measurement

The length of water lines will be determined by measuring along the centerlines of the various sizes of pipe provided. Pipe will be measured from center of fitting to center of fitting. No deduction will be made for the space occupied by valves or fittings.

1.1.2 Payment

Payment will be made for water main at the Contract unit price per linear foot for the various types and sizes of water lines, and will be full compensation for all pipes, joints, specials, fittings, excavation, disposal of materials, trench backfill when under and within 2-feet of pavement, complete and in place. Payment for fire hydrants, valves & boxes, and water services will be made at the respective Contract unit price each for such items complete and in place. Payment will include providing all testing, plant, labor, and material and incidentals necessary to complete the work, as specified and as shown.

1.1.3 Lead Services

Lead services are not expected as a part of this project. However, in the event that a lead service is discovered, all work must cease and the Village of Richton Park Public Works and the Design Engineer shall be contacted immediately for further direction.

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 B1.20.1	(2013; R 2018) Pipe Threads, General Purpose (Inch)
ASME B1.20.3	(1976; R 2013) Dryseal Pipe Threads (Inch)
ASME B16.18	(2021) Cast Copper Alloy Solder Joint Pressure Fittings
ASME B16.26	(2018) Standard for Cast Copper Alloy Fittings for Flared Copper Tubes

ASME B18.2.2 (2022) Nuts for General Applications:
Machine Screw Nuts, and Hex, Square, Hex
Flange, and Coupling Nuts (Inch Series)

ASME B18.5.2.1M (2006; R 2011) Metric Round Head Short
Square Neck Bolts

ASME B18.5.2.2M (1982; R 2010) Metric Round Head Square
Neck Bolts

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA B300 (2018) Hypochlorites

AWWA B301 (2018) Liquid Chlorine

AWWA C111/A21.11 (2017) Rubber-Gasket Joints for
Ductile-Iron Pressure Pipe and Fittings

AWWA C219 (2017) Bolted Sleeve-Type Couplings for
Plain-End Pipe

AWWA C500 (2019) Metal-Seated Gate Valves for Water
Supply Service

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 C605 (2021) Underground Installation of
Polyvinyl Chloride (PVC) and Molecularly
Oriented Polyvinyl Chloride (PVC0)
Pressure Pipe and Fittings

AWWA C651 (2014) Standard for Disinfecting Water
Mains

AWWA C655 (2009) Field Dechlorination

AWWA C800 (2021) Underground Service Line Valves and
Fittings

AWWA M23 (2020) Manual: PVC Pipe - Design and
Installation - Third Edition

ASTM INTERNATIONAL (ASTM)

ASTM A307 (2021) Standard Specification for Carbon
Steel Bolts, Studs, and Threaded Rod 60
000 PSI Tensile Strength

ASTM A536	(1984; R 2019; E 2019) Standard Specification for Ductile Iron Castings
ASTM A563	(2015) Standard Specification for Carbon and Alloy Steel Nuts
ASTM B32	(2020) Standard Specification for Solder Metal
ASTM B61	(2015; R 2021) Standard Specification for Steam or Valve Bronze Castings
ASTM B62	(2017) Standard Specification for Composition Bronze or Ounce Metal Castings
ASTM B88	(2020) Standard Specification for Seamless Copper Water Tube

UNDERWRITERS LABORATORIES (UL)

UL 262	(2004; Reprint Oct 2011) Gate Valves for Fire-Protection Service
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UNI-BELL PVC PIPE ASSOCIATION (UBPPA)

UBPPA UNI-PUB-08	(2016) Tapping Guide for PVC Pressure Pipe
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1.3 DEFINITIONS

1.3.1 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.

1.3.2 Water Service Lines

Water service lines include water piping from a water main to a building service at a point approximately 2 feet from Right-of-Way or the point indicated on the drawings, specific materials, methods of joining and any appurtenances deemed necessary for a satisfactory system.

1.3.3 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" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Connections; G, CS

SD-03 Product Data

Piping, Fittings, Joints and Couplings; G, CS, AE

Valves; G, CS, AE

Gate Valves and Valve Boxes; G, CS, AE

Curb Boxes; G, CS, AE

Fire Hydrants; G, CS, AE

Pipe Restraint; G, CS, AE

Tapping Saddles; G, CS, AE

Corporation and Curb Stops; G, CS, AE

Precast Concrete Thrust Blocks; G, CS

Disinfection Procedures; G, CS, AE

SD-06 Test Reports

Bacteriological Testing; G, CS, AE

Leakage Test

Hydrostatic Test

SD-07 Certificates

Piping, Fittings, Joints and Couplings

Valves

Fire Hydrants

SD-08 Manufacturer's Instructions

Copper Pipe For Service Lines

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 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, fire hydrants, and other accessories free of dirt and debris or other contaminants.

1.5.2 Handling

Handle pipe, fittings, valves, fire hydrants, 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 PVC pipe, fittings, and accessories in accordance with AWWA C605.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Piping Materials

2.1.1.1 Piping, Fittings, Joints, and Couplings

Stainless steel nuts and bolts shall be provided on all mechanical joints. Mechanical joints shall:

- Consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10. The devices shall have a working pressure rating of at least 250 psi and must include a minimum safety factor of 2:1 in all sizes.
- Consist of a Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.

Precast concrete block or poured concrete thrust blocks shall be provided as secondary joint restraint.

Fittings shall be cement lined, compact mechanical joint, ductile cast iron, Pressure Class 250 meeting the requirements of AWWA C-153 with rubber gasket joints meeting the requirements of AWWA C-111. Joint restraint shall be provided on all fittings.

Pipes shall be Polyvinyl Chloride (PVC), with a pressure rating of 235 psi, DR-18, meeting the requirements of AWWA C-900 with ASTM D3139 joints. Pipe gaskets shall be elastomeric seals for joining PVC pipe meeting the requirements of ASTM F477.

Bedding shall be meet the requirements of IDOT type CA-6 or CA-7 from a source approved by the OWNER and placed to the limits shown on the Detail Sheet. Trench backfill as required (see Plans).

Tracer wire shall be #12 AWG single strand copper wire with blue colored 30 mil minimum thickness HDPE insulation. Tracer wire shall be placed above the pipe within the limits of the bedding and extend through all

valves, vaults and fittings and shall be brought up into and to the top of valve boxes for means of future conductive tracing at locations to be approved by the ENGINEER. The material shall be approved by the ENGINEER prior to installation.

All backfill in non-paved areas shall be mechanically compacted to at least 90% standard proctor density. Water jetting shall not be allowed.

2.1.1.2 Casing Pipe

Pipe Material	Pipe Specifications	Joint Specifications
4-inch to 36-inch	ASTM D2241	ASTM D3139
4-inch to 12-inch	AWWA C900	ASTM D3139
14-inch to 48-inch	AWWA C905	ASTM D3139

Casing ends shall be rubber transitional boot with two stainless steel bands. Tracer wire shall be bonded to the casing. Carrier pipe must be removable from casing in either direction. Casing spacers shall be restrained stainless steel.

2.1.1.3 Copper Pipe For Service Lines

2.1.1.3.1 Copper Tubing and Associated Fittings

Provide ASTM B88, Type K copper tubing. Provide AWWA C800 fittings. AWWA C800 includes ASME B1.20.3, ASME B1.20.1, ASME B16.18 solder-type joint fittings.

2.1.2 Tapping Saddles

Provide stainless steel saddle. Tap, band, lifter bars, washers, and stainless steel nuts and studs shall be Type 304 stainless steel.

2.1.3 Valves

Provide a protective interior coating in accordance with AWWA C550.

2.1.3.1 Gate Valves and Valve Boxes

Gate valves shall have a resilient seat in accordance with AWWA C509/C515. Gate valves shall be furnished with "O" ring stem seals, non-rising stem, and shall open counter-clockwise. All gate valves shall be mechanical joint in accordance with ANSI/AWWA C111/A21.1. Stainless steel nuts and bolts shall be provided on all mechanical joints. Mechanical joints per Section 2.1.1.1 shall be provided as joint restraint. Concrete blocks and a minimum of 4-inches of CA-6 or CA-7 stone shall be provided under the gate valve.

Contractor shall provide adjustable screw type valve boxes on valves. The valve box shall be compatible with the size and type of valve protected. Extend the box to finished grade. Valve box shall be produced with Class 35 cast iron in accordance with and meeting all applicable terms and provisions of ASTM A48.

Installation shall be per AWWA M44, Manual of Water Supply Practices. The asphaltic bituminous coating shall be applied to a minimum thickness of 1.5 mil and the coating once dry shall be neither brittle when cold or sticky when exposed to the sun.

Tracer wire from the main shall extend alongside the valve box and be wrapped three full turns around the circumference of the valve box near the finished grade.

2.1.4 Fire Hydrants

2.1.4.1 Fire Hydrants

The hydrant model shall match what is designated in the plans. Provide fire hydrant extensions if required.

2.1.5 Disinfection

Chlorinating materials are to conform to: Chlorine, Liquid: AWWA B301; Hypochlorite, Calcium and Sodium: AWWA B300.

2.2 ACCESSORIES

2.2.1 Pipe Restraint

2.2.1.1 Precast Thrust Blocks

Provide precast concrete thrust blocks.

2.2.1.2 Joint Restraint

Stainless steel nuts and bolts shall be provided on all mechanical joints. Mechanical joints per Section 2.1.1.1 shall be provided as joint restraint.

2.2.2 Sleeve-Type Mechanical Couplings

Use AWWA C219 couplings to join plain-end piping by compression of a ring gasket at each end of the adjoining pipe sections. The coupling consists of one middle ring flared or beveled at each end to provide a gasket seat; two follower rings; two resilient tapered rubber gaskets; and bolts and nuts to draw the follower rings toward each other to compress the gaskets. Provide true circular middle ring and the follower rings sections free from irregularities, flat spots, and surface defects; provide for confinement and compression of the gaskets. For PVC pipe, use ASTM A536 ductile iron. Use gaskets for resistance to set after installation and to meet the requirements specified for gaskets for mechanical joint in AWWA C111/A21.11. Provide track-head type bolts ASTM A307, Grade A, with ASTM A563, Grade A nuts or round-head square-neck type ASME B18.5.2.2M or ASME B18.5.2.1M bolts with ASME B18.2.2 hex nuts. Provide 5/8 inch diameter bolts. Shape bolt holes in follower rings to hold fast to the necks of the bolts used. Do not use mechanically coupled joints using a sleeve-type mechanical coupling as an optional method of jointing except where pipeline is adequately anchored to resist tension pull across the joint. Provide a tight flexible joint with mechanical couplings under reasonable conditions, such as pipe movements caused by expansion, contraction, slight settling or shifting in the ground, minor variations in trench gradients, and traffic vibrations. Match coupling strength to that of the adjoining pipeline.

2.2.3 Insulating Joints

Provide a rubber-gasketed insulating joint or dielectric coupling between pipe of dissimilar metals which will effectively prevent metal-to-metal contact between adjacent sections of piping.

2.2.4 Tracer Wire for Nonmetallic Piping

Provide a continuous bare copper or aluminum wire not less than 0.10 inch in diameter in sufficient length over each separate run of nonmetallic pipe.

2.2.5 Water Service Line Appurtenances

2.2.5.1 Corporation and Curb Stops

Corporation Stop:

Ground key type; lead-free bronze, ASTM B61 or ASTM B62; compatible with the working pressure of the system and solder-joint, or flared tube compression type joint. Threaded ends for inlet and outlet of corporation stops, AWWA C800; coupling nut for connection to flared copper tubing, ASME B16.26.

Curb/Service Stop:

Ground key, round way, inverted key type; made of lead-free bronze, ASTM B61 or ASTM B62; and compatible with the working pressure of the system. Provide compatible ends for connection to the service piping. Cast an arrow into body of the curb or service stop indicating direction of flow.

2.2.5.2 Service Clamps

Provide single or double flattened strap type service clamps used for repairing damaged cast-iron, steel or PVC pipe with a pressure rating not less than that of the pipe being repaired. Provide clamps with a galvanized malleable-iron body with cadmium plated straps and nuts and a rubber gasket cemented to the body.

2.2.5.3 Curb Boxes

Provide a curb box for each curb or service stop manufactured from cast iron, size capable of containing the stop where it is used. Provide a round head. Cast the word "WATER" on the lid. Factory coat the box with a heavy coat of bituminous paint.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Field Locate Existing Water Services

Contractor shall field locate and verify all water services that will be replaced and/or disrupted during the construction of the watermain at no additional costs.

3.1.2 Field Locate Existing Watermain

Where shown on the Plans or as required, Contractor shall pothole the existing watermain with a vacuum excavator to determine its elevation, location, and size. The work shall be backfilled with granular material if under or within 2-feet of pavement.

3.1.3 Connections to Existing System

Perform all **connections** to the existing water system in the presence of the Contracting Officer. Coordinate water shut down with Village of Richton Park. Perform line stops (when necessary) into the existing water main in accordance with the manufacturer's recommendations. Contractor shall furnish the tapping sleeve and the work shall include the installation of line stop plug and capping of the tapping sleeve.

3.1.4 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.

3.1.5 Earthwork

Perform earthwork operations in accordance with Section **31 00 00 EARTHWORK**.

3.2 INSTALLATION

Install all materials in accordance with the applicable reference standard, manufacturers instructions and as indicated herein.

3.2.1 Piping

3.2.1.1 General Requirements

Install pipe, fittings, joints and couplings in accordance with the applicable referenced standard, the manufacturer's instructions and as specified herein.

3.2.1.1.1 Termination of Water Lines

Terminate the work covered by this section at a point approximately **2 feet** from the Right-of-Way, unless otherwise indicated.

Do not lay water lines in the same trench with gas lines, fuel lines, electric wiring, or any other utility. Do not install copper tubing in the same trench with ferrous piping materials. Where nonferrous metallic pipe (i.e., copper tubing) crosses any ferrous piping, provide a minimum vertical separation of **18 inches** between pipes.

3.2.1.1.2 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. 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. 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. 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. 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. Provide a minimum of 4 1/2 feet depth of cover over top of pipe.

3.2.1.1.3 Tracer Wire

Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe. Attach wire to top of pipe in such manner that it will not be displaced during construction operations.

3.2.1.1.4 Connections to Existing Water Lines

Make connections to existing water lines after coordination with the facility 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.

3.2.1.1.5 Sewer Manholes

No water piping is to pass through or come in contact with any part of a sewer manhole.

3.2.1.1.6 Water Piping Parallel With Sewer Piping

Where the location of the water line is not clearly defined by dimensions on the drawings, do not lay water line closer than 10 feet, horizontally, from any sewer line.

3.2.1.1.7 Water Piping Crossing Sewer Piping

Provide at least 18 inches above the top (crown) of the sewer piping and the bottom (invert) of the water piping whenever possible. Measure the distance edge-to-edge. Where water lines cross under gravity sewer lines, construct sewer line of AWWA compliant ductile iron water piping with rubber-gasketed joints and no joint located within 10 feet, horizontally, of the crossing.

3.2.1.2 PVC Water Main Pipe

Unless otherwise specified, install pipe and fittings in accordance with the paragraph GENERAL REQUIREMENTS and with the requirements of AWWA C605 for laying of pipe, joining PVC pipe to fittings and accessories, setting of fire hydrants, valves, and fittings; and with the recommendations for pipe joint assembly and appurtenance installation in AWWA M23, Chapter 7, "Installation."

- a. Jointing: Make push-on joints with the elastomeric gaskets specified

for this type joint, using either elastomeric-gasket bell-end pipe or elastomeric-gasket couplings. For pipe-to-pipe push-on joint connections, use only pipe with push-on joint ends having factory-made bevel; for push-on joint connections to metal fittings, valves, and other accessories, cut spigot end of pipe off square and re-bevel pipe end to a bevel approximately the same as that on ductile-iron pipe used for the same type of joint. Use a lubricant recommended by the pipe manufacturer for push-on joints. Assemble push-on joints for pipe-to-pipe joint connections in accordance with the requirements of [AWWA C605](#) for laying the pipe and the recommendations in [AWWA M23](#), Chapter 7, "Installation," for pipe joint assembly. Assemble push-on joints for connection to fittings, valves, and other accessories in accordance with the requirements of [AWWA C605](#) for joining PVC pipe to fittings and accessories and with the requirements of [AWWA C600](#) for joint assembly. Make compression-type joints/mechanical joints with the gaskets, glands, bolts, nuts, and internal stiffeners previously specified for this type joint; assemble in accordance with the requirements of [AWWA C605](#) for joining PVC pipe to fittings and accessories, with the requirements of [AWWA C600](#) for joint assembly, and with the recommendations of Appendix A to [AWWA C111/A21.11](#). Cut off spigot end of pipe for compression-type joint/mechanical-joint connections and do not re-bevel. Assemble joints made with sleeve-type mechanical couplings in accordance with the recommendations of the coupling manufacturer using internal stiffeners as previously specified for compression-type joints.

- b. Joint Offset: Construct joint offset in accordance [AWWA C605](#). Do not exceed the minimum longitudinal bending as indicated by [AWWA C605](#).
- c. Fittings: Install in accordance with [AWWA C605](#).

3.2.1.3 Casing Pipe

Install rubber casing end seals as recommended by the Manufacturer.
Install casing spacers as recommended by the Manufacturer.

3.2.1.4 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.

3.2.1.4.1 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.

3.2.1.4.2 Joints for Copper Tubing

Cut copper tubing with square ends; remove fins and burrs. Replace dented, gouged, or otherwise damaged tubing with undamaged tubing. Make solder joints using [ASTM B32](#), 95-5 tin-antimony or Grade Sn96 solder. Use solder and flux containing less than 0.2 percent lead. Before making joint, clean ends of tubing and inside of fitting or coupling with wire brush or abrasive. Apply a rosin flux to the tubing end and on recess inside of fitting or coupling. Insert tubing end into fitting or coupling

for the full depth of the recess and solder. For compression joints on flared tubing, insert tubing through the coupling nut and flare tubing.

3.2.1.4.3 Flanged Joints

Make flanged joints up tight, avoid undue strain on flanges, valves, fittings, and accessories.

3.2.1.5 Water Service Piping

3.2.1.5.1 Location

Connect water service piping to the building service where the building service has been installed. Where building service has not been installed, terminate water service lines approximately 2 feet from the right-of-way at the points indicated; close such water service lines with plugs or caps.

3.2.1.5.2 Water Service Line Connections to Water Mains

Connect water service lines to the main as indicated. Connect water service lines to PVC water mains in accordance with UBPPA UNI-PUB-08 and the recommendations of AWWA M23, Chapter 9, "Service Connections."

3.2.2 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. Disinfect new water piping in accordance with the latest edition of the Standard Specifications for Sewer & Water Construction in Illinois.

3.2.3 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.

3.2.4 Pipe Restraint

3.2.4.1 Concrete Thrust Blocks

Install concrete thrust blocks where indicated.

3.2.4.2 Restrained Joints

Install restrained joints in accordance with the manufacturer's instructions.

3.2.5 Valves

3.2.5.1 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 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 Fire Hydrants

Install fire hydrants in accordance with AWWA C600 for fire hydrant installation and as indicated. Make and assemble joints as specified for making and assembling the same type joints between pipe and fittings. Install fire hydrants with the 4 1/2 inch connections facing the adjacent paved surface. If there are two paved adjacent surfaces, install fire hydrants with the 4 1/2 inch connection facing the paved surface where the connecting main is located. Install fire hydrant extensions if required.

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 Hydrostatic Test

Perform Hydrostatic Test in accordance with the latest edition of the Standard Specifications for Water & Sewer Construction in Illinois.

3.3.1.2 Leakage Test

For leakage test, perform in accordance with the latest edition of the Standard Specifications for Water & Sewer Construction in Illinois.

3.3.1.3 Bacteriological Testing

Perform bacteriological tests in accordance with the latest edition of the Standard Specifications for Water & Sewer Construction in Illinois.

3.3.1.4 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 ABANDON EXISTING WATERMAIN

Abandonment of existing water main shall not commence until hydrostatic and disinfection test results for the new main have been accepted by the Engineer. The Contractor shall contact the Engineer a minimum of 48 hours in advance of abandonment activities to schedule Village water crews to coordinate valve operation. Water customers affected by water service disruption due to water main abandonment shall be notified by written flyer delivered by the Contractor a minimum of 24 hours in advance of scheduled water service disruption. Scheduled water service disruptions are limited to a maximum of 4 hours.

Abandonment of existing main shall include the removal of all valves, hydrants, and appurtenances within the reach to be abandoned. All valves and hydrants to be abandoned shall be salvaged and delivered to the Village Public Works Facility and placed as directed by the Engineer. Removed materials not identified to be salvaged shall become the property of the Contractor and properly disposed of. Removed or salvaged materials shall not be used in new main installation.

At all locations indicated on the plans, a minimum of 4 feet of water main shall be removed capped and the appropriate thrust restraint installed.

Existing valves to be abandoned shall include removing the valve, valve box, and cover in its entirety.

Abandonment of appurtenances located in any structure (manhole, vault, etc.) shall include the complete removal and proper disposal of the appurtenance and the structure.

Abandonment of valves, hydrants, and appurtenances shall include the installation of the requisite number of mechanical joint caps as necessary to seal all pipe remaining in place.

3.6 CLEANUP

Upon completion of the installation of water lines and appurtenances, remove all debris and surplus materials resulting from the work.

-- End of Section --

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DIVISION 33 - UTILITIES

SECTION 33 30 00

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05/18

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SECTION 33 30 00

SANITARY SEWERAGE
05/18

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D412	(2016) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
ASTM D624	(2000; R 2020) Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
ASTM D2321	(2020) Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
ASTM F477	(2014; R 2021) Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor's License; G, CSCS

SD-03 Product Data

Frames, Covers, and Gratings

Gravity Pipe

1.3 QUALITY CONTROL

1.3.1 Installer Qualifications

Install specified materials by a licensed underground utility Contractor licensed for such work in the state where the work is to be performed. Verify installing Contractor's License is current and state certified or

state registered.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Delivery and Storage

Check upon arrival; identify and segregate as to types, functions, and sizes. Store off the ground in a manner affording easy accessibility and not causing excessive rusting or coating with grease or other objectionable materials.

1.4.1.1 Piping

Inspect materials delivered to site for damage; store with minimum of handling. Store materials on site in enclosures or under protective coverings. Store plastic piping and jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.

1.4.2 Handling

Handle pipe, fittings, and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition. Carry, do not drag, pipe to trench. Store solvents, solvent compounds, lubricants, elastomeric gaskets, and any similar materials required to install the plastic pipe in accordance with the manufacturer's recommendation and discard those materials if the storage period exceeds the recommended shelf life. Discard solvents in use when the recommended pot life is exceeded.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

2.1.1 Sanitary Sewer Gravity Pipeline

Provide polyvinyl chloride (PVC) plastic pipe. Provide new and modify existing exterior sanitary gravity sewer piping and appurtenances. Provide each system complete and ready for operation. The exterior sanitary gravity sewer system includes equipment, materials, installation, and workmanship as specified herein.

2.2 MATERIALS

Provide materials conforming to the respective specifications and other requirements specified below. Submit manufacturer's product specification, standard drawings or catalog cuts.

2.2.1 Gravity Pipe

2.2.1.1 Ductile Iron Gravity Pipe and Fittings

Ductile iron pipe shall conform to ANSI A 21.51 (AWWA C-151), class thickness designed per ANSI A 21.50 (AWWA C-150), tar (seal) coated and cement lined per ANSI A 21.4 (AWWA C-104), with mechanical or rubber ring (slip seal or push on) joints. All ductile iron pipe shall be wrapped with polyethylene.

2.2.1.2 PVC Gravity Sewer Piping

2.2.1.2.1 PVC Gravity Pipe and Fittings

Pipe Material	Pipe Specifications	Joint Specifications
Polyvinyl Chloride (PVC) Pipe		
6-Inch to 15-Inch Diameter SDR 26	ASTM D-3034	ASTM D-3212
Watermain Quality PVC		
4-Inch to 36-Inch SDR 26	ASTM D-2241	ASTM D-3139
4-Inch to 12-Inch DR18	AWWA C900	ASTM D-3139

2.2.1.2.2 PVC Gaskets

Gaskets are to conform to [ASTM F477](#).

2.2.2 Cement Mortar

Provide cement mortar conforming to [ASTM C270](#), Type M with Type II cement.

2.2.3 Gaskets and Connectors

Provide gaskets for joints between manhole sections conforming to [ASTM C443](#). Resilient connectors for making joints between manhole and pipes entering manhole are to conform to [ASTM C923](#) or [ASTM C990](#).

2.2.4 Non-Shear Coupling

Provide Non-shear couplings when connecting pipe materials.

2.2.5 External Preformed Rubber Joint Seals

An external preformed rubber joint seal is an accepted method of sealing cast iron covers to precast concrete sections to prevent ground water infiltration into sewer systems. All finished and sealed manholes constructed in accordance with paragraph entitled "Manhole Construction" are to be tested for leakage in the same manner as pipelines as described in paragraph entitled "Leakage Tests." The seal is to be multi-section with a neoprene rubber top section and all lower sections made of Ethylene Propylene Diene Monomer (EPDM) rubber with a minimum thickness of [60 mils](#). Each unit is to consist of a top and bottom section and have mastic on the bottom of the bottom section and mastic on the top and bottom of the top section. The mastic is to be a non-hardening butyl rubber sealant and seal to the cone/top slab of the manhole/catch basin and over the lip of the casting. Extension sections are to cover up to two more adjusting rings. Properties and values are listed in the following table:

Properties, Test Methods and Minimum Values for Rubber used in Preformed Joint Seals				
Physical Properties	Test Methods	EPDM	Neoprene	Butyl Mastic
Tensile, psi	ASTM D412	1840	2195	--
Elongation, percent	ASTM D412	553	295	350
Tear Resistance, pli	ASTM D624 (Die B)	280	160	--
Rebound, percent, 5 minutes	ASTM C972 (mod.)	--	--	11
Rebound, percent, 2 hours	ASTM C972	--	--	12

2.2.6 Frames, Covers, and Gratings for Manholes

Frame and cover are to be cast gray iron, ASTM A48/A48M, Class 35B, cast ductile iron, ASTM A536, Grade 65-45-12, or reinforced concrete, ASTM C478 ASTM C478M. Stamp or cast the words "Sanitary Sewer" into covers so that it is plainly visible. Provide as indicated on the plans.

2.2.7 Structure Adjustment

Provide materials to perform adjustments to storm structures in accordance with Section 602 of the the latest edition of the IDOT Standard Specifications for Road and Bridge Construction. Provide new lock down frame if shown in plans. All sanitary sewer adjustments rings and frame shall be bonded with a precast concrete joint sealant meeting or exceeding ASTM C990.

2.2.8 Chimney Seal

Provide exterior chimney seal that shall remain flexible throughout a 50 year design life, allowing repeated vertical movement of the frame of not less than 2 inches and/or repeated horizontal movement of not less than one half 1/2 inch.

The sleeve portion of the seal shall be corrugated with a minimum unexpanded vertical height of 9 inches and shall be capable of being mechanically locked to the base flange of the manhole frame casting. The sleeve and extension shall have a minimum thickness of 3/16 inches and shall be made from a high quality rubber compound conforming to the applicable material requirements of ASTM C923, with a minimum 1500 psi tensile strength, a maximum 18% compression set and hardness(durometer) of 48±5. The area of the seal that compresses against the base flange of the manhole frame casting and the chimney/cone shall have a series of sealing fins to facilitate a watertight seal.

The compression bands shall be integrally formed from 16 gauge stainless steel conforming to the applicable material requirements of ASTM C-923, Type 304, with no welded attachments and shall have a minimum adjustment range of 2 diameter inches. Any screws, bolts or nuts used on this band

shall be stainless steel conforming to ASTM F-593 and 594, Type 304.

PART 3 EXECUTION

3.1 INSTALLATION

Backfill after inspection by the Contracting Officer. 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.

3.1.1 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.

3.1.2 General Requirements for Installation of Pipelines

These general requirements apply except where specific exception is made in the following paragraphs entitled "Special Requirements."

3.1.2.1 Earthwork

Perform earthwork operations in accordance with Section 31 00 00 EARTHWORK.

3.1.2.2 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. Lay nonpressure pipe with the bell ends in the upgrade direction. Adjust spigots in bells to give a uniform space all around. Blocking or wedging between bells and spigots will not be permitted. 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. Provide saddles for PVC pipe conforming to Table 4 of ASTM D3034.

3.1.3 Special Requirements

3.1.3.1 Installation of Ductile Iron Gravity Sewer Pipe

Unless otherwise specified, install pipe and associated fittings in accordance with paragraph entitled "General Requirements for Installation of Pipelines" of this section and with the requirements of AWWA C600 for pipe installation and joint assembly.

- a. Make push-on joints with the gaskets and lubricant specified for this type joint and assemble in accordance with the applicable requirements of AWWA C600 for joint assembly. Make mechanical-joints with the gaskets, glands, bolts, and nuts specified for this type joint and assemble in accordance with the applicable requirements of AWWA C600

for joint assembly and the recommendations of Appendix A to
AWWA C111/A21.11.

- b. Exterior protection: Completely encase buried ductile iron pipelines with polyethylene tube or sheet in accordance with AWWA C105/A21.5, using polyethylene film.

3.1.3.2 Installation of PVC Piping

Install pipe and fittings in accordance with paragraph entitled "General Requirements for Installation of Pipelines" of this section and with the requirements of ASTM D2321 for laying and joining pipe and fittings. Make joints with the gaskets specified for joints with this piping and assemble in accordance with the requirements of ASTM D2321 for assembly of joints. Make joints to other pipe materials in accordance with the recommendations of the plastic pipe manufacturer.

3.1.3.3 Non-Shear Couplings

Install non-shear couplings per Manufacturer's recommendation. Use non-shears for all pipe connections.

3.1.4 Concrete Work

Support the pipe on a concrete cradle, or encased in concrete where indicated or directed.

3.1.5 Miscellaneous Construction and Installation

3.1.5.1 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.

3.1.5.2 Structure Adjustment

Perform adjustments to storm structures in accordance with Section 602 of the the Latest edition of the IDOT Standard Specifications for Road and Bridge Construction. Install lock down frame and lid if shown in plans, install per Manufacturer's recommendation. All sanitary sewer adjustments rings and frame shall be bonded with a precast concrete joint sealant that meets or exceeds ASTM C990 standards.

3.1.5.3 Chimney Seal

Install exterior chimney seal as recommended by Manufacturer.

-- End of Section --

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SECTION 33 40 00

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11/21

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-- End of Section Table of Contents --

SECTION 33 40 00

STORMWATER UTILITIES

11/21

PART 1 GENERAL

1.1 UNIT PRICES

1.1.1 Box Culverts

The length of box culvert installed will be measured along the centerline of the box from end to end of the box culvert. Box Culvert will be paid for at the contract unit price for the number of linear feet of box culverts placed in the accepted work.

1.1.2 Walls and Headwalls

Wall and headwalls will be paid for at the contract unit price for each wall and headwall constructed in the completed work.

1.1.3 Backfill Replacing Unstable Material

Select granular material required to replace unstable material for foundations under pipes or drainage structures is considered incidental, which will constitute full compensation for this backfill material, including removal and disposal of unstable material and all excavating, hauling, placing, compacting, and all incidentals necessary to complete the construction of the foundation satisfactorily.

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 HB-17 (2002; Errata 2003; Errata 2005, 17th Edition) Standard Specifications for Highway Bridges

ASTM INTERNATIONAL (ASTM)

ASTM A48/A48M (2003; R 2021) Standard Specification for Gray Iron Castings

ASTM A536 (1984; R 2019; E 2019) Standard Specification for Ductile Iron Castings

ASTM C55 (2017) Standard Specification for Concrete Building Brick

ASTM C62 (2017) Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)

ASTM C76	(2020) Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C139	(2017) Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes
ASTM C231/C231M	(2017a) Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C270	(2019a; E 2019) Standard Specification for Mortar for Unit Masonry
ASTM C443	(2021) Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C443M	(2021) Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric)
ASTM C923/C923M	(2020) 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 C1433	(2020) Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM C1433M	(2018) Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers (Metric)
ASTM D1751	(2018) Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	(2018) Standard Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2321	(2020) Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

ASTM D2564	(2020) Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems
ASTM D3212	(2020) Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM F477	(2014; R 2021) Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Frame and Cover or Gratings; G, CS, AE

SD-08 Manufacturer's Instructions

Placing Pipe and Box Culvert and End Sections; G, CS, AE

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Delivery and Storage

Inspect materials delivered to site for damage and unload and store materials with minimal handling. Do not store materials directly on the ground. Keep the inside of pipes and fittings free of dirt and debris. 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. Store solvents, solvent compounds, lubricants, elastomeric gaskets, and any similar materials required to install plastic pipe in accordance with the manufacturer's recommendations and discard if the storage period exceeds the recommended shelf life. Discard solvents in use when the recommended pot life is exceeded.

1.4.2 Handling

Handle materials in a manner that ensures delivery to the trench in sound, undamaged condition. Carry pipe to the trench.

PART 2 PRODUCTS

2.1 PIPE FOR CULVERTS AND STORM DRAINS

Pipe sizes for culverts and storm drains are indicated on the drawings.

2.1.1 Concrete Pipe

2.1.1.1 Reinforced Culvert and Storm Drain Pipe

Manufactured in accordance with and conforming to [ASTM C76M](#) [ASTM C76](#), Class I, II, III, IV, or V (depending on fill height).

2.1.2 Poly Vinyl Chloride (PVC) Pipe

Size & Pipe Material	Pipe Specifications	Joint Specifications
4-inch to 36-inch	ASTM D2241	ASTM D3139
4-inch to 12-inch	AWWA C900	ASTM D3139
14-inch to 48-inch	AWWA C905	ASTM D3139

2.2 PIPE JOINTS

Provide joints that have been tested for and meet the requirements of paragraph HYDROSTATIC TEST ON WATERTIGHT JOINTS.

2.2.1 Concrete Pipe

2.2.1.1 Rubber Gasket Joints

Provide rubber gasket joints of a design and physical requirements conforming to [ASTM C443](#). Provide rubber gaskets that meet the oil resistant gasket requirements of [ASTM C443M](#) [ASTM C443](#).

2.2.1.2 Preformed Flexible Sealant Joints

Provide joints made with preformed flexible joint sealant conforming to [ASTM C990](#).

2.2.2 PVC Plastic Pipe

Provide solvent cement or elastomeric gasket type joints in accordance with the specification for the pipe and as recommended by the pipe manufacturer. Use solvent cement conforming to [ASTM D2564](#). Provide gaskets for elastomeric joints conforming to [ASTM F477](#).

2.3 PRECAST REINFORCED CONCRETE BOX CULVERT

Manufacture precast reinforced concrete box culverts in accordance with and conforming to [ASTM C1433M](#) [ASTM C1433](#) and Section 540 of the Latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

2.4 BOX CULVERT END SECTION

Provide Box Culvert End Sections in accordance with and conforming to

Section 540 of the Latest edition of the IDOT Standard Specifications for Road and Bridge Construction and the plans.

2.5 STRUCTURE ADJUSTMENT

Provide materials to perform adjustments to storm structures in accordance with Section 602 of the the latest edition of the IDOT Standard Specifications for Road and Bridge Construction. Provide precast concrete joint sealant that meets or exceeds ASTM C990.

2.6 MISCELLANEOUS MATERIALS

2.6.1 Concrete

Provide 4000 psi concrete. Provide air content by volume of concrete mixture, based on measurements made immediately after discharge from the mixer, of 5 to 7 percent when maximum size of coarse aggregate exceeds 1-1/2 inches. Determine air content in accordance with ASTM C231/C231M. Provide a minimum concrete covering over steel reinforcing of not less than 1 inch thick for covers and not less than 1-1/2 inches thick for walls and flooring. For concrete deposited directly against the ground, provide a covering thickness of at least 3 inches between steel and ground. Provide expansion-joint filler material conforming to ASTM D1751, or ASTM D1752, or provide be resin-impregnated fiberboard conforming to the physical requirements of ASTM D1752.

2.6.2 Mortar

Mortar is not allowed for pipe joints. Provide mortar for pipe connections to drainage structures conforming to ASTM C270, Type M, except that the maximum placement time will be 1 hour. Provide a sufficient quantity of water in the mixture to produce a stiff workable mortar but in no case may the quantity exceed 5 gallons of water per sack of cement. Use water that is clean and free of harmful acids, alkalis, and organic impurities. Use the mortar within 30 minutes after the ingredients are mixed with water.

2.6.3 Precast Concrete Segmental Blocks

Provide precast concrete segmental block conforming to ASTM C139, not more than 8 inches thick, not less than 8 inches long, and of such shape that joints can be sealed effectively and bonded with cement mortar.

2.6.4 Brick

Provide brick conforming to ASTM C62, Grade SW; ASTM C55, Grade S-I or S-II; or ASTM C32, Grade MS. Provide mortar for jointing and plastering consisting of one part portland cement and two parts fine sand. Lime may be added to the mortar in a quantity not more than 25 percent of the volume of cement. Provide joints that are completely filled and that are smooth and free from surplus mortar on the inside of the structure. Plaster brick structures with 1/2 inch of mortar over the entire outside surface of the walls. Lay brick in stretcher courses with a header course every sixth course for square or rectangular structures. Lay brick radially with every sixth course a stretcher course for round structures.

2.6.5 Frame and Cover or Gratings

Provide frame and cover or gratings made of cast gray iron, ASTM A48/A48M,

Class 35B; cast ductile iron, ASTM A536, Grade 65-45-12; or cast aluminum, ASTM B26/B26M, Alloy 356.0-T6. Stamp or cast the word "Storm Sewer" into covers so that it is plainly visible. Provide frames and covers or grates as indicated on the plans.

2.6.6 Resilient Connectors

Provide flexible, watertight connectors conforming to ASTM C923/C923M for connecting pipe to manholes and inlets.

2.6.7 Non-Shear Coupling

Provide Non-shear couplings when connecting pipe materials.

2.7 TESTS, INSPECTIONS, AND VERIFICATIONS

2.7.1 Concrete and PVC Pipe

Provide joints in reinforced and nonreinforced concrete pipe meeting the performance requirements in ASTM C990M ASTM C990 or ASTM C443M ASTM C443. Provide joints in clay pipe meeting the test requirements in ASTM C425. Provide joints in PVC plastic pipe meeting the test requirements in ASTM D3212.

PART 3 EXECUTION

3.1 EXCAVATION FOR PIPE CULVERTS, BOX CULVERTS, STORM DRAINS, AND DRAINAGE STRUCTURES

Excavate trenches, excavate for appurtenances and backfill for culverts and storm drains, in accordance with the applicable portions of Section 31 00 00 EARTHWORK and the requirements specified below.

3.1.1 Trenching

Excavate trenches to the width indicated on the drawings or as specified herein. Trench width should permit satisfactory jointing and thorough tamping of the bedding material under and around the pipe. Place sheeting and bracing, where required, within the trench width as specified, without any overexcavation.

3.1.2 Removal of Unstable Material

Where wet or otherwise unstable soil incapable of properly supporting the pipe or box culvert, as determined by the Contracting Officer, is unexpectedly encountered in the bottom of a trench, remove such material to the depth required and replace with select granular material to the proper grade. Compact select granular material as specified in paragraph FINAL BACKFILL. When removal of unstable material is due to the fault or neglect of the Contractor while performing shoring and sheeting, water removal, or other specified requirements, perform such removal and replacement at no additional cost to the Government.

3.2 BEDDING AND INITIAL BACKFILL

Provide a firm bedding foundation of uniform density throughout the entire length of the pipe or box culvert. See Section 31 00 00 EARTHWORK.

3.2.1 Concrete Pipe

Use select granular material conforming to Section 31 00 00 EARTHWORK for haunch and bedding material. Compact haunch and outer bedding to at least 95 percent laboratory maximum density and place in layers not exceeding 6 inch loose thickness for compaction by hand-operated compactors and 200 mm 8 inches for other than hand-operated machines. Loosely place middle bedding and do not compact. After the pipe has been properly bedded, place haunch material, at a moisture content that will facilitate compaction, evenly along both sides of the pipe and thoroughly compact each layer with mechanical tampers or rammers to the springline of the pipe. Thoroughly compact the haunch material under the haunches of the pipe. For bell and spigot pipe, form a depression in bedding material for bells so entire barrel of pipe is uniformly supported. Minimize the length, depth, and width of bell depressions to that required for properly making the particular type of joint.

3.2.1.1 Trenches

After the pipe has been properly bedded and haunch material placed to the midpoint (springline) of the pipe, backfill and compact the remainder of the trench by spreading and rolling or compacting by mechanical rammers or tampers in layers not exceeding 6 inches. Test for density as necessary to ensure conformance to the compaction requirements specified below. Leave untreated sheeting in place beneath structures or pavements.

3.2.1.2 Fill Sections

For pipe placed in fill sections, uniformly spread fill material longitudinally on both sides of the pipe in layers not exceeding 6 inches in compacted depth, and compact by rolling parallel with pipe or by mechanical tamping or ramming. Prior to commencing normal filling operations, the crown width of the fill at a height of 12 inches above the top of the pipe must extend a distance of not less than twice the outside pipe diameter on each side of the pipe or 12 feet, whichever is less. After the backfill has reached at least 12 inches above the top of the pipe, place and thoroughly compact the remainder of the fill in layers not exceeding 8 inches.

3.2.2 Plastic Pipe

Provide bedding for PVC pipe meeting the requirements of ASTM D2321. Use Class IB or II material for PVC pipe bedding, haunching, and initial backfill.

3.2.3 Precast Reinforced Box Culvert

Use granular material a minimum of 6 inches in depth for bedding precast concrete box culverts in trenches with soil foundation. Provide granular bedding in trenches with rock foundation that is 1/2 inch in depth per foot of depth of fill. The minimum depth of bedding will be 8 inch up to a maximum depth of 24 inches. Loosely place the granular bedding. Provide uniform support along the entire length of box culvert.

3.2.3.1 Trenches

After the box culvert has been properly bedded, place selected material from excavation or borrow, at a moisture content that will facilitate compaction, along both sides of box culvert in layers not exceeding 6

inches in compacted depth. Bring the backfill up evenly on both sides of box culvert for the full length box culvert. Thoroughly compact each layer with mechanical tampers or rammers. Continue this method of filling and compacting until the fill has reached an elevation equal to the top of the box culvert. Backfill and compact the remainder of the trench by spreading and rolling or by compacting with mechanical rammers or tampers in layers not exceeding **6 inches**. Test density as necessary to ensure conformance to the compaction requirements specified below. Leave untreated sheeting in place beneath structures or pavements.

3.2.3.2 Fill Sections

Use backfill material and placement and compaction procedures for box culvert placed in fill sections as specified below. Uniformly spread the fill material longitudinally on both sides of the box in layers not exceeding **6 inches** in compacted depth. Compacted by rolling parallel with pipe or by using mechanical tamping or ramming. Prior to commencing normal filling operations, the width of the fill at a height of **12 inches** above the top of the box must extend a distance of not less than twice the outside width of the box culvert on each side of the box or **12 feet**, whichever is less. After the backfill has reached at least **12 inches** above the top of the box, place and thoroughly compact the remainder of the fill in layers not exceeding **6 inches**.

3.3 PLACING PIPE AND BOX CULVERT AND END SECTIONS

Submit printed copies of the box culvert manufacturer's recommended pipe or box culvert (and end sections) installation procedures prior to installation. Thoroughly examine each section of pipe or box culvert before being laid; do not use defective or damaged pipe. Protect plastic pipe from exposure to direct sunlight prior to laying, if necessary to maintain adequate pipe stiffness and meet installation deflection requirements. Lay pipelines to the grades and alignment indicated. Provide proper facilities for lowering sections of pipe into trenches. Do not lay pipe in water or when trench conditions or weather are unsuitable for such work. Divert drainage or dewater trenches during construction as necessary. Deflection of installed flexible pipe must not exceed the following limits:

TYPE OF PIPE	MAXIMUM ALLOWABLE DEFLECTION (percent)
Plastic (PVC, HDPE, SRPE, and PP)	5

3.3.1 Concrete and PVC Pipe

Lay pipe proceeding upgrade with spigot ends of bell-and-spigot pipe and tongue ends of tongue-and-groove pipe pointing in the direction of the flow.

3.3.2 Precast Reinforced Concrete Box Culvert

Proceed upgrade with laying of sections and point tongue ends of tongue-and-groove box culvert section in the direction of flow.

3.4 Non-Shear Couplings

Install non-shear couplings per Manufacturer's recommendation. Use non-shear couplings for pipe connections.

3.5 Concrete Collar

Install concrete collar when connecting new to existing RCP per detail in the Plans.

3.6 JOINTING

3.6.1 Concrete Pipe

3.6.1.1 Plastic Sealing Compound Joints for Tongue-and-Grooved Pipe and Box Culverts

Follow the recommendation of the particular manufacturer in regard to sealing compound special installation requirements. When lubricants, primers, or adhesives are used, only apply on surfaces that are dry and clean. Affix sealing compounds to the pipe or box culvert not more than 3 hours prior to installation of the pipe or box culvert. Protect sealing compounds from the sun, blowing dust, and other deleterious agents at all times. Inspect sealing compounds before installation of the pipe or box culvert, and remove and replace any loose or improperly affixed sealing compound. Align the pipe or box culvert with the previously installed pipe or box culvert, and pull the joint together.

3.6.1.2 Flexible Watertight Joints

Use lubricants, cements, adhesives, and other special installation requirements for gaskets and jointing materials as recommended by the manufacturer. When lubricants, cements, or adhesives are used, only apply on surfaces that are clean and dry. Affix gaskets and jointing materials to the pipe not more than 24 hours prior to the installation of the pipe, and protect from the sun, blowing dust, and other deleterious agents at all times. Inspect gaskets and jointing materials before installing the pipe; remove and replace any loose or improperly affixed gaskets and jointing materials. Align the pipe with the previously installed pipe, and push the joint home. If the gasket becomes visibly dislocated when joining sections of pipe, remove the pipe and remake the joint.

3.7 DRAINAGE STRUCTURES

3.7.1 Walls and Headwalls

Construct headwalls as indicated in plans. Connect pipes into existing headwalls per plans and/or manufacturer's recommendation.

3.8 FINAL BACKFILL

Backfill trenches with satisfactory material deposited in layers of a maximum of 8 inches loose thickness and compacted to 90 percent of maximum density for cohesive soils and 95 percent of maximum density for cohesionless soils in accordance with Section 31 00 00 EARTHWORK. Testing is the responsibility of the Contractor and will be performed at no additional cost to the Government. Unless otherwise specified, determine field in-place density of final backfill at a frequency of one test per 50 linear feet, or fraction thereof, of each lift of backfill.

Submit test results in accordance with Section 31 00 00 EARTHWORK . Do not displace or damage pipe or box when compacting final backfill by rolling or operating heavy equipment parallel with the pipe or box. Movement of construction machinery over a culvert or storm drain at any stage of construction will be at the Contractor's risk. Repair or replace any damaged pipe. Protect concrete pipes with a minimum of 3 feet of cover prior to permitting heavy construction equipment to pass over them during construction. Provide the minimum cover for construction loads over corrugated steel pipes as specified in Section 26, Division II of AASHTO HB-17. Provide minimum cover for construction loads over plastic pipes as specified in ASTM D2321.

3.9 STRUCTURE ADJUSTMENT

Perform adjustments to storm structures in accordance with Section 602 of the the Latest edition of the IDOT Standard Specifications for Road and Bridge Construction.

3.10 FIELD QUALITY CONTROL

3.10.1 Inspection

3.10.1.1 Post-Installation Inspection

Inspect each segment of pipe for alignment, settlement, joint separations, soil migration through the joint, cracks, buckling, bulging and deflection. An engineer must evaluate all defects to determine if any remediation or repair is required.

3.10.1.1.1 Concrete Pipe

An engineer must evaluate all pipes with cracks with a width greater than 0.25 mm 0.01 inches, but less than 0.10 inches to determine if any remediation or repair is required.

3.10.1.1.2 Flexible Pipe

Check each flexible pipe (PVC) for rips, tears, joint separations, soil migration through the joint, cracks, localized buckling, bulges, settlement and alignment.

3.10.2 Repair of Defects

3.10.2.1 Inspection

Replace pipe or repair defects.

3.10.2.1.1 Concrete Pipe

Replace pipes having cracks with a width greater than 0.1 inches.

3.10.2.1.2 Flexible Pipe

Replace pipes having cracks or splits.

3.11 PROTECTION

Protect storm drainage piping and adjacent areas from superimposed and external loads during construction.

3.12 WARRANTY PERIOD

Pipe segments found to have defects during the warranty period must be replaced with new pipe.

-- End of Section --