PUBLIC IMPROVEMENTS
CONTRACT DOCUMENTS

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT

IDOT Project No. CS-TSF-1945(870)--85-77

ACTIVITY ID	PLAN FILE NO.
042022016	665-143/273

CITY COUNCIL APPROVAL

APPROVAL DATE	ROLL CALL NO.
December 9, 2024	

CONTRACT NO.

CONTRACTOR	CONTRACT AMOUNT
	$

ENGINEERING DEPARTMENT

Steven L. Naber, P.E.

Des Moines City Engineer

Funding Information

Object Code	543060
Organization No	C038EG
Project No	ST303

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

E. Army Post Road and SE 36th Street Roundabout

Activity ID 042022016

The following documents are part of this contract:

Document

Instructions to Bidders

Official Publications

Proposal

Bid Bond

Contract

Performance, Payment and Maintenance Bond

Addenda:

Special Provisions:

Bidding Requirements
Contractual Requirements
Technical Specifications

Supplemental Specifications:

General Supplemental Specifications to SUDAS, 2024 Edition	March 4, 2024
Supplemental Specification for Tree Protection	March 24, 2017
Supplemental Specification for Traffic Signage	October 6, 2022

PROJECT ENGINEER: Matt Radermacher, P.E.

Phone Number: (515) 283-4076

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

Bid Date November 05, 2024
Time 11:00 a.m.

INSTRUCTIONS TO BIDDERS

Activity ID 042022016

Project Name E. Army Post Road and SE 36th Street Roundabout

Fed/St. Project No. IDOT Project No. CS-TSF-1945(870)--85-77

The work comprising the above referenced project shall be constructed in accordance with the SUDAS Standard Specifications, 2024 Edition; and as further modified by the supplemental specifications and special provisions included in the contract documents. The Des Moines City Engineer is the Engineer. The terms used in the contract documents are defined in said SUDAS Standard Specifications. The City of Des Moines is the Contracting Authority on this project and shall hereinafter be referred to as the "Jurisdiction". Before submitting your bid, please review the SUDAS Standard Specifications, in particular, Division 1 - General Provisions and Covenants, including the sections regarding proposal requirements, bonding, contract execution and insurance requirements. Please be certain that all documents have been properly completed and submit them to the City Clerk, 1st Floor, City Hall, 400 Robert D. Ray Drive, Des Moines, Iowa, 50309.

I. BID SECURITY

The bid security must be in the minimum amount of 10% of the total bid amount including all add alternates (do not deduct the amount of deduct-alternates). Bid security shall be as defined in Section 26.8 of the Iowa Code and shall be in the form of a cashier's check or certified check drawn on a state-chartered or federally chartered bank, or a certified share draft drawn on a state-chartered or federally chartered credit union, or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the Jurisdiction. The bid bond must be submitted on the Bid Bond provided by Jurisdiction as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink; facsimile (fax) of any signature on the bid bond is not acceptable. Bid security other than said bid bond shall be made payable to the City of Des Moines. "Miscellaneous Bank Checks", and personal checks, as well as "Money Orders" and "Traveler's Checks" issued by persons, firms or corporations licensed under Chapter 533B of the Iowa Code, are not acceptable bid security. **NOTE: If the Bidder submits Bid Security in the form of a Bid Bond, and the Bidder wishes to have their Bid Bond returned to them after an approved contract and bond has been executed or after there is a rejection of all bids (in accordance with Iowa Code 26.10), the Bidder shall include a self-addressed envelope with the Bid Bond.**

II. SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER

A. The proposal shall be sealed in an envelope, properly identified as the proposal with the project title and the name and address of the bidder, and deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see its proposal is delivered to the Jurisdiction prior to the time for opening bids, along with the appropriate bid security sealed inside of the bid proposal envelope, or in a separate envelope identified as bid security and attached to the outside of the bid proposal envelope. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered. If the Jurisdiction provides envelopes for proposals and bid security, bidders shall be required to utilize such envelopes in the submission of their bids.

Sales Tax: The bidder should not include sales tax in the bid pursuant to Iowa Code. A sales tax exemption certificate will be available for all material purchased for incorporation in the project.

Accessibility for individuals with disabilities. The City of Des Moines is pleased to provide accommodations to individuals with disabilities or groups and encourages participation in City government. To better serve you, please notify us at least three business days in advance when possible at 515-283-4209, should special accommodations be required.

B. **All pages of the Proposal must be returned.** The following documents shall be completed, signed and returned in the Proposal envelope.

PROPOSAL - Complete each of the following parts:

- Part B - Acknowledgement of Addenda, if any have been issued;
- Part C - Bid Items, Quantities and Prices;
- Part F - Additional Requirements; The following proposal attachment documents must be completed and attached:

ITEM NO.	DESCRIPTION OF ATTACHMENT
1.	Reciprocal Resident Bidder and Labor Force
2.	General
3.	Completion Provisions
4.	Targeted Small Business (TSB) Pre-Bid Contract Information

- Part G - Identity of Bidder.

The Bidder shall sign the proposal. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature will not be accepted. The **Bidder Status Form** (PROPOSAL Part F Item 2B), is required by the Iowa Labor Commissioner, pursuant to Iowa Admin. Code rule 875-156.2(1). The Bidder must complete and submit the **Bidder Status Form**, signed by an authorized representative of the Bidder, with their bid proposal. Under Iowa Admin. Code rule 875-156.2(1), failure to provide the **Bidder Status Form** with the bid may result in the bid being deemed non-responsive and may result in the bid being rejected. The **Worksheet: Authorization to Transact Business** from the Labor Commissioner is included on page 3 of 3 of the Instructions to Bidders, to assist Bidders in completing the **Bidder Status Form**.

C. Out-of-State Contractors:

1. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the Division of Labor Services of the Iowa Department of Workforce Development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the City Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.

2. Prior to entering into contract, the designated low bidder, if it be a corporation organized under the laws of a state other than Iowa, shall file with the Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, or as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

III. GENERAL

A. **All bid documents must be submitted on the forms provided by Jurisdiction. No alterations, additions, or deletions are permitted.** If the Bidder notes a requirement in the contract documents that the Bidder believes will require a conditioned or unsolicited alternate bid, the Bidder must immediately notify the Engineer in writing. The Engineer will issue any necessary interpretation by an addendum.

B. Additional information regarding addenda, plan holders, bid tabulations, etc. can be found on the Engineering Department web site at www.dsm.city/projectbidinformation.

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status Form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

Yes___ No___ My business is currently registered as a contractor with the Iowa Division of Labor.

Yes___ No___ My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

Yes___ No___ My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

Yes___ No___ My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

Yes___ No___ My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

Yes___ No___ My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

Yes___ No___ My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

Yes___ No___ My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

Yes___ No___ My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

Yes___ No___ My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

Yes___ No___ My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

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NOTICE TO BIDDERS

CITY OF DES MOINES PUBLIC IMPROVEMENT PROJECT

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising each improvement as stated below must be filed at or before 11:00 a.m. on November 5, 2024, in the office of the City Clerk, 1st Floor, City Hall, 400 Robert D. Ray Drive, Des Moines, Iowa, 50309.

Accessibility for individuals with disabilities. The City of Des Moines is pleased to provide accommodations to individuals with disabilities or groups and encourages participation in City government. To better serve you, please notify us at least three business days in advance when possible at 515-283-4209, should special accommodations be required.

Time and Place Sealed Proposals Will be Opened and Considered. Sealed proposals will be opened and bids tabulated at 11:00 a.m., on November 5, 2024, in the City Council Chambers, 2nd Floor, City Hall, 400 Robert D. Ray Drive, Des Moines, Iowa, for consideration by the City Council (Council) at its meeting on December 9, 2024. The City of Des Moines (Jurisdiction) reserves the right to reject any and all bids.

Time for Commencement and Completion of Work. Work on each improvement shall be commenced upon approval of the contract by the Council, and completed as stated below.

Bid Security. Each bidder shall accompany its bid with bid security as defined in Section 26.8 of the Iowa Code and as specified by the Jurisdiction.

Contract Documents. Copies of the contract documents will be available after October 21, 2024, from the City Engineer's Office, 2nd Floor, City Hall, 400 Robert D. Ray Drive, Des Moines, Iowa 50309, at no cost, phone (515 -283-4573).

Preference for Iowa Products and Labor. By virtue of statutory authority, preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes.

Sales Tax. The bidder should not include sales tax in the bid. A sales tax exemption certificate will be available for all material purchased for incorporation in the project.

General Nature of Public Improvement.

E. Army Post Road and SE 36th Street Roundabout, 042022016
IDOT Project No. CS-TSF-1945(870)--85-77

The improvement includes Portland Cement Concrete (PCC) pavement, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration, all in accordance with the contract documents including Plan File No. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa.

This project shall be fully completed not later than May 15, 2026, and in accordance with the Completion Provisions.

Engineer's Construction Estimate. $3,150,000.00

Preletting Conference. None.

NOTICE OF PUBLIC HEARING

CITY OF DES MOINES PUBLIC IMPROVEMENT PROJECT

Public Hearing on Proposed Contract Documents and Estimated Costs for Improvement. A public hearing will be held by the City Council on the proposed contract documents (plans, specifications and form of contract) on file in the City Engineer's Office, and estimated cost for each improvement at its meeting on December 9, 2024, at 5:00 p.m., in the City Council Chambers, 2nd Floor, City Hall, 400 Robert D. Ray Drive, Des Moines, Iowa. Please check the posted agenda in advance of the December 9, 2024 meeting for any update on the manner in which the public hearing will be conducted to comply with COVID-19 social distancing and safety guidelines. The City Council Meetings are open to all individuals regardless of disability. To better serve you, please notify the City Clerk at least three business days in advance, when possible, should special accommodations be required.

General Nature of Public Improvement

E. Army Post Road and SE 36th Street Roundabout, 042022016
IDOT Project No. CS-TSF-1945(870)--85-77

The improvement includes Portland Cement Concrete (PCC) pavement, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration, all in accordance with the contract documents including Plan File No. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa

Published in the Des Moines Register
November 20, 2024

****ALL SECTIONS OF THE PROPOSAL MUST BE COMPLETED WHERE APPLICABLE AND ALL PAGES RETURNED, OR THE BID WILL NOT BE ACCEPTED.****

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

PROPOSAL

To the Honorable Mayor and Members of the
City Council, City of Des Moines, Iowa

PROPOSAL: PART A - SCOPE

The City of Des Moines, hereinafter called the "Jurisdiction", has need of a qualified contractor to complete the work comprising the below referenced improvement. The undersigned Bidder hereby proposes to complete the work comprising the below referenced improvements or project as specified in the contract documents, which are officially on file with the Jurisdiction, in the Des Moines City Engineer's Office, at the prices hereinafter provided in Part C of this Proposal, for the following described improvements:

E. Army Post Road and SE 36th Street Roundabout, 042022016

IDOT Project No. CS-TSF-1945(870)--85-77

The improvement includes Portland Cement Concrete (PCC) pavement, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration, all in accordance with the contract documents including Plan File No. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa

PROPOSAL: PART B - ACKNOWLEDGEMENT OF ADDENDA

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued, and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

and certifies that said addenda were utilized in the preparation of this bid.

PROPOSAL: PART C - BID ITEMS, QUANTITIES AND PRICES

UNIT BID PRICE CONTRACTS: The bidder must provide all unit prices, the amount, the total construction cost, any alternate price(s), and the total construction cost plus any add-alternates if there are alternates on the proposal on Proposal Attachment: Part C - Bid Items, Quantities, and Prices. The total construction cost plus any alternates selected by the Jurisdiction shall be used for comparison of bids. The total construction cost plus any add-alternates shall be used for determining the sufficiency of the bid security.

BASE BID CONTRACTS: The bidder must provide any bid price(s), the total base bid price, any alternate price (s), and the total base bid plus any add-alternates if there are alternates on the proposal on Proposal Attachment: Part C - Bid Items, Quantities, and Prices. The total base bid plus any alternates selected by the Jurisdiction shall be used for comparison of bids. The total base bid plus any add-alternates shall be used for determining the sufficiency of the bid security.

PROPOSAL: PART D - GENERAL

The Bidder hereby acknowledges that the Jurisdiction, in advertising for public bids for this project, reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total bid plus any selected alternates; and
3. Make such alterations in the contract documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Jurisdiction and provide the following documents:
   - Proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code by providing a valid Registration Number,
   - Proof of insurance by a Certificate(s) of Insurance,
   - A performance, maintenance, and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said documents and information as requested in Item 1 above acceptable to the Des Moines City Engineer; and
3. Commence the work on this project on or after the date a written Notice to Proceed is issued by the Jurisdiction, and to fully complete the project not later than May 15, 2026, and in accordance with the Completion Provisions; and to pay liquidated damages for noncompliance with said completion provisions at the rate of One Thousand and 00/100 ($1,000.00) for each calendar day thereafter that the work remains incomplete.

PROPOSAL: PART E - NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Jurisdiction; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and
3. That no part of the bid price received by the Bidder was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and

4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder, and that all statements in this proposal are true; and

5. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

PROPOSAL: PART F - ADDITIONAL REQUIREMENTS

The Bidder hereby agrees to comply with the additional requiremts listed below, which are included in this proposal and identified as proposal attachments:

ITEM NO.	DESCRIPTION OF ATTACHMENT
1.	Reciprocal Resident Bidder and Labor Force
2.	General
3.	Completion Provisions
4.	Targeted Small Business (TSB) Pre-Bid Contract Information

PROPOSAL: PART G - IDENTITY OF BIDDER

The Bidder shall indicate whether the bid is submitted by a/an

- ☐ Individual, Sole Proprietorship
- ☐ Partnership
- ☐ Corporation
- ☐ Limited Liability Company
- ☐ Joint-venture: all parties must join-in and execute all documents
- ☐ Other _____

By _____
Bidder

_____
Signature

_____
Name (Print/Type)

_____
Title

_____
Street Address

_____
City, State, Zip Code

_____
Telephone Number / Email Address

A contract will not be executed until the apparent low Bidder is registered with the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code. The Bidder should contact 515-242-5871 forregistration information.

Engineering Department Staff will contact the apparent low Bidder and obtain the name and title of the company's owner, president, CEO, etc. if a different person than entered above.

NOTE: The signature on this proposal must be an original signature in ink; copies or facsimile of any signature will not be accepted.

PROPOSAL ATTACHMENT: PART C - BID ITEMS, QUANTITIES AND PRICES: 1 of 4

This is a unit bid price contract. The bidder must provide all unit prices, the amount, the total construction cost, any alternate price(s), and the total construction cost plus any add-alternates if there are alternates on the proposal. The total construction cost plus any alternates selected by the Jurisdiction shall be used for comparison of bids. The total construction cost plus any add-alternates shall be used for determining the sufficiency of the bid security.

IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
1	*	CLEARING & GRUBBING	UNIT	745.30	$_____	$_____
2	*	CLEARING & GRUBBING	ACRE	1.00	$_____	$_____
3	*	TOPSOIL, ON SITE	CY	7476.00	$_____	$_____
4	*	EXCAVATION, CLASS 10, ROADWAY & BORROW	CY	2980.00	$_____	$_____
5	*	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	11167.00	$_____	$_____
6	*	SUBGRADE PREPARATION, 12 IN.	SY	15192.00	$_____	$_____
7	*	MODIFIED SUBBASE, 6 IN.	CY	2701.00	$_____	$_____
8	*	REMOVAL OF EXISTING CULVERTS LESS THAN OR EQUAL TO 36 IN. DIA.	LF	134.00	$_____	$_____
9	*	REMOVAL OF EXISTING CULVERTS GREATER THAN 36 IN. DIA.	LF	181.00	$_____	$_____
10		STORM SEWER, TRENCHED, RCP, CLASS V, 15 IN.	LF	229.00	$_____	$_____
11		STORM SEWER, TRENCHED, RCP, CLASS III, 30 IN.	LF	283.00	$_____	$_____
12		STORM SEWER, TRENCHED, RCP, CLASS V, 30 IN.	LF	308.00	$_____	$_____
13		PIPE APRON, RCP, 15 IN.	EA	1.00	$_____	$_____
14		PIPE APRON, RCP, 30 IN.	EA	5.00	$_____	$_____
15		SUBDRAIN, PVC, 6 IN.	LF	6030.00	$_____	$_____
16		SUBDRAIN CLEANOUT, TYPE A-1	EA	14.00	$_____	$_____
17		SUBDRAIN CONNECTION TO INTAKE OR STORM SEWER	EA	14.00	$_____	$_____

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
18		SUBDRAIN OUTLET TO DITCH	EA	8.00	$_____	$_____
19	*	CLEANING, INSPECTION, AND TESTING OF SEWERS	LS	1.00	$_____	$_____
20		FIRE HYDRANT ASSEMBLY	EA	1.00	$_____	$_____
21		MANHOLE, SW-401, 60 IN.	EA	2.00	$_____	$_____
22		MANHOLE, SW-401, 72 IN.	EA	1.00	$_____	$_____
23		INTAKE, SW-505	EA	1.00	$_____	$_____
24		INTAKE, SW-506	EA	1.00	$_____	$_____
25		INTAKE, SW-512, 24 IN.	EA	1.00	$_____	$_____
26		PAVEMENT, PCC, CLASS C, 9 IN.	SY	13419.00	$_____	$_____
27		CONCRETE MEDIAN, TIED	SY	1976.00	$_____	$_____
28		SIDEWALK, PCC, 6-IN.	SY	85.00	$_____	$_____
29		DETECTABLE WARNINGS	SF	160.00	$_____	$_____
30		DRIVEWAY, PAVED, PCC, 6 IN.	SY	54.00	$_____	$_____
31	*	GRANULAR SURFACING, 6 IN.	SY	165.00	$_____	$_____
32	*	PAVEMENT REMOVAL	SY	9142.00	$_____	$_____
33	*	PAINTED PAVEMENT MARKINGS, DURABLE, EPOXY	STA	99.79	$_____	$_____
34	*	GROOVES CUT FOR PAVEMENT MARKINGS	STA	99.79	$_____	$_____
35	*	TRAFFIC CONTROL	LS	1.00	$_____	$_____
36		PORTABLE DYNAMIC MESSAGE SIGNS	CDAY	182.00	$_____	$_____

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
37		TRAFFIC SIGNS	SF	164.50	$_____	$_____
38		PERFORATED SQUARE STEEL TUBE POST	LF	321.00	$_____	$_____
39		PERFORATED SQUARE STEEL TUBE POST ANCHORS, SOIL INSTALLATION	EA	20.00	$_____	$_____
40		PERFORATED SQUARE STEEL TUBE POST ANCHORS, CONCRETE INSTALLATION	EA	12.00	$_____	$_____
41	*	REMOVE AND SALVAGE TRAFFIC SIGNS	EA	10.00	$_____	$_____
42	*	HYDRAULIC SEEDING, FERT. & MULCH., TYPE 1	ACRE	7.60	$_____	$_____
43	*	HYDRAULIC SEEDING, FERT. & MULCH., TYPE 4	ACRE	7.60	$_____	$_____
44	*	PLANTS	EA	27.00	$_____	$_____
45	*	RIVER LANDSCAPE ROCK	CY	3.50	$_____	$_____
46	*	STORMWATER POLLUTION PREVENTION	LS	1.00	$_____	$_____
47	*	WATTLE, INSTALLATION, 12 IN.	LF	4093.00	$_____	$_____
48	*	WATTLE, REMOVAL	LF	4093.00	$_____	$_____
49	*	RIP RAP, CLASS E	TN	66.00	$_____	$_____
50	*	RIP RAP, MACADAM STONE	TN	77.00	$_____	$_____
51	*	SILT FENCE, INSTALLATION	LF	3245.00	$_____	$_____
52	*	SILT FENCE, MAINTENANCE	LF	3245.00	$_____	$_____
53	*	SILT FENCE, REMOVAL	LF	3245.00	$_____	$_____
54	*	EROSION CONTROL MULCHING, HYDROMULCHING	ACRE	15.20	$_____	$_____
55	*	TURF REINFORCEMENT MATS, TYPE 4	SF	830.00	$_____	$_____

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
56	*	INLET PROTECTION DEVICE, INSTALLATION	EA	5.00	$_____	$_____
57	*	INLET PROTECTION DEVICE, MAINTENANCE	EA	5.00	$_____	$_____
58	*	TREE PROTECTION FENCE	LF	250.00	$_____	$_____
59	*	CONSTRUCTION SURVEY	LS	1.00	$_____	$_____
60	*	MOBILIZATION	LS	1.00	$_____	$_____
61	*	MAINTENANCE OF POSTAL SERVICE	LS	1.00	$_____	$_____
62	*	MAINTENANCE OF SOLID WASTE COLLECTION	LS	1.00	$_____	$_____
					TOTAL CONSTRUCTION COST	$_____

*Item does not have to be included in 4-year maintenance bond but shall be covered by a 1-year maintenance bond.

NOTE: It is understood that the above quantities are estimated for the purpose of this bid. All quantities are subject to revision by the City. Quantity changes which amount to twenty (20) percent or less of the total bid shall not affect the unit bid price of that item.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 1 - RECIPROCAL RESIDENT BIDDER AND LABOR FORCE

Iowa Code section 73A.21 provides for a Reciprocal Resident Bidder and Labor Force preference.

Because of the nature of this project (i.e. Federal-aid participation), the Reciprocal Resident Bidder and Labor Force preference,

[ ] shall not apply to this project, and the bidder need not complete the Resident Bidder Information below.

[X] shall apply to this project, and the bidder shall complete the Resident Bidder Information below.

To implement section 73A.21, the Iowa Labor Commissioner adopted chapter 156 of the Iowa Administrative Code, "Bidder Preferences in Government Contracting". Iowa Admin. Code rule 875-156.2(1) requires each bidder to complete the attached Bidder Status Form. The Bidder must complete and submit the Bidder Status Form, signed by an authorized representative of the bidder, with their bid Proposal. Under Iowa Admin. Code rule 875-156.2(1), failure to provide the statement with the bid may result in the bid being deemed nonresponsive and may result in the bid being rejected.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

Yes_____ No_____ My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the "Worksheet: Authorization to Transact Business", on page 3 of the "Instructions to Bidders".)

Yes_____ No_____ My company has an office to transact business in Iowa.

Yes_____ No_____ My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

Yes_____ No_____ My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

Yes_____ No_____ My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____
City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____
City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____
City, State, Zip: _____

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:
_____

2. Does your company's home state or foreign country offer preferences to bidders who are residents? Yes__No__

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.
_____
_____ *You may attach additional sheet(s) if needed.*

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156.

This form has been approved by the Iowa Labor Commissioner.

309-6001 02-14

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 2 - GENERAL

1. The work under this proposal shall be constructed in accordance with the SUDAS Standard Specifications, 2024 Edition, and as further modified by the supplemental specifications and special provisions included in the contract documents.

   Alternate Sales Tax:
   Section 1020, 1.08, B, of the Supplemental Specifications shall apply. The bidder should not include sales tax in the bid. A sales tax exemption certificate will be available for all material purchased for incorporation in the project.

2. The Bidder hereby acknowledges that the City of Des Moines in advertising for public bids for this work reserves the right to give a limited notice to proceed of a duration not longer than three months. This limited notice to proceed shall be given where all necessary right-of-way has not yet been acquired. The limited notice to proceed will allow construction to proceed as far as possible and practical on the right-of-way, which has been acquired.

3. The Bidder hereby acknowledged and agrees:
   - To comply with the Equal Employment Opportunity Program included in the City of Des Moines Contract Compliance Program, which is available at the following website: www.dsm.city/contractcomplianceprogram, or from the City Engineer's Office.
   - To comply with any and all applicable provisions of the Des Moines Human Rights Ordinance, Chapter 62, of the Des Moines Municipal Code.
   - Not to discriminate against any employees, or applicants for employment, on the basis of age, race, religion, creed, color, sex, sexual orientation, national origin, ancestry, disability, familial status or gender identity.
   - To include this provision in all subcontracts for this project.

4. The City's Overall Annual DBE/TSB Goal for this project is 5.72%, which represents a target that the City would like to achieve in including DBE/TSB participation on City contracts; and is not a mandatory goal for this project. The Certified Directory of DBEs is available at the following website https://secure.iowadot.gov/dbe/directory/index. The Certified Directory of TSBs is available at the following website https://iowaeda.microsoftcrmportals.com/tsb-search

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 3 - COMPLETION PROVISIONS

The Bidder hereby agrees to commence and complete the work in accordance with the attached Completion Provisions.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 4 - TARGETED SMALL BUSINESS (TSB) PRE-BID CONTRACT INFORMATION

The attached Targeted Small Business (TSB) Affirmative Action Responsibilities on Non-Federal Aid Projects (Third-Party State-Assisted Projects) as included as a Special Provision in the Contract Documents shall apply to this project. There is no TSB Goal on this project, however, Section 8 of the Special Provision still requires positive efforts to be made to utilize TSB's on this project. The bidder shall complete the "Targeted Small Business (TSB) Pre-bid Contact Information" form listing pre-bid contacts with TSB's and submit it with the proposal.

PROPOSAL ATTACHMENT: PART F – ADDITIONAL REQUIREMENTS
ITEM 3 – COMPLETION PROVISIONS

The Bidder hereby agrees to:

1. Fully complete all phases of the project including restoration of all disturbed surfaces by May 15, 2026 and pay liquidated damages for noncompliance in the amount of one thousand and no/100 dollars ($1,000.00) for each calendar day thereafter.

2. Undertake and schedule work in compliance with the intermediate completion provisions described below. The work to be completed by the intermediate completion period shall be such work as required to satisfy the intermediate completion provision description.

   Intermediate Completion Provision No. 1 (Calendar Day Completion Requirement): The Contractor shall fully complete construction of all work included in the project (except for plantings and final seeding) and to have the road reopened to traffic by October 20th, 2025; and to pay liquidated damages for noncompliance with said completion provisions in the amount of two thousand and no/100 dollars ($2,000.00) for each calendar day thereafter that all work is not completed in accordance with the described Intermediate Completion Provision No. 1.

3. Pay separate sums of liquidated damages that will be assessed for each of the conditions described hereinbefore, and they shall be cumulative if multiple conditions have not been satisfied.

Form 730007wd
07-97

Contractor _____

Page # 1 of 1

Project # CS-TSF-1945(870)--85-77

County Polk

City Des Moines, Iowa

TARGETED SMALL BUSINESS (TSB) PRE-BID CONTACT INFORMATION

(To Be Completed By All Bidders Per The Current Contract Provision)

In order for your bid to be considered responsive, you are required to provide information on this form showing your Targeted Small Business contacts made with your bid submission. This information is subject to verification and confirmation.

In the event it is determined that the Targeted Small Business goals are not met, then before awarding the contract, the Contracting Authority will make a determination as to whether or not the apparent successful low bidder made good faith efforts to meet the goals.

NOTE: Every effort shall be made to solicit quotes or bids on as many subcontractable items as necessary to achieve the established goals. If a TSB's quote is used in the bid, it is assumed that the firm listed will be used as a subcontractor.

TABLE OF INFORMATION SHOWING BIDDERS PRE-BID
TARGETED SMALL BUSINESS (TSB) CONTACTS

SUBCONTRACTOR	TSB	DATES CONTACTED	QUOTES RECEIVED		QUOTATION USED IN BID	
			YES/NO	DATES CONTACTED	YES/NO	DOLLAR AMT. PROPOSED TO BE SUBCONTRACTED

Total dollar amount proposed to be subcontracted to TSB on this project $ _____

List items by name to be subcontracted:

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

BID BOND

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal, and

_____ , as Surety, are held and firmly bound unto the City of Des Moines, as Obligee (hereinafter the "Jurisdiction"), in the penal sum of

_____ dollars

($_____) lawful money of the United States, for which payment the Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The Principal has submitted to the Jurisdiction a proposal to enter into a contract in writing, for the following described improvements:

E. Army Post Road and SE 36th Street Roundabout, 042022016
IDOT Project No. CS-TSF-1945(870)--85-77

The improvement includes Portland Cement Concrete (PCC) pavement, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration, all in accordance with the contract documents including Plan File No. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa

The Surety hereby stipulates and agrees that the obligations of the Surety and its Bond will be in no way impaired or affected by any extension of the time within which the Jurisdiction may accept the Bid or execute a Contract; and the Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue will be Polk County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of this bond or to collect the monetary obligation accruing to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all outlay and expense incurred by the Jurisdiction in enforcing any of the provisions of this Bond. All rights, powers, and remedies of the Jurisdiction are cumulative and not alternative and are in addition to all rights, powers and remedies given to the Jurisdiction by law. The Jurisdiction may proceed against the Surety for any amount guaranteed hereunder whether action is brought against Principal or whether or not the Principal is joined in the action. As used herein, the phrase “all outlay and expense” is not to be limited in any way, but includes the actual and reasonable costs and expenses incurred by the Jurisdiction including interest, benefits and overhead where applicable. Accordingly, "all outlay and expense" would include but not be limited to all contract or employee expense, outside experts, attorneys fees (including overhead expenses of the Jurisdiction's staff attorneys), and all costs and expenses of litigation as they are incurred by the Jurisdiction.

If the proposal by the Principal is accepted and the Principal enters into a contract with the Jurisdiction in accordance with the terms of the proposal, including the provision of insurance and bond as specified in the contract documents with good and sufficient surety for the faithful performance of the contract, for the prompt payment of labor and material furnished in the prosecution of the work, and for the maintenance of the improvements as may be required in the contract documents or, in the event the Principal does not enter into a contract and provide the required insurance and bonds, the Principal pays the penal sum to the Jurisdiction, then this obligation will become null and void; otherwise, the Surety shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

Signed and sealed this _____ day of _____ , 20 _____

SURETY:	PRINCIPAL:
_____ Surety Company	_____ Bidder
By _____ Signature Attorney-in-Fact/Officer	By _____ Signature
_____ Name of Attorney-in-Fact/Officer	_____ Name
_____ Company Name	_____ Title
_____ Company Address	_____ Address
_____ City, State Zip Code	_____ City, State Zip Code
_____ Company Telephone Number	_____ Telephone Number

NOTE:

1. **All signatures on this bid bond must be original signatures in ink; copies or facsimile of any signature will not be accepted.**

2. **This bond must be sealed with the Surety's raised, embossed seal.**

3. **The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or security watermark.**

4. **The name and signature of the Surety's Attorney-in-Fact/Officer entered on this bond must be exactly as listed on the Certificate or Power of Attorney accompanying this bond.**

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

CONTRACT NO. _____
DATE 12/9/2024
ROLL CALL NO. _____

CONTRACT

THIS CONTRACT, made and entered into at Des Moines, Iowa, on _____, by and between the City of Des Moines, by its Mayor, upon order of its City Council, hereinafter the "Jurisdiction", and

_____, hereinafter the "Contractor".

WITNESSETH:

The Contractor hereby agrees to complete the work comprising the below referenced improvement as specified in the contract documents, which are officially on file with the Jurisdiction, in the Des Moines City Engineer's Office. This contract includes all contract documents. The work under this contract shall be constructed in accordance with the SUDAS Standard Specifications, 2024 Edition; and as further modified by the supplemental specifications and special provisions included in said contract documents, and the Contract Attachments attached hereto. The Des Moines City Engineer is the Engineer. The Contractor further agrees to complete the work in strict accordance with said contract documents, and to guarantee the work as required by law, for the time required in said contract documents, after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: Item 2: Bid Items, Quantities and Prices which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders for the following described improvements:

E. Army Post Road and SE 36th Street Roundabout, 042022016
IDOT Project No. CS-TSF-1945(870)--85-77

The improvement includes Portland Cement Concrete (PCC) pavement, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration, all in accordance with the contract documents including Plan File No. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid amount of _____ dollars ($_____) which amount shall constitute the required amount of the performance, payment, and maintenance bond. The Contractor hereby agrees to commence work under this contract on or after the date a written Notice to Proceed is issued by the Jurisdiction and to fully complete the project not later than May 15, 2026, and in accordance with the Completion Provisions; and to pay liquidated damages for noncompliance with completion provisions in the amount of One Thousand and 00/100 dollars ($1,000.00), for each calendar day thereafter that the work remains incomplete.

IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION:	CONTRACTOR:
By _____ Connie Boesen, Mayor (Seal) ATTEST: _____ Laura Baumgartner, City Clerk FORM APPROVED BY: _____ Kathleen Vanderpool, Deputy City Attorney	_____ Contractor By _____ Signature _____ Title _____ _____ Street Address _____ _____ City, State - Zip Code _____ / _____ Telephone Number / Email Address

CONTRACTOR PUBLIC REGISTRATION INFORMATION To Be Provided By:

1. All Contractors: The Contractor's Public Registration Number, issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code, is as follows:
   Number

2. Out-of-State Contractors:

   A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the division of labor services of the department of workforce development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the City Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.

   B. Prior to entering into contract, the designated low bidder, if it be a corporation organized under the laws of a state other than Iowa, shall file with the Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, or as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

NOTE: All signatures on this contract must be original signatures in ink: copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGEMENT

State of _____)
) SS
_____ County)

On this _____ day of _____, 20 _____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

_____

Notary Public in and for the State of _____

My commission expires _____

Activity ID 042022016

CONTRACT ATTACHMENT: ITEM 1: GENERAL

1. The Contractor acknowledges and agrees:
   - To comply with the Equal Employment Opportunity Program included in the City of Des Moines Contract Compliance Program, which is available at the following website www.dsm.city/contractcompliance program or from the City Engineer's Office.
   - To comply with any and all applicable provisions of the Des Moines Human Rights Ordinance, Chapter 62, of the Des Moines Municipal Code.
   - Not to discriminate against any employees, or applicants for employment, on the basis of age, race, religion, creed, color, sex, sexual orientation, national origin, ancestry, disability, familial status or gender identity.
   - To include this provision in all subcontracts for this project.

2. The Contractor agrees to comply with the requirements of the City of Des Moines Contract Compliance Program as referenced in the proposal. Final acceptance of the project will not be made until the Contractor has submitted to the City Engineer a notarized summary of payments to and scope of work by all DBE/TSB subcontractors.

3. The City of Des Moines Master Construction Safety Packet (Safety Plan) is available at www.dsm.city/masterconstructionsafetypacket and is also available upon request from the Engineering Department. The Contractor understands and agrees that said Safety Plan is for the Contractor's information only and that it is the Contractor's sole responsibility to provide, or make available, this safety information to all its Subcontractors.

4. The Contractor understands and agrees that the construction of the work included in this contract is by its nature dangerous work. The Contractor agrees:
   - That the Contractor should have a safety program; however, the Contractor need not submit a safety program to the City of Des Moines, and City of Des Moines staff will not review or approve the Contractor's safety program. The City of Des Moines assumes that the Contractor will maintain a safe worksite; however, City of Des Moines staff will not intrude in the Contractor's responsibility for safety issues.
   - That until the work is accepted by the Jurisdiction; the work shall be in the custody of and under the charge, care, and control of the Contractor.
   - That the Contractor is responsible for the project area or work site.
   - That the Contractor is solely responsible for the safety of everyone on its work site.
   - That it is the Contractor's sole responsibility to provide as safe a working site as possible given the nature of the work.
   - That it is the Contractor's responsibility to notify and advise its employees, subcontractors, suppliers, and everyone on the worksite of the dangers associated with the work, and provide them with appropriate safety information to protect them from those dangers.

5. The Contractor acknowledges and agrees that no contract shall be binding upon the City of Des Moines until said contract has been executed by the Bidder, and shall have been approved by the City Council and executed by the Mayor and attested to by the City Clerk.

6. The Contractor agrees that sixty (60) days shall constitute a reasonable time within which it shall be required to make progress payments or final payment to subcontractors after each subcontractor's satisfactory performance of its work, all as required by Section 573.12 2.b.(2) of the Code of Iowa.

CONTRACT ATTACHMENT: ITEM 2 - BID ITEMS, QUANTITIES AND PRICES: 1 of 4

This contract is awarded and executed for completion of the work specified in the contract documents for the bid price tabulated below as proposed by the contractor in its proposal submitted in accordance with notice to bidders and notice of public hearing. All quantities are subject to revision by the Jurisdiction. Quantity changes which amount to twenty (20) percent or less of the amount bid shall not affect the unit bid price of that item.

IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
1	*	CLEARING & GRUBBING	UNIT	745.30		
2	*	CLEARING & GRUBBING	ACRE	1.00		
3	*	TOPSOIL, ON SITE	CY	7476.00		
4	*	EXCAVATION, CLASS 10, ROADWAY & BORROW	CY	2980.00		
5	*	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	11167.00		
6	*	SUBGRADE PREPARATION, 12 IN.	SY	15192.00		
7	*	MODIFIED SUBBASE, 6 IN.	CY	2701.00		
8	*	REMOVAL OF EXISTING CULVERTS LESS THAN OR EQUAL TO 36 IN. DIA.	LF	134.00		
9	*	REMOVAL OF EXISTING CULVERTS GREATER THAN 36 IN. DIA.	LF	181.00		
10		STORM SEWER, TRENCHED, RCP, CLASS V, 15 IN.	LF	229.00		
11		STORM SEWER, TRENCHED, RCP, CLASS III, 30 IN.	LF	283.00		
12		STORM SEWER, TRENCHED, RCP, CLASS V, 30 IN.	LF	308.00		
13		PIPE APRON, RCP, 15 IN.	EA	1.00		
14		PIPE APRON, RCP, 30 IN.	EA	5.00		
15		SUBDRAIN, PVC, 6 IN.	LF	6030.00		
16		SUBDRAIN CLEANOUT, TYPE A-1	EA	14.00		
17		SUBDRAIN CONNECTION TO INTAKE OR STORM SEWER	EA	14.00		
18		SUBDRAIN OUTLET TO DITCH	EA	8.00		

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
19	*	CLEANING, INSPECTION, AND TESTING OF SEWERS	LS	1.00		
20		FIRE HYDRANT ASSEMBLY	EA	1.00		
21		MANHOLE, SW-401, 60 IN.	EA	2.00		
22		MANHOLE, SW-401, 72 IN.	EA	1.00		
23		INTAKE, SW-505	EA	1.00		
24		INTAKE, SW-506	EA	1.00		
25		INTAKE, SW-512, 24 IN.	EA	1.00		
26		PAVEMENT, PCC, CLASS C, 9 IN.	SY	13419.00		
27		CONCRETE MEDIAN, TIED	SY	1976.00		
28		SIDEWALK, PCC, 6-IN.	SY	85.00		
29		DETECTABLE WARNINGS	SF	160.00		
30		DRIVEWAY, PAVED, PCC, 6 IN.	SY	54.00		
31	*	GRANULAR SURFACING, 6 IN.	SY	165.00		
32	*	PAVEMENT REMOVAL	SY	9142.00		
33	*	PAINTED PAVEMENT MARKINGS, DURABLE, EPOXY	STA	99.79		
34	*	GROOVES CUT FOR PAVEMENT MARKINGS	STA	99.79		
35	*	TRAFFIC CONTROL	LS	1.00		
36		PORTABLE DYNAMIC MESSAGE SIGNS	CDAY	182.00		
37		TRAFFIC SIGNS	SF	164.50		
38		PERFORATED SQUARE STEEL TUBE POST	LF	321.00		

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
39		PERFORATED SQUARE STEEL TUBE POST ANCHORS, SOIL INSTALLATION	EA	20.00		
40		PERFORATED SQUARE STEEL TUBE POST ANCHORS, CONCRETE INSTALLATION	EA	12.00		
41	*	REMOVE AND SALVAGE TRAFFIC SIGNS	EA	10.00		
42	*	HYDRAULIC SEEDING, FERT. & MULCH., TYPE 1	ACRE	7.60		
43	*	HYDRAULIC SEEDING, FERT. & MULCH., TYPE 4	ACRE	7.60		
44	*	PLANTS	EA	27.00		
45	*	RIVER LANDSCAPE ROCK	CY	3.50		
46	*	STORMWATER POLLUTION PREVENTION	LS	1.00		
47	*	WATTLE, INSTALLATION, 12 IN.	LF	4093.00		
48	*	WATTLE, REMOVAL	LF	4093.00		
49	*	RIP RAP, CLASS E	TN	66.00		
50	*	RIP RAP, MACADAM STONE	TN	77.00		
51	*	SILT FENCE, INSTALLATION	LF	3245.00		
52	*	SILT FENCE, MAINTENANCE	LF	3245.00		
53	*	SILT FENCE, REMOVAL	LF	3245.00		
54	*	EROSION CONTROL MULCHING, HYDROMULCHING	ACRE	15.20		
55	*	TURF REINFORCEMENT MATS, TYPE 4	SF	830.00		
56	*	INLET PROTECTION DEVICE, INSTALLATION	EA	5.00		
57	*	INLET PROTECTION DEVICE, MAINTENANCE	EA	5.00		
58	*	TREE PROTECTION FENCE	LF	250.00		

CONTRACT ATTACHMENT: ITEM 2 - BID ITEMS, QUANTITIES AND PRICES: 4 of 4

Activity ID 04-2022-016

ITEM		DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
59	*	CONSTRUCTION SURVEY	LS	1.00		
60	*	MOBILIZATION	LS	1.00		
61	*	MAINTENANCE OF POSTAL SERVICE	LS	1.00		
62	*	MAINTENANCE OF SOLID WASTE COLLECTION	LS	1.00		
					TOTAL CONSTRUCTION COST	

*Item does not have to be included in 4-year maintenance bond but shall be covered by a 1-year maintenance bond.

NOTE: It is understood that the above quantities are estimated for the purpose of this bid. All quantities are subject to revision by the City. Quantity changes which amount to twenty (20) percent or less of the total bid shall not affect the unit bid price of that item.

CONTRACT ATTACHMENT: ITEM 3 – COMPLETION PROVISIONS

The Contractor hereby agrees to:

1. Fully complete all phases of the project including restoration of all disturbed surfaces by May 15, 2026 and pay liquidated damages for noncompliance in the amount of one thousand and no/100 dollars ($1,000.00) for each calendar day thereafter.

2. Undertake and schedule work in compliance with the intermediate completion provisions described below. The work to be completed by the intermediate completion period shall be such work as required to satisfy the intermediate completion provision description.

   Intermediate Completion Provision No. 1 (Calendar Day Completion Requirement): The Contractor shall fully complete construction of all work included in the project (except for plantings and final seeding) and to have the road reopened to traffic by October 20th, 2025; and to pay liquidated damages for noncompliance with said completion provisions in the amount of two thousand and no/100 dollars ($2,000.00) for each calendar day thereafter that all work is not completed in accordance with the described Intermediate Completion Provision No. 1.

3. Pay separate sums of liquidated damages that will be assessed for each of the conditions described hereinbefore, and they shall be cumulative if multiple conditions have not been satisfied.

CONTRACT ATTACHMENT: ITEM 4 TARGETED SMALL BUSINESS (TSB) PRE-BID CONTRACT INFORMATION

Form 730007wd
07-97

Contractor _____

Project # CS-TSF-1945(870)--85-77

County Polk

City Des Moines, Iowa

TARGETED SMALL BUSINESS (TSB) PRE-BID CONTACT INFORMATION

(To Be Completed By All Bidders Per The Current Contract Provision)

In order for your bid to be considered responsive, you are required to provide information on this form showing your Targeted Small Business contacts made with your bid submission. This information is subject to verification and confirmation.

In the event it is determined that the Targeted Small Business goals are not met, then before awarding the contract, the Contracting Authority will make a determination as to whether or not the apparent successful low bidder made good faith efforts to meet the goals.

NOTE: Every effort shall be made to solicit quotes or bids on as many subcontractable items as necessary to achieve the established goals. If a TSB's quote is used in the bid, it is assumed that the firm listed will be used as a subcontractor.

TABLE OF INFORMATION SHOWING BIDDERS PRE-BID
TARGETED SMALL BUSINESS (TSB) CONTACTS

SUBCONTRACTOR	TSB	DATES CONTACTED	QUOTES RECEIVED		QUOTATION USED IN BID	
			YES/NO	DATES CONTACTED	YES/NO	DOLLAR AMT. PROPOSED TO BE SUBCONTRACTED

Total dollar amount proposed to be subcontracted to TSB on this project $ _____
List items by name to be subcontracted:

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

SURETY'S BOND NO _____

PERFORMANCE, PAYMENT & MAINTENANCE BOND

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal (the "Contractor" or "Principal"), and _____, as Surety, are held and firmly bound unto the City of Des Moines, as Obligee (the "Jurisdiction"), and to all persons who may be injured by any breach of any of the conditions of this Bond in the penal sum of _____ dollars ($_____), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, legal representatives and assigns, jointly and severally, firmly by these presents.

The conditions of the above obligations are such that whereas the Contractor entered into a contract with the Jurisdiction, bearing the date of _____, (the "Contract") wherein the Contractor undertakes and agrees to construct the following described improvements:

E. Army Post Road and SE 36th Street Roundabout, 042022016
IDOT Project No. CS-TSF-1945(870)--85-77

The improvement includes Portland Cement Concrete (PCC) pavement, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration, all in accordance with the contract documents including Plan File No. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa

and to faithfully perform all the terms and requirements of the Contract within the time specified, in a good and workmanlike manner, and in accordance with the Contract Documents. Provided however, that one year after the date of acceptance by the Jurisdiction as complete, of the work under the above referenced Contract, the maintenance portion of this Bond shall continue in force but the penal sum for maintenance shall be reduced to _____ dollars ($_____), which is the cost associated with those items shown on the Proposal and in the Contract which require a maintenance bond period in excess of one year.

It is expressly understood and agreed by the Contractor and Surety that the following provisions are a part of this Bond and are binding upon the Contractor and Surety, to-wit:

1. PERFORMANCE: The Contractor shall well and faithfully observe, perform, fulfill and abide by each and every covenant, condition and part of the Contract and Contract Documents, by reference made a part hereof, and shall indemnify and save harmless the Jurisdiction from all outlay and expense incurred by the Jurisdiction by reason of the Contractor's default or failure to perform as required. The Contractor shall also be responsible for the default or failure to perform as required under the Contract and Contract Documents by all its subcontractors, suppliers, agents, or employees furnishing materials or providing labor in the performance of the Contract.

2. PAYMENT: The Contractor and Surety on this bond hereby agree to pay all just claims submitted by persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the performance of the Contract, including but not limited to claims for all amounts due for labor, materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used by the Contractor or any subcontractor, wherein the same are not satisfied out of the portion of the contract price which the Jurisdiction is required to retain until completion of the improvement, but the Contractor and Surety shall not be liable unless the claims have been established as provided by law. The Contractor and Surety hereby bind themselves to the obligations and conditions set forth in Iowa Code Chapter 573.

3. MAINTENANCE: The Contractor and the Surety shall, at their own expense:

   A. Remedy any and all defects that may develop in or result from work to be performed under the Contract within the period of four (4) year(s) from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of the work;

   B. Keep all work in continuous good repair; and

   C. Pay the Jurisdiction's reasonable costs of monitoring and inspecting to assure that any defects are remedied, and to repay the Jurisdiction all outlay and expense incurred as a result of Contractor's and Surety's failure to remedy any defect as required by this section.

   Contractor's and Surety's obligation extends to defects in workmanship or materials not discovered or known to the Jurisdiction at the time the work was accepted.

4. GENERAL: Every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

   A. To consent without notice to any extension of time to the Contractor in which to perform the Contract;

   B. To consent without notice to any change in the Contract or Contract Documents, that increases the total contract price and the penal sum of this bond, provided that all such changes do not, in the aggregate, involve an increase of more than twenty percent of the total contract price, and that this Bond shall then be released as to such excess increase; and

   C. To consent without notice that this Bond shall remain in full force and effect until the contract is completed, whether completed within the specified contract period, within an extension thereof, or within a period of time after the contract period has elapsed and liquidated damages are being charged against the Contractor.

5. The Contractor and every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

   A. That no provision of this Bond or of any other contract shall be valid which limits to less than five years after the acceptance of the work under the Contract the right to sue on this Bond.

B. That as used herein, the phrase "all outlay and expense" is not to be limited in any way, but shall include the actual and reasonable costs and expenses incurred by the Jurisdiction including interest, benefits and overhead as applicable. Accordingly, "all outlay and expense" would include but not be limited to all contract or employee expense, all equipment usage or rental, materials, testing, outside experts, attorneys fees (including overhead expenses of the Jurisdiction's staff attorneys), and all costs and expenses of litigation as they are incurred by the Jurisdiction. It is intended the Contractor and Surety will defend and indemnify the Jurisdiction on all claims made against the Jurisdiction on account of Contractor's failure to perform as required in the Contract and Contract Documents, that all agreements and promises set forth in the Contract and Contract Documents, in approved change orders, and in this Bond will be fulfilled, and that the Jurisdiction will be fully indemnified so that it will be put into the position it would have been in had the Contract been performed in the first instance as required.

C. In the event the Jurisdiction incurs any "outlay and expense" in defending itself with respect to any claim as to which the Contractor or Surety should have provided the defense, or in the enforcement of the promises given by the Contractor in the Contract, Contract Documents, or approved change orders, or in the enforcement of the promises given by the Contractor and Surety in this Bond, the Contractor and Surety agree that they will make the Jurisdiction whole for all such outlay and expense, provided that the Surety's obligation under this Bond shall not exceed 125% of the penal sum of this Bond.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction to enforce the provisions of this Bond or to collect the monetary obligation accruing to the benefit of the Jurisdiction, the Contractor and Surety agree, jointly and severally, to pay the Jurisdiction all outlay and expense incurred by the Jurisdiction. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against the Surety for any amount guaranteed hereunder whether action is brought against the Contractor or whether or not the Contractor is joined in the action.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall faithfully perform all of the promises of the Principal, as set forth and provided in the Contract, in the Contract Documents, and in this Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

When a word, term, or phrase is used in this Bond, it shall be interpreted or construed first as defined in this Bond, the Contract, or the Contract Documents; second, if not defined in the Bond, Contract, or Contract Documents, it shall be interpreted or construed as defined in applicable provisions of the Iowa Code; third, if not defined in the Iowa Code, it shall be interpreted or construed according to its generally accepted meaning in the construction industry; and fourth, if it has no generally accepted meaning in the construction industry, it shall be interpreted or construed according to its common or customary usage.

Failure to specify or particularize shall not exclude terms or provisions not mentioned and shall not limit liability hereunder. The Contract and Contract Documents are hereby made a part of this Bond.

Witness our hands, in triplicate, this _____ day of _____ , 20_____

PRINCIPAL:	SURETY:
_____ Contractor	_____ Surety Company
By _____ Signature	By _____ Signature Attorney-in-Fact/Officer
_____ Title	_____ Name of Attorney-in-Fact/Officer
FORM APPROVED BY:	_____ Company Name
	_____ Company Address
	_____ City, State Zip Code
_____ Kathleen Vanderpool Deputy City Attorney	_____ Company Telephone Number

NOTE:

1. **All signatures on this performance, payment & maintenance bond must be original signatures in ink; copies or facsimile of any signature will not be accepted.**
2. **This bond must be sealed with the Surety's raised, embossed seal.**
3. **The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal.**
4. **The name and signature of the Surety's Attorney-in-Fact/Officer entered on this bond must be exactly as listed on the Certificate or Power of Attorney accompanying this bond.**
5. **This bond form must be utilized as printed; no additions/deletions/alterations are permitted, other than providing the required information.**

SPECIAL PROVISION
BIDDING REQUIREMENTS
ON

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT
IDOT Project No. CS-TSF-1945(870)--85-77
ACTIVITY ID 04-2022-016

1) AWARD OF CONTRACT

The apparent low Bidder on this project will be required to furnish executed contract; Performance, Payment, and Maintenance Bond; Certificate of Insurance; and NPDES Certification Statements, if required, in substantial compliance with the contract documents to the Engineering Department before 12:00 noon on Wednesday, December 4, 2024. Completed documents in accordance with the contract documents and acceptable to the City of Des Moines Engineering and Legal Departments will be presented to the City Council for award of this contract on Monday, December 9, 2024. This would allow construction to begin upon issuance of the Notice to Proceed by the City Engineer.

By submission of a bid, the Bidder agrees that if the Bidder fails to furnish said executed contract; Performance, Payment, and Maintenance Bond; Certificate of Insurance; and NPDES Certification Statements, if required, in substantial compliance with the contract documents to the Engineering Department before 12:00 noon on Wednesday, December 4, 2024; the amount of the Bidder's bid security may become the property of the City and may be retained, not as a penalty, but as liquidated damages. The award of the contract may then, at the discretion of the City, be made to the next-lowest responsible Bidder, or the work may be readvertised or may be constructed by the City in any legal manner. Notice to Proceed will not be issued until the Contractor's insurance is in compliance with the specifications.

The Bidder is reminded that all subcontractors must be approved by the City Council. The Council policy is that subcontractors be approved at the time the contract is awarded, if possible. The Bidder should submit a letter requesting approval of any subcontractors along with the subcontractor's NPDES Certification Statement, if required, at the time its executed contracts are submitted for approval.

2) CONTRACT COMPLIANCE PROGRAM

The current Contract Compliance Program for the City of Des Moines is available for viewing www.dsm.city/contractcompliianceprogram. The Contract Compliance Program includes:

a. EEO Program – Complaints of discrimination in violation of the Des Moines Human Rights Ordinance, or corresponding state or federal law, should still be filed with the appropriate city, state, or federal agency. If a Contractor is found by one of these agencies to be engaging in illegal discrimination, the Contractor will be in breach of its contract with the City of Des Moines and appropriate action will be taken.

b. DBE/TSB Program: Certification – The City of Des Moines' program is a DBE/TSB Program whereby both certified DBEs and certified TSBs are equally eligible under the program. All DBEs shall be certified by the Iowa Department of Transportation (IDOT), and the Certified Directory of DBEs is available at the following website https://secure.iowadot.gov/DBE/Directory/Index/.

All TSBs shall be certified by the Iowa Economic Development Authority, and the Certified Directory of TSBs is available at the following website https://iowaeda.microsoftcrmportals.com/tsb-search/. The TSB website allows the user to search by name or other keyword. If the user enters the keyword "CONST" in the space next to **Service Description** and clicks **SEARCH**, the database will provide a listing of all TSBs that have identified various forms of construction as their type of work. The Directories will not be printed in the contract documents. Copies of the DBE and TSB Directories are available from the Engineering Department upon request.

c. DBE/TSB Program: Annual and Contract Goals – The City's overall annual DBE/TSB goal will be based on the IDOT DBE overall annual goal established for the corresponding federal fiscal year as further adjusted and established by the Engineering Department to consider such factors as the current capacity of DBEs/TSBs to perform work, differences in the DBE versus TSB market, etc. By utilizing the IDOT overall annual DBE goal as the City's overall annual DBE/TSB goal, the goal will be independently reviewed annually and updated regarding the availability of the DBEs that are ready, willing, and able to perform work. Many DBEs are also certified as TSBs and the availability is similar. The City's overall annual DBE/TSB goal represents a target that the City would like to achieve by including DBE/TSB participation on City contracts; and is not a mandatory goal for this project. The Bidder is encouraged to use its best efforts to meet, and if possible, exceed the City's overall annual DBE/TSB goal.

3) ALTERNATE SALES AND USE TAX

Section 1020, 1.08, B, of the General Supplemental Specifications shall apply to this contract. The Bidder should not include sales tax in the bid pursuant to Iowa Code. A sales tax exemption certificate will be available for all material purchased for incorporation in the project. Complete information on qualifying materials and supplies can be found on the Iowa Department of Revenue's (IDR) website at www.tax.iowa.gov. Contact the IDR by phone at (515) 281-3114, or by email at idr@iowa.gov, if you have questions on this requirement.

DEPARTMENT OF ENGINEERING
CITY OF DES MOINES, IOWA

SPECIAL PROVISION
BIDDING REQUIREMENTS

TARGETED SMALL BUSINESS (TSB)
AFFIRMATIVE ACTION RESPONSIBILITIES
ON

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT
IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

The attached Contract Provision for Targeted Small Business (TSB) Affirmative Action Responsibilities on Non-Federal Aid Projects (Third-Party State-Assisted Projects) shall apply to this project. There is no TSB Goal on this project; however, Section 8 of the attached Contract Provision still requires positive efforts to utilize TSB's on this project. The bidder shall complete the "Targeted Small Business (TSB) Pre-bid Contract Information" form listing pre-bid contacts with TSB's and submit it with the proposal.

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October 2023

CONTRACT PROVISION

Targeted Small Business (TSB) Affirmative Action Responsibilities on Non-Federal-aid Projects (Third-party State-Assisted Projects)

1. TSB DEFINITION

   A TSB is a small business, as defined by Iowa Code Section 15.102(10), which is 51% or more owned, operated and actively managed by one or more women, minority persons, service-disabled veterans or persons with a disability provided the business meets all of the following requirements: is located in this state, is operated for profit and has an annual gross income of less than 4 million dollars computed as an average of the three preceding fiscal years.

2. TSB REQUIREMENTS

   In all State-assisted projects made available through the Iowa Department of Transportation, local governments have certain affirmative action requirements to encourage and increase participation of disadvantaged individuals in business enterprises. These requirements are based on Iowa Code Section 19B.7. These requirements supersede all existing TSB regulations, orders, circulars, and administrative requirements.

3. TSB DIRECTORY INFORMATION

   Available from: Iowa Economic Development Authority
   Targeted Small Business Certification Program
   1963 Bell Ave.
   Suite 200
   Des Moines, IA 50315
   Phone: (515-348-6193)
   Website: https://www.iowaeda.com/small-business/targeted-small-business/

4. THE CONTRACTOR'S TSB POLICY

   The contractor is expected to promote participation of disadvantaged business enterprises as suppliers, manufactures and subcontractors through a continuous, positive, result-oriented program. Therefore, the contractor's TSB policy shall be:

   > It is the policy of this firm that Targeted Small Business (TSB) concerns shall have the maximum practical opportunity to participate in contracts funded with State-assisted funds which are administered by this firm (e.g. suppliers, manufacturers and subcontractors). The purpose of our policy is to encourage and increase the TSB participation in contracting opportunities made available by State-assisted programs.

5. CONTRACTORS SHALL APPOINT AN EQUAL EMPLOYMENT OPPORTUNITY (EEO) OFFICER

   The contractor shall designate a responsible person to serve as TSB officer to fulfill the contractors affirmative action responsibilities. This person shall have the necessary statistics, funding, authority, and responsibility to carry out and enforce the firm's EEO policy. The EEO officer shall be responsible for developing, managing, and implementing the program on a day-to-day basis. The officer shall also:

   A. For current TSB information, contact the Iowa Economic Development Authority (515-348-6193) to identify potential material suppliers, manufacturers, and contractors.

B. Make every reasonable effort to involve TSBs by soliciting quotations from them and incorporating them into the firm's bid.

C. Make every reasonable effort to establish systematic written and verbal contact with those TSBs having the materials or expertise to perform the work to be subcontracted, at least two weeks prior to the time quotations are submitted. Maintain complete records of negotiations efforts.

D. Provide or arrange for assistance to TSBs in seeking bonding, analyzing plans/specifications or other actions that can be viewed as technical assistance.

E. Ensure the scheduled progress payments are made to TSBs as agreed in subcontract agreements.

F. Require all subcontractors and material suppliers to comply with all contract equal opportunity and affirmative action provisions.

6. COUNTING TSBs PARTICIPATION ON A PROJECT

TSBs are to assume actual and contractual responsibilities for provision of materials/supplies, subcontracted work, or other commercially useful function.

A. The bidder may count:

1) Planned expenditures for materials/supplies to be obtained from TSB suppliers and manufacturers; or
2) Work to be subcontracted to a TSB; or
3) Any other commercially useful function.

B. The contractor may count:

1) 100% of an expenditure to a TSB manufacturer that produces/supplies goods manufactured from raw materials.
2) 60% of an expenditure to TSB suppliers that are not manufacturers; provided the suppliers perform a commercially useful function in the supply process.
3) Only those expenditures to TSBs that perform a commercially useful function in the work of a contract, including those as a subcontractor.
4) Work the Contracting Authority has determined that it involves a commercially useful function. The TSB must have a necessary and useful role in the transaction of a kind for which there is a market outside the context of the TSB program. For example, leasing equipment or purchasing materials from prime contractor would not count.

7. REQUIRED DATA, DOCUMENTS AND CONTRACT AWARD PROCEDURES FROM BIDDERS/CONTRACTORS FOR PROJECTS WITH ASSIGNED GOALS

A. Bidders

Bidders who fail to demonstrate reasonable positive efforts may be declared ineligible to be awarded the contract. Bidders shall complete the bidding documents plus a separate form called "TSB Pre-Bid Contact Information". This form includes:

1) Name(s) of the TSB(s) contacted regarding subcontractable items.
2) Date of the contract.
3) Whether or not a TSB bid/quotation was received.
4) Whether or not the TSB's bid/quotation was used.
5) The dollar amount proposed to be subcontracted.

B. Contractors Using Quotes From TSBs

Use those TSBs whose quotes are listed in the "Quotation Used in Bid" column along with a "yes" indicated on the Pre- BID Contract Information Form.

C. Contractors NOT Using Quotes From TSBs

If there are no TSBs listed on the Pre-bid Contact Information Form, then the contractor shall document all efforts made to include TSB participation in this project by documenting the following:

1) What pre-solicitation or pre-bid meetings scheduled by the contracting authority were attended?
2) Which general news circulation, trade associations and/or minority-focused media were advertised concerning the subcontracting opportunities?
3) Were written notices sent to TSBs that TSBs were being solicited and was sufficient time allowed for the TSBs to participate effectively?
4) Were initial solicitations of interested TSBs followed up?
5) Were TSBs provided with adequate information about the plans, specifications, and requirements of the contract?
6) Were interested TSBs negotiated with in good faith? If a TSB was rejected as unqualified, was the decision based on an investigation of their capabilities?
7) Were interested TSBs assisted in obtaining bonding, lines of credit or insurance required by the contractor?
8) Were services used of minority community organization, minority contractors' groups; local State and Federal minority business assistance offices or any other organization providing such assistance.

The above documentation shall remain in the contractor's files for a period of three (3) years after the completion of the project and be available for examination by the Iowa Economic Development Authority.

8. POSITIVE EFFORT DOCUMENTATION WHEN NO GOALS ARE ASSIGNED

Contractors are also required to make positive efforts in utilizing TSBs on all State-assisted projects which are not assigned goals. Form 730007, "TSB Pre-bid Contact Information" is required to be submitted with bids on all projects. If there is no TSB participation, then the contractor shall comply with section 7C of this document prior to the contract award. Form 730007 can be found here: https://iowadot.seamlessdocs.com/f/TargetedSmallBusinessTSBPrebidContactInfo

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ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

SPECIAL PROVISION
CONTRACTUAL REQUIREMENTS FOR STARTING DATE
ON

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT
IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

STARTING DATE – PROPERTY ACCESS SCHEDULE

At the time of award for this contract, the City will not yet control all of the property interests needed for construction of this project. Upon award of the contract, a Limited Notice to Proceed will be issued to exclude access to any properties listed below for which the City has not taken possession of the property interests required to construct this project. Construction access to the following properties is anticipated to be available according to the following schedule:

ADDRESS/TAX PARCEL	PROJECT PARCEL NO.	OWNER	ANTICIPATED ACCESS DATE
120/07007-547-000	12	LYLE WATTS	2/1/2025
120/07007-602-000	13	LYLE WATTS	2/1/2025

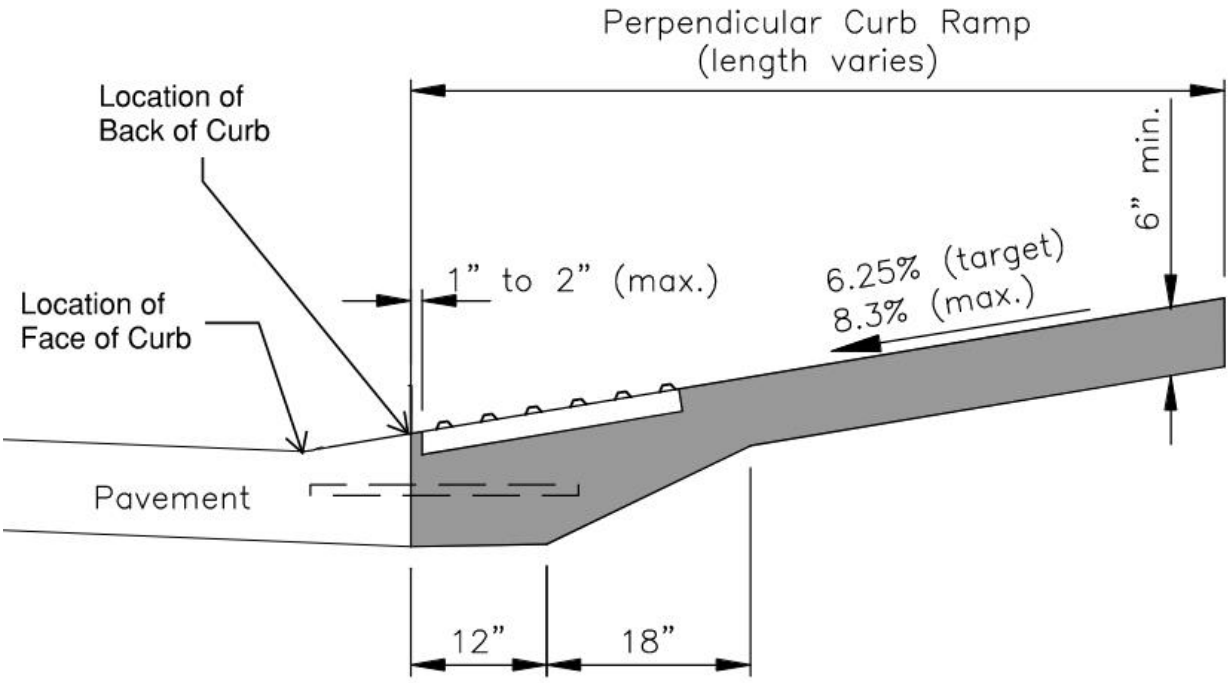
Failure of the City to meet the above schedule shall not constitute a basis for additional compensation to Contractor, but may be a justification for extending the completion date if it affects the controlling work operation as determined by a critical path method determination.

ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

SPECIAL PROVISION
CONTRACTUAL REQUIREMENTS FOR
DETECTABLE WARNING PANEL PLACEMENT
ON

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT
IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

The Contractor shall construct detectable warning panels with concrete embedment around the cast iron domes. The Access Board, with the release of PROWAG in August 2023, now allows up to a 2" max concrete border around detectable warning panels at sidewalk curb ramps (*the Access Board recognized constructability issues with placing the detectable warning panels right at the back of curb at a joint*).



SPECIAL PROVISION
CONTRACTUAL REQUIREMENTS
FOR NPDES PERMIT REQUIREMENTS ON

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT
IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

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4.	Public Notice of Storm Water Discharge	8
5.	NPDES Certification Statement	9-11

1. GENERAL

A. This project is subject to Section 402(b) of the Clean Water Act and Iowa Code Section 455B.174 and Iowa Administrative Code 567-64.4 (projects disturbing one or more total acres) and requires inclusion in the National Pollution Discharge Elimination System (NPDES) General Permit No. 2, or an individual NPDES Permit for stormwater (also storm water) discharge associated with industrial activity for construction activities. All Work shall be in accordance with Section 9040 – Erosion and Sediment Control of the SUDAS Standard Specifications and the General Supplemental Specifications. Measurement for payment shall be in accordance with the General Supplemental Specifications.

B. The City of Des Moines has caused a general Storm Water Pollution Prevention Plan (SWPPP) to be prepared which is included in these contract documents. Said general SWPPP is based upon general construction methods and does not include any information regarding the Contractor's scheduling or specific construction methods. **The Contractor shall be responsible to review said general SWPPP, complete the SWPPP by providing data and/or information as necessary, and propose any revisions necessary for compliance with the General Permit No. 2 based on the Contractor's proposed scheduling and construction methods. The Contractor will be responsible for the preparation of any modifications to said general SWPPP. If necessary, the Contractor shall be responsible to retain or engage persons knowledgeable in the preparation of a SWPPP.** The SWPPP shall be prepared in a manner that complies with all applicable requirements.

C. The City of Des Moines will be responsible for publishing the Public Notice of Storm Water Discharge, as required for General Permit No. 2, and will provide the Contractor with the affidavits of publication for said notices.

D. Except as specifically otherwise stated herein, the Contractor shall be responsible for any and all compliance with erosion control, stormwater discharge, the SWPPP and/or permit requirements regarding same, including all fees. The Contractor shall be the "operator" of the project for all compliance purposes, notwithstanding the status of the City as a co-permittee. The Contractor shall indemnify the City and hold the City harmless from any and all claims, including without limitation penalties, fines, attorney fees, consulting fees, and costs, arising out of the work at this project and/or the alleged violation of erosion control requirements, stormwater discharge and management, the

SWPPP and/or permit requirements regarding same. The Contractor shall take prompt action to address and/or avoid any potential or real violation of same at their own cost.

E. The Contractor shall submit to the Engineer a copy of the Iowa Department of Natural Resources authorization prior to the City's issuance of the Notice to Proceed for the work.

F. The Contractor shall incorporate all erosion control features into the project at the earliest practicable time, as outlined in the SWPPP or work schedule. Stormwater Pollution Prevention measures shall be constructed at locations shown in the contract documents and as determined by the Contractor, at locations where conditions develop during construction that were unforeseen during design, or where needed to control water pollution that develops during normal construction practices.

G. The Contractor shall coordinate the required site inspections with the Engineer or the Engineers representative so a City Employee can sign the site inspection report. The site inspection shall be distributed to the Prime Contractor to address deficiencies, the City of Des Moines MS4 coordinator, Justin D'Souza, the Engineer, and the Engineer's representative.

H. The weekly site inspections shall be completed each week in compliance with the Iowa Department of Natural Resources General Permit No. 2. Failure to perform and submit the inspections within the required timeframe will result in a deduction of $750 per calendar day from payment due under the contract, except when Engineer extends such time period.

I. Failure to address the erosion control deficiencies within, 2 calendar days of the completion of the site inspection, will result in a deduction of $750 per calendar day from payment due under the contract, except when Engineer extends such time period.

J. The Engineer may suspend operations, without cost to the City of Des Moines, if the Contractor fails to provide adequate erosion control measures in a timely manner.

2. GENERAL STORMWATER POLUTION PREVENTION PLAN (SWPPP)

A. Erosion and Sediment Controls

Erosion and Sediment Controls are measures to be used for controlling erosion and sediment throughout the construction project and include stabilization measures for controlling erosion from disturbed areas and structural controls to divert runoff and remove sediment. Contractor/subcontractor is responsible for the implementation and management of control measures specific to this site. As work progresses, field investigation may indicate additional erosion control measures may be required as determined by the contractor, owner, engineer, city or other governmentally regulated agencies.

1. Stabilization

a. Preserve existing vegetation in areas not disturbed during construction.
b. Area of disturbed soil at any one time by construction operations shall be held to a minimum.
c. Temporary Stabilization - areas where construction activity is not planned to occur for at least 14 days will be stabilized immediately by temporary erosion controls.
   - Topsoil stockpiles and disturbed portions of the site will be stabilized with temporary mulch.
   - Frequent watering during construction in dry weather shall minimize wind erosion from exposed soil.
d. Permanent Stabilization - areas where construction activity has permanently ended will be stabilized immediately upon ceasing construction activities in that area.

- Permanent seeding and mulch in all areas where final grading is complete.
- Permanently seed drainage swales immediately upon reaching final grade to facilitate sediment deposition in surface runoff.

e. Vegetative buffer strips
   - Where possible, existing vegetation strips should be left in place to increase infiltration and sediment deposition by reducing runoff velocity.

f. Protection of Trees and Natural Vegetation
   - Undisturbed areas will utilize existing vegetation as a natural buffer zone to increase infiltration and sediment deposition by reducing runoff velocity.

g. Dust Control
   - Utilize mulch or watering of surface to control wind erosion of susceptible soils during and/or immediately after mass site grading operations.

h. Stream Bank Stabilization
   - Stage the installation of any rip rap so that the time that the bank is disturbed is minimized.

2. Structural Controls

a. At all areas where runoff can move offsite, silt fence or approved equal will be installed along the perimeter of the project downstream of disturbing activities. Also protect storm water discharge points prior to site clearing and grading operations as required and/or shown on the plans.
b. Temporary sediment basins provided at the rate of 3,600 cubic feet of storage per acre for disturbed areas over 10 acres. If not attainable, a combination of silt fences, multiple sediment traps, or equivalent sediment controls are required for all side slopes and down slope boundaries of the disturbed area.
c. Areas of 10 acres or less disturbed will require silt fence, sediment traps or equivalent measures for all side slopes and down slope boundaries of the disturbed area.
d. Silt fences and ditch checks should be installed along concentrated drainage ways to control sediment deposition.
e. Permanently seed all drainage swales immediately upon reaching final grade to facilitate sediment deposition in surface runoff. Use in conjunction with sediment traps, ditch checks, or other control measures to trap sediment.
f. Additional silt fences or other measures may be required on all embankments, stockpiles and other areas to ensure runoff control.

B. Other Controls

Undertake measures for controlling other sources of potential pollution that may exist on the construction site. During the course of construction, it is possible that situations may arise where unknown materials will be encountered. When such situations occur, they will be handled according to all applicable federal, state, and local regulations in effect at the time.

1. Waste materials
   a. Disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

2. Hazardous waste
   a. Hazardous waste materials will be disposed of in accordance with applicable local, state, and/or federal regulations.
   b. Equipment refueling and maintenance operations will be carried out in such a manner so as to prevent any spills and contamination to the soil and groundwater.

c. Potentially hazardous materials will be used with great care to prevent spillage in any volume.

3. Sanitary waste
   a. If a portable restroom facility is on the project site, wastes shall be collected and disposed of in complete compliance with local, state and federal regulations. This facility shall be located in an area where contact with the storm water discharge is minimal.

4. Vehicle tracking
   a. Stabilized construction entrances should be installed at all site access points to reduce vehicle tracking of sediment offsite.
   b. Paved streets adjacent to the site shall be inspected daily and cleaned as necessary to remove any excess mud, dirt or rock tracked from the site.
   c. Dump trucks hauling material shall be properly loaded or covered with a tarpaulin to prevent loss of material.
   d. Dust control measures should be utilized as necessary.

5. Non-storm water discharges
   a. Expected sources of non-storm water discharges from the site during construction could include:
      - Potable water sources including water line flushings, irrigation drainage and fire fighting activities.
      - Uncontaminated groundwater from de-watering excavation.
      - Natural springs, wetland, water sources.
   b. Non-storm water discharges should be directed to non-erosive areas prior to discharge offsite.

C. Implementation: State and Local Requirements

1. The storm water pollution prevention plan reflects the State of Iowa requirements for storm water management and erosion and sediment control, as established in 161A.64 Code of Iowa, State of Iowa Statutory Requirements Pertaining to Erosion Control Plans.
2. Prior to initiating a land disturbing activity, a person engaged in land disturbing activity shall file a signed affidavit with the soil and water conservation district that the project will not exceed the soil loss limits.
3. All work shall be done in accordance with Division 9 of the SUDAS Standard Specifications as referenced in the contract.
4. Code Compliance: The Contractor shall comply with the soil erosion control requirements of the Iowa Code, the Iowa DNR NPDES permit and all local ordinances.

D. Implementation: Timing of Controls/Measures

1. Install down-slope and side-slope perimeter silt fence prior to commencing land-disturbing activity.
2. Install construction entrance and vehicle tracking controls.
3. Construct sediment basins, ditch checks, or other erosion control measures at storm water discharge points.
4. Do not disturb an area until necessary for construction to proceed.
5. Install interior silt fences, sediment traps, etc. as grading progresses.
6. Cover or stabilize disturbed areas immediately after ceasing construction for more than 14 days.
7. Construct riprap aprons at storm outlets and creek crossings that are disturbed by the construction.
8. Place swale control measures (erosion control mats, silt traps, ditch checks, seed & mulch) in drainage ways as soon as final grades are achieved.

9. As areas reach their final grade, provide additional silt fence, sediment traps, earthen dikes, and ditch checks as necessary.
10. Complete permanent stabilization seeding as soon as possible after work is complete.
11. Remove temporary sediment controls and accumulated sediment once entire site is stabilized. Re-seed any areas disturbed during removal.

E. Hazardous substance spill prevention and response

1. The Contractor is responsible for training all personnel in the proper handling and cleanup of spilled materials. No spilled hazardous materials or wastes will be allowed to come into contact with storm water discharges. If contact does occur, the storm water discharge will be contained onsite until appropriate measures in compliance with all federal, state, and local regulations are followed to dispose of the hazardous substance.

2. In addition to good housekeeping and material management practices, the following practices shall be done by the Contractor to minimize the potential for hazardous material spills and to reduce the risk of the spill coming in contact with storm water.
   - Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
   - Materials and equipment necessary for spill control, containment and cleanup will be provided onsite in a material storage area.

3. In the event of a spill, the following procedures will be followed by the Contractor:
   - All spills will be cleaned up immediately following discovery.
   - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substance.
   - Spill of toxic or hazardous material will be reported to the appropriate state or local governmental agency and to the project manager and engineer, regardless of the size of the spill.

4. In the event the construction site has a release of a hazardous substance or oil in an amount which exceeds a reportable quantity (RQ) as defined at 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 then the Contractor shall:
   - Have its person in charge of the site at the time of the spill immediately call the EPA National Response Center to report the spill (800-424-8802, or 202-426-2675).
   - Modify the Pollution Prevention Plan accordingly within 14 days of the spill including the items mentioned below.
   - Within 14 days of the release, submit a written description of the release including: a description of the release, type of material, estimated amount of spill, date of release, explanation of why the spill happened, and a description of the steps taken to prevent and control future releases.

F. Materials Management

Site sources of pollution generated as a result of this work related to silts and sediment which may be transported as a result of a storm event. However, this SWPPP provides conveyance for other (non-project related) operations. These other operations have storm water runoff, the regulation of which is beyond the control of this SWPPP.

1. Materials or substances expected to be present onsite during construction:
   a. Concrete
   b. Detergents
   c. Glue

d. Tar
e. Fertilizers
f. Petroleum based additives
g. Wood
h. Solids and construction wastes

2. Material Management Practices – the following is a list of practices that will be used by the Contractor on site to minimize the risk of spills or other accidental exposure of materials and substances to storm water runoff.
   a. Good housekeeping
      - An effort will be made to store onsite only enough products required to complete the job.
      - All materials stored onsite will be kept in a neat, orderly manner and in their appropriate containers. If possible, products shall be kept under a roof or other enclosure.
      - Materials will be kept in their original containers with the original manufacturer's label.
      - Substances will not be mixed with one another unless recommended by the manufacturer.
      - Whenever possible, all of a product will be used up before disposing of the container.
      - Manufacturer's recommendations for proper use and disposal will be followed.
      - The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

   b. Hazardous products
      - Products will be kept in their original containers with the original manufacturer's label.
      - The original labels and material safety data sheets will be kept for each of the materials as they contain important product information.
      - Disposal of any excess product will be done in a manner that follows all manufacturers', federal, local and state recommended methods for proper disposal.

3. Product Specific Practices – the following is a list of potential sources of pollution and specific practices to be used by the Contractor to reduce pollutant discharges from materials or sources expected to be present during construction.
   a. Petroleum Storage Tanks
      - All onsite vehicles shall be inspected and monitored for leaks and receive preventative maintenance to reduce the chance of leakage.
      - Steps will be taken by the Contractor to eliminate contaminants from storage tanks from entering ground soil. Any petroleum storage tanks kept onsite will be located with an impervious surface between the tank and the ground.

   b. Fertilizers – shall be applied in the amounts specified. It shall be worked into the soil as to minimize the contact with storm water discharge.

   c. Concrete wastes
      - Concrete trucks will be allowed to washout or discharge excess concrete only in specifically designated areas which have been prepared to minimize contact between the concrete and storm water discharge from the site.
      - The hardened product from the concrete washout areas will be disposed of by the Contractor as other non-hazardous waste materials or may be broken up and used on the site for other appropriate uses.

   d. Solid and construction wastes – All trash and construction debris shall be collected and disposed of offsite by the Contractor. No construction waste materials will be buried onsite.

3. SITE INFORMATION

Project Name	E. Army Post Road and SE 36th Street Roundabout, Activity ID 04-2022-016	
Project Location (address, lat./long. or Section-T-R)	City of Des Moines, Polk County, Iowa SE ¼ Sec. 30, T78N, R23W, Polk County NE ¼ Sec. 31, T78N, R23W, Polk County	
Owner Name	City of Des Moines	
Representative	Matt Radermacher	
Owner Address/Phone	Engineering Department City Hall - 400 Robert D. Ray Drive Des Moines, Iowa	Engineering Department City Hall - 400 Robert D. Ray Drive Des Moines, Iowa
Contractor Name		
Representative		
Contractor Address/Phone		
Site Area	Approximately 12.3 Acres	
Disturbed Area	Approximately 12.3 Acres	
Final Runoff Coefficient	0.39	
Soil type / characteristics	Sharpsburg-Shelby-Adair	
Receiving Waters	Des Moines River	
Description (purpose and types of soil disturbing activities)	This project involves construction of a single lane roundabout and includes Portland Cement Concrete (PCC) pavement, Hot Mix Asphalt (HMA) paving, PCC curb and gutter, pavement removals, earthwork, storm sewer, intakes, lighting, pavement markings, traffic control, erosion control, and surface restoration; all in accordance with the contract documents, including Plan File Nos. 665-143/273, located at E. Army Post Road and SE 36th Street in Des Moines, Iowa	
Expected Sequence of Major Construction Activities to be Completed by Contractor (subject to change; any deviations shall be noted on this plan)	Clearing and grubbing Pavement Removal Excavation and grading Storm sewer construction Portland Cement Concrete (PCC) paving Site Restoration	

4. PUBLIC NOTICE OF STORM WATER DISCHARGE

The City of Des Moines, or its Contractor for the following work, plans to submit a Notice of Intent to the Iowa Department of Natural Resources to be covered under NPDES General Permit No. 2 "Storm Water Discharge Associated with Industrial Activity for Construction Activities." The storm water discharge will be from the construction of the E. Army Post Road and SE 36th Street Roundabout, Activity ID 04-2022-016.

located in SE ¼ Sec. 30, T78N, R23W, Polk County
NE ¼ Sec. 31, T78N, R23W, Polk County

Storm water will be discharged from 1 point source and will be discharged to the following stream: Des Moines River.

Comments may be submitted to the Storm Water Discharge Coordinator, IOWA DEPARTMENT OF NATURAL RESOURCES, Environmental Protection Division, 502 E. 9th Street, Des Moines, IA, 50319-0034. The public may review the Notice of Intent from 8:00 a.m. to 4:30 p.m., Monday through Friday, at the above address after it has been received by the department.

Published in the The Des Moines Register
October 23, 2024

5. NPDES CERTIFICATION STATEMENT

A. This project is subject to Section 402(b) of the Clean Water Act and Iowa Code Section 455B.174 and Iowa Administrative Code 567-64.4 (projects disturbing one or more total acres) and requires inclusion in the National Pollution Discharge Elimination System (NPDES) General Permit No. 2, or an individual NPDES Permit for stormwater (also storm water) discharge associated with industrial activity for construction activities. A general stormwater pollution prevention plan for this project is included in the contract documents. A copy of the stormwater pollution prevention plan must be kept at the construction site from the time construction begins until the site has reached final stabilization. The Contractor must sign the NPDES Certification Statement and submit it with the contract documents. By doing so the Contractor becomes a co-permittee with the City of Des Moines and other co-permittee contractors. The Contractor is solely responsible for the development and implementation of a specific stormwater pollution prevention plan for this project, as necessary and appropriate to comply with the law, and must identify any contracting entity charged with the development and/or implementation of any portion of the stormwater pollution prevention plan. The Contractor is the party responsible for maintaining compliance with the stormwater pollution prevention plan and NPDES Permit for the project.

B. All subcontractors, including short-term contractors and subcontractors, prior to approval, must sign the NPDES Certification Statement before conducting any work at the site. The certification must be signed in accordance with the signatory requirements found in the general permit; i.e., principal executive officer, vice president, general partner, proprietor, elector official, and will be incorporated into the Stormwater Pollution Prevention Plan (SWPPP).

C. Upon signing the certification and to the extent allowed by law, other contractors and sub-contractors become co-permittees with the City of Des Moines, the Contractor, and other co-permittees. In signing the plan, the authorized representative certifies that the information is true and assumes liability for the plan. Note that Section 309 of the Clean Water Act provides for significant penalties where information is false or the permittee violates, either knowingly or negligently, permit requirements.

D. All contractors/subcontractors shall conduct their operations in a manner that minimizes erosion and prevents erosion of sediment from the project site. The Contractor shall be responsible for compliance and implementation of the SWPPP for their entire contract. The Contractor is responsible for the identification, coordination and cooperation of all other contractors and subcontractors whose work is a likely source of potential pollution under the law, the NPDES permit and the SWPPP, and to develop and implement the SWPPP.

E. A copy of the NPDES Certification Statement of the Contractor and all subcontractors shall be filed with the City of Des Moines and shall also become a part of the project SWPPP.

NPDES CERTIFICATION STATEMENT
of Contractor or Subcontractor

"I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site as part of this certification. Further, by my signature, I understand that I am becoming a co-permittee, along with the owner(s) and other contractors and subcontractors signing such certifications, to the Iowa Department of Natural Resources NPDES General Permit No. 2 for 'Storm Water Discharge Associated with Industrial Activity for Construction Activities' at the identified site. As a co-permittee, I understand that I, and my company, are legally required under the Clean Water Act and the Code of Iowa, to ensure compliance with the terms and conditions of the storm water pollution prevention plan developed under this NPDES permit and the terms of this NPDES permit.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Project Description	E. Army Post Road and SE 36th Street Roundabout		
Project Address	E. Army Post Road and SE 36th Street, Des Moines, IA 50320		
Contractor or Subcontractor			
Name (Print/Type)			
Signature			
Title			
Street Address			
City, State, Zip			
Telephone Number			
Date		Activity ID	04-2022-016

NOTE:

1) The signature on this certification must be an original signature in ink; copies or facsimile of any signature will not be accepted.
2) The Contractor and all subcontractors must sign the NPDES certification statement and return it to the City Engineer before conducting any work at the site. The certification must be incorporated in the SWPPP.
3) The person who signs this certification for the Contractor or subcontractor shall be:
   a. Corporations. In the case of a corporation, a principal executive officer of at least the level of vice president.
   b. Partnerships. In the case of a partnership, a general partner.
   c. Sole proprietorships. In the case of a sole proprietorship, the proprietor.

CORPORATE ACKNOWLEDGMENT

STATE OF _____)
) SS
_____ COUNTY)

On this _____ day of _____, 20 ___, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

_____
Notary Public in and for the State of _____
My Commission expires _____, 20___

PARTNERSHIP ACKNOWLEDGMENT

STATE OF _____)
) SS
_____ COUNTY)

On this _____ day of _____, 20 ____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ to me personally known, who being by me duly sworn, did say that the person is one of the partners of _____, a partnership, and that the instrument was signed on behalf of the partnership by authority of the partners and the partner acknowledged the execution of the instrument to be the voluntary act and deed of the partnership by it and by the partner voluntarily executed.

_____
Notary Public in and for the State of _____
My commission expires _____, 20___.

LIMITED LIABILITY COMPANY ACKNOWLEDGEMENT

STATE OF _____)
) SS
_____ COUNTY)

On this _____ day of _____, 20 ____, before me the undersigned, a Notary Public in and for the State of _____, personally appeared _____, to me personally known, who being by me duly sworn did say that person is _____ of said _____, that (the seal affixed to said instrument is the seal of said OR no seal has been procured by the said) _____, and that said instrument was signed and sealed on behalf of the said _____, by authority of its managers and the said _____ acknowledged the execution of said instrument to be the voluntary act and deed of said _____, by its voluntarily executed.

_____
Notary Public in and for the State of _____
My commission expires _____, 20___.

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ENGINEERING DEPARTMENT
CITY OF DES MOINES, IOWA

SPECIAL PROVISION
TECHNICAL SPECIFICATIONS
ON

E. ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT
IDOT Project No. CS-TSF-1945(870)--85-77
Activity ID 04-2022-016

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CONTRACT DOCUMENTS
AND
SPECIFICATIONS
FOR
E ARMY POST ROAD AND SE 36TH STREET ROUNDABOUT

DES MOINES WATER WORKS
Des Moines, Iowa

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Michael D. Zach, P.E. — Date: 9/27/2024
Des Moines Water Works
License Number: P2442547
My license renewal date is: December 31, 2025
Pages or sheets covered by this seal: Special Provisions

SPECIAL PROVISION

WATER MAINS

I. GENERAL INFORMATION

A. Submittals

The Des Moines Water Works (DMWW) will review all shop drawings for materials related to water main construction. Shop drawings shall be provided to DMWW two (2) weeks prior to any water main construction. The Contractor shall submit these shop drawings to:

Des Moines Water Works
Attn.: Mike Zach
2201 George Flagg Parkway
Des Moines, Iowa 50321
OR
mzach@dmww.com

B. Preparation

Notify DMWW (515-283-8729) 48 hours prior to the start of any water main related construction.

Verify proposed grades prior to construction to ensure adequate finished cover will be provided over all water mains.

The Contractor shall arrange for all construction surveys required to install water main on line and grade as shown on the plans.

The Contractor shall arrange with DMWW for all valves and hydrants to be operated only by DMWW's personnel.

C. Connections to the Existing Water System

Expose existing buried pipe at locations that will be connected to new piping. Confirm location, depth, orientation, type of pipe, outside diameter, and type and location of joints.

Verify outside diameter of water main to determine if it is oversized. Procure materials as appropriate prior to altering the water main.

Connections to the existing DMWW's system shall be coordinated with the Engineer and scheduled a minimum of 48 hours in advance. Customers who will be without water shall be notified by the Contractor a minimum of 24 hours in advance. Water main shutdowns may need to be completed outside of normal working hours to minimize impact on affected customers. No additional compensation will be paid for work outside normal working hours.

D. Abandonment of Existing Facilities

Existing water mains shall be abandoned as shown on the plans. Mains shall be capped, and hydrant assemblies and valve boxes shall be removed incidental to water main construction.

PART 1 GENERAL

1.01 SUMMARY OF WORK

A. Excavating, backfilling, and compacting specifications, as applicable, for installation of water main and appurtenances.

1.02 RELATED SECTIONS

A. Section 02 22 70 – Augured Pipe Casing.

B. Section 02 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.

C. Section 02 64 00 – Valves and Hydrants.

D. Section 02 66 00 – Water Service Transfers.

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM) D2922 – Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

B. American Society for Testing and Materials (ASTM) D3017 – Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

C. American Society for Testing and Materials (ASTM) D698 – Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3).

D. Federal Register – Occupational Safety and Health Administration (OSHA), Occupational Safety and Health Standards - Excavations.

E. Iowa Department of Transportation (IDOT) Standard Specifications for Highway and Bridge Construction – current version, including Supplemental Specification.

F. Iowa Statewide Urban Design and Specifications (SUDAS).

1.04 SUBMITTALS (NOT USED)

1.05 MEASUREMENT AND PAYMENT

A. Stabilization Materials: per ton, based on quantities shown on material delivery tickets provided to Engineer.
   1. Include cost for all material, equipment, labor, and associated work necessary to complete work associated with stabilization materials in the unit bid price for “Foundation Rock” on the Proposal.
   2. Estimated quantity shown on Proposal for “Foundation Rock” is not to be used as an indication of site conditions that will be encountered during the course of the Work.

B. Special Pipe Embedment and Encasement Material: per cubic yard, based on quantities shown on material delivery tickets provided to Engineer.
   1. Include cost for all material, equipment, labor, and associated work necessary to complete work associated with special pipe embedment and encasement material in the unit bid price for “Utility Embedment Material” on the Proposal.
   2. Estimated quantity shown on Proposal for “Utility Embedment Material” is not to be used as an indication of site conditions that will be encountered during the course of the Work.

PART 2 PRODUCTS

2.01 EXCAVATED MATERIALS

A. Strip, grub, and stockpile topsoil for finished grading.

B. Backfill material to be:
   1. Approved for use by Engineer.
   2. Selected material taken from the excavation or select borrow material, if sufficient quantities of compliant excavated material are not available.
   3. Inorganic clays, clayey sands, or inorganic and clayey silts, compatible with and having an obtainable density no less than adjacent soils.
   4. Free of lumps or clods over 3 inches in the largest dimension.
   5. Free of foreign debris including rocks, organic materials, and man-made debris.
   6. Material that is not frozen.

2.02 BEDDING MATERIAL

A. Steel Pipe: Bed pipe using sand free of frozen material, foreign debris, including rocks, organic materials, and man-made debris.

B. Ductile iron pipe, prestressed concrete cylinder pipe, polyvinyl chloride pipe, and corrugated steel pipe: Bed pipe using material taken from the excavation with the following characteristics:
   1. Inorganic clay, clayey sand, or inorganic and clayey silt.
   2. Free of lumps or clods over 2 inches in the largest dimension.
   3. Free of foreign debris including rocks, organic materials, and man-made debris.
   4. With a soil moisture range of optimum moisture to 4 percentage points above optimum moisture content.
   5. Material that is not frozen.

2.03 STABILIZATION MATERIAL

A. When required by field conditions, use stabilization material of crushed limestone, dolomite, or quartzite generally meeting the following characteristics:
   1. 2-inch nominal maximum size.
   2. 95 percent retained on a 3/4-inch screen.
   3. Generally free from deleterious substances as determined by Engineer.

2.04 BORROW MATERIALS

A. If sufficient quantity of suitable material is not available from excavations, obtain material from approved off-site sources. Off-site sources must hold a National Pollutant Discharge Elimination System (NPDES) permit from the IDNR for storm water discharge associated with construction activity.

B. Conform borrow materials, including topsoil and backfill material, to specifications for excavated materials in Part 2.01.

C. Topsoil borrow material to be:
   1. Natural loam and humus with characteristics consistent with the existing topsoil on site.
   2. Finely graded and free of clumps larger than 2 inches in the largest dimension.
   3. Free of man-made materials and debris.
   4. Free of rock or organic matter, including wood and roots, greater than 3/4-inch, in the largest dimension.
   5. Comprised of less than 0.5 percent clay.

2.05 SPECIAL PIPE EMBEDMENT AND ENCASEMENT MATERIAL

A. When directed by Engineer, install controlled low-strength material to provide support to existing utilities.
   1. Controlled Low-Strength Material (CLSM):
      a. Approximate quantities per cubic yard:
         (1) Cement: 50 pounds.
         (2) Fly ash: 250 pounds.
         (3) Fine aggregate: 2,910 pounds.
         (4) Water: 60 gallons.
      b. A compressive strength of at least 50 psi compressive strength at 28 calendar days.
      c. Comply with material requirements of Section 2506.02 of IDOT Standard Specifications, current version.

2.06 MANUFACTURED SAND MATERIAL

A. When directed by Engineer, install manufactured sand.
   1. Stone sand complying with the following gradation:

Sieve	Percent Passing
3/8-inch	100
No. 4	90-100
No. 8	60-75
No. 30	15-30
No. 200	0-4

PART 3 EXECUTION

3.01 GENERAL

A. General Description
   1. Complete trenching, backfilling, and compacting for water main in accordance with the SUDAS manual. These specifications are intended to highlight or modify basic requirements; see SUDAS manual for more detailed information.

B. Quality Assurance
   1. Give Engineer the opportunity to review excavated or borrowed soils prior to placement as backfill.
   2. Owner will commission and compensate a qualified soils engineer to develop Proctor curves indicating moisture-density relationships for all soil types used as backfill.
   3. Use Proctor curves and soil analysis information in determining proper compaction of soils placed.

C. General Safety
   1. Blasting not permitted.
   2. Safety and protection:
      a. Provide shoring, sheeting, and bracing, as required, to protect Work, adjacent property, private or public utilities, and workers.
      b. Strictly observe laws and ordinances regulating health and safety measures.
      c. Excavations that Owner's personnel are required to enter shall comply with OSHA standards.

D. Soil Testing
   1. Field tests for density and moisture content to be performed by the soils engineer, defined in Part 3.01.B above, to ensure that specified density is being obtained. Perform testing using ASTM D2922 nuclear methods or another method approved by Engineer.
   2. Take density tests at finished grade, at 3 feet below finished grade, and as directed by Engineer under special conditions. Test locations to be selected by Engineer immediately prior to performing tests. Excavate, as directed by Engineer, for tests at intermediate depths. As a minimum, take density tests at approximately 200-foot intervals along the trench. The following locations require additional testing:
      a. Over jacking pits where casing was installed.
      b. Immediately adjacent to all structures.
   3. When test results indicate compaction is not as specified:
      a. Additional tests will be required in both directions from the failed test until satisfactory results are obtained.
      b. Remove, replace, and recompact all material between the satisfactory tests in lifts to meet specifications. Compaction corrections are made at no expense to Owner.
      c. Provide density tests to recompacted areas at the same frequency as the original tests. Testing of recompacted areas performed at the Contractor's expense.
   4. Notify Engineer if petroleum-based materials are detected in soils. Appropriate action will be taken by Owner.
   5. Tests that are not conducted in the presence of the Engineer, or are conducted at locations not selected by the Engineer, will be rejected.

E. Protection of Utility Lines
   1. Conduct trenching operations to avoid damaging underground utilities.
   2. Protect all underground utilities. Damage resulting from trenching or backfilling to be repaired by Contractor or utility company at Contractor's expense.
   3. Underground utilities discovered by Contractor are to be protected.

3.02 DISPOSAL OF EXCAVATED MATERIAL

A. Remove excess material excavated for water main trench from site and in compliance with environmental regulations.

B. Backfill consisting of suitable material, which comes from an off-site source, must conform to Part 2.01.

3.03 TRENCH EXCAVATION

A. Strip and stockpile topsoil for finished grading. A minimum of 12 inches of topsoil must be segregated from other materials in agricultural areas.

B. Excavate trenches so as to:
   1. Follow lines and grades as indicated on plans.
   2. Provide uniform bearing on undisturbed soil and continuous support along the entire length of pipe.
   3. Prevent over-excavation in locations where suitable subgrade conditions exist.
   4. Provide vertical trench walls to an elevation no less than 12 inches above the pipe.

C. Correct unstable trench bottoms, as determined by Engineer, as follows:
   1. Over-excavate the trench to stable soil or to a maximum of 2 feet below the bottom of the pipe.
   2. If stable soil is reached, bring trench back to grade using suitable backfill material or bedding material compacted to 90 percent Standard Proctor Density.
   3. If stable soil is not reached after 2 feet of over-excavation, place one (1) foot of the specified trench stabilization material in the trench bottom and compact. Bring trench back to grade using suitable backfill material or bedding material compacted to 90 percent Standard Proctor Density.
   4. Place pipe only after trench bottom has been fully stabilized.

D. Remove stones encountered during excavation. When large rocks are encountered, remove to an elevation 6 inches below the bottom of the proposed improvement. Fill voids created through removal of stones with approved backfill material and thoroughly compact to 90 percent Standard Proctor Density.

E. Excavate trench bottoms deeper at location of bell joints to permit body of pipe to rest uniformly supported upon trench bottom. Use bell holes no longer than is necessary for practical installation of pipe.

F. The length of trench to be opened at one time is as follows:
   1. In extended runs, open trench length is not to exceed 100 feet.
   2. In street crossings, trench shall not be open in more than one lane at a time, unless specified differently in traffic control plan.
   3. Backfill driveways and entrances immediately after placement of pipe.

G. Place excavated material:
   1. As approved by Engineer when these specifications do not apply.
   2. Compactly along sides of excavation.
   3. To provide continuous access to fire hydrants and utility valves.
   4. To provide as little inconvenience as possible to public travel.
   5. To minimize damage to adjacent lawns and planted areas.

3.04 PIPE BEDDING

A. Bed pipe with 4-inch-thick layer of specified bedding material for pipes 20-inch and larger.

B. Place bedding alongside of pipe to an elevation above springline (no lower than half the height of the pipe).

C. Compact bedding to a minimum of 90 percent Standard Proctor Density.

D. Obtain required compaction within a soil moisture range of optimum moisture to 4 percentage points above optimum moisture content.

E. Do not damage pipe coating or wrapping system during bedding placement and compaction.

3.05 BACKFILLING

A. Perform backfilling of trenches only after pipe installation, jointing, and bedding are complete, inspected, and approved.

B. Use backfill material complying with Part 2 above.

C. Mechanically tamp backfill with impact or vibrating compaction equipment.

D. Place backfill in layers and compact to required density.

E. Backfill to be:
   1. Compacted to 90 percent Standard Proctor Density to a level one (1) foot above the pipe.
   2. For the remainder of the trench:
      a. Compact public rights-of-way to 95 percent Standard Proctor Density.
      b. Compact easement areas to 90 percent Standard Proctor Density.
   3. Within a soil moisture range of optimum moisture to 4 percentage points above optimum moisture content.

F. Protect pipe coating or pipe wrapping system from damage during backfill operations.

G. Hydraulic compaction or water jetting of pipe trenches is not permitted.

H. Adjust moisture content of material that exceeds optimum moisture range, but is otherwise acceptable, by spreading and aerating or otherwise drying as necessary until moisture content is within required moisture range and required compaction can be obtained.

I. Adjust moisture content of material that is below optimum moisture, but is otherwise acceptable, by wetting as necessary until moisture content is within required moisture range and required compaction can be obtained.

3.06 GRADING

A. Finish-grade surfaces with a well-compacted, free-draining, uniform surface without obstructive protrusions or depressions.

B. Place topsoil at a uniform depth equal to surrounding topsoil, but not less than 4 inches.

C. Place topsoil to a minimum depth of 6 inches when ample native topsoil is available.

D. Place topsoil only under lawn and planted areas.

3.07 CONTROL OF WATER

A. Install pipe in the dry.

B. Dewater as necessary to prevent water from entering pipe or rising around pipe.

C. Do not allow water pumped or diverted from excavation site to be:
   1. Pooled anywhere on site.
   2. Removed in such a manner as to disperse silt.
   3. Placed on surfaces heavily traveled by pedestrian traffic.

D. Do not use installed pipe as a conduit for trench dewatering.

E. Control surface water as follows:
   1. Divert surface water to prevent entry into pipe trenches.
   2. Remove surface water accumulated in pipe trenches and other excavations prior to continuation of excavation work.
   3. Remove surface water saturated soil from excavation.

F. Control groundwater as follows:
   1. Where groundwater is encountered, dewater trenches and other excavations, as necessary, to permit proper execution of the Project.
   2. When large quantities of groundwater are encountered, stabilize trenches with the specified stabilization material, and bed pipe as specified.

3.08 DISPOSAL OF UNSUITABLE OR EXCESS MATERIAL

A. Dispose of surplus material and material not suitable for backfill off-site at a location provided by Contractor.
   1. Off-site disposal locations must hold a National Pollutant Discharge Elimination System (NPDES) permit from the IDNR for storm water discharge associated with construction activity.
   2. Contractor to provide transportation of such material.

3.09 CLEANUP AND RESTORATION

A. Clear the site in and around the excavation of mud and construction debris to a condition equal to, or better than, that existing prior to trenching work.

B. Remove construction remnant materials from site.

C. Repair damage to adjacent property suffered during installation work to a condition equal to, or better than, that condition existing prior to trenching Work.

**** END OF SECTION ****

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PART 1 GENERAL

1.01 SUMMARY OF WORK

A. This Section describes Iowa Department of Natural Resources (IDNR) requirements for protection of water supply systems and reflects IDNR updates to 567 IAC 43.3(2)"a"(3) that became effective March 16, 2022, and the Standard Specifications on file with IDNR dated October 10, 2014, that include a variance for electronic leak detection.

1.02 RELATED SECTIONS

A. Section 02 22 80 – Horizontally Directional Drilled Water Main.

B. Section 02 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.

C. Section 02 64 00 – Valves and Hydrants.

D. Section 02 67 40 – Pressure Testing Water Mains.

E. Section 02 67 50 – Disinfection of Water Distribution Systems.

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM) C443 – Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.

B. 567 IAC 43.3 (2)"a"(3) new subparagraphs (3) and (4), effective March 16, 2022.

C. Standard Specifications on file with IDNR dated October 10, 2014, with variance for electronic leak detection.

1.04 SUBMITTALS (NOT USED)

1.05 MEASUREMENT AND PAYMENT (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

A. Lay water mains to avoid high points where air can accumulate. Grade piping so that proposed hydrants will be at the highest points.

B. Do not locate hydrants within 10 feet of sanitary sewers or storm drains.

C. Plug hydrant drain ports in areas where groundwater rises above water main and pump hydrant barrel dry following construction.

D. Pressure test and disinfect new water mains prior to placing them in service.

3.02 SEPARATION DISTANCE

A. **Horizontal separation of water mains from gravity sanitary and combined sewers**:
   1. When horizontal separation is at least 10 feet from edge to edge, there are no additional requirements.
   2. When horizontal separation is at least 3 feet from edge to edge and less than 10 feet, with water main located at least 18 inches or more above top of sewer, sewer must be placed in a separate trench than the water main or on a bench of undisturbed earth in the same trench as the water main.
   3. When horizontal separation is at least 3 feet from edge to edge and less than 10 feet, with water main located less than 18 inches above top of sewer:
      a. Option 1: Construct water main within watertight casing pipe with evenly spaced annular gap provided by watertight end seals, or
      b. Option 2: Construct sewer of water main materials.
   4. When it is impossible to obtain the required 3-foot horizontal clearance edge to edge, the sewer must be replaced with water main quality materials.
   5. In no case shall horizontal separation be less than 2 feet.

B. **Horizontal separation of water mains from sanitary sewer force mains**:
   1. When horizontal separation distance is at least 10 feet from edge to edge, there are no additional requirements.
   2. When horizontal separation is at least 4 feet from edge to edge and less than 10 feet, sewer must be constructed of water main materials.
   3. In no case shall horizontal separation be less than 4 feet.

C. **Vertical separation of water mains from gravity sanitary and combined sewer crossings**:
   1. When vertical separation distance is at least 18 inches or greater from edge to edge and water main is located above sewer, there are no additional requirements.
   2. When vertical separation distance is at least 6 inches from edge to edge and less than 18 inches, and water main is located above sewer:
      a. Option 1: Construct water main within watertight casing pipe with evenly spaced annular gap and watertight end seals, or
      b. Option 2: construct sewer of water main materials.
   3. When vertical separation distance is 18 inches or greater from edge to edge, and water main is located below sewer:
      a. Option 1: Construct water main within watertight casing pipe with evenly spaced annular gap and watertight end seals, or
      b. Option 2: construct sewer of water main materials.
   4. In no case shall vertical separation be less than 6 inches edge to edge when water main is above sewer.
   5. In no case shall vertical separation be less than 18 inches edge to edge when water main is below sewer.

D. **Horizontal separation of water mains from gravity storm sewers**:
   1. When horizontal separation is at least 10 feet from edge to edge, there are no additional requirements.
   2. When horizontal separation is at least 3 feet from edge to edge and less than 10 feet:
      a. Option 1: Construct water main of ductile iron pipe with gaskets impermeable to hydrocarbons, or
      b. Option 2: Construct water main within watertight casing pipe with evenly spaced annular gap using chocks and watertight end seals, or
      c. Option 3: Construct sewer of water main materials, or
      d. Option 4: Construct reinforced concrete pipe storm sewers with gaskets manufactured in accordance with ASTM C443.
   3. In no case shall horizontal separation be less than 3 feet.

E. **Vertical separation of water mains from <u>gravity storm sewer crossings</u>**:
   1. When vertical separation distance is at least 18 inches from edge to edge, there are no additional requirements.
   2. When vertical separation distance is at least 6 inches from edge to edge and less than 18 inches, and water main is located above sewer:
      a. Option 1: Construct water main of ductile iron pipe with gaskets impermeable to hydrocarbons, or
      b. Option 2: Construct water main within watertight casing pipe with evenly spaced annular gap using chocks and watertight end seals, or
      c. Option 3: Construct sewer of water main materials, or
      d. Option 4: Construct reinforced concrete pipe storm sewers shall be constructed with gaskets manufactured in accordance with ASTM C443.
   3. In no case shall vertical separation be less than 6 inches when water main is above sewer.
   4. In no case shall vertical separation be less than 18 inches when water main is below sewer.

F. **Separation of water mains from sewer manholes**:
   1. No water pipe shall pass through, or come in contact with, any part of a sewer manhole.
   2. Provide a horizontal separation distance of at least 10 feet between water mains and sewer manholes whenever possible.
   3. In no case shall the horizontal separation of water main from sanitary and combined sewer manholes be less than 3 feet.

G. Advise Engineer should physical conditions exist such that exceptions to Part 3.02 of this Section are necessary.

3.03 WATER CROSSINGS

A. Above-water Crossings:
   1. Adequately support and anchor pipe used for above-water crossings.
   2. Protect pipe from damage and freezing.
   3. Ensure pipe is accessible for repair or replacement.

B. Underwater Crossings:
   1. Use restrained joint pipe for water mains entering or crossing streams that are 15 feet in width or larger.
      a. Place top of water main a minimum of 5 feet below natural bottom of streambed.
      b. Securely anchor water main to prevent movement of pipe and provide easily accessible shutoff valves located outside the floodway at each end of the water crossing.
      c. Backfill trench with crushed rock or gravel.
      d. Seed, sod, or otherwise protect streambank from erosion upon completion of the Project.
   2. For smaller streams, the same requirements shall apply except that shutoff valves do not need to be located immediately adjacent to the water crossing.
   3. DMWW will electronically pinpoint leaks in lieu of inserting a small meter to determine leakage and obtain water samples on each side of shutoff valve.

3.04 DEPTH OF COVER AND WIDTH OF TRENCH

A. Provide 5 feet minimum depth of cover from top of pipe to ground surface.

B. Where possible, provide an additional 6 inches of cover under pavement.

C. Insulate water mains where conditions prevent adequate earth cover.

D. Provide a trench width adequate to lay and joint pipe properly but not more than 12 inches on either side of the pipe.

**** END OF SECTION ****

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PART 1 GENERAL

1.01 SUMMARY OF WORK

A. This Section includes water mains, fittings, as shown on the plans, complete with accessories.

1.02 RELATED SECTIONS

A. Section 02 22 00 – Excavating, Backfilling, and Compacting for Water Mains.

B. Section 02 60 00 – Protection of Water Supply.

C. Section 02 64 00 – Valves and Hydrants.

D. Section 02 67 40 – Pressure Testing Water Mains.

E. Section 02 67 50 – Disinfection of Water Distribution Systems.

1.03 REFERENCES

A. American National Standards Institute (ANSI) B16.1 – Cast Iron Pipe Flanges and Flanged Fittings.

B. American Society for Testing and Materials (ASTM) A320 – Alloy-Steel and Stainless-Steel Bolting for Low-Temperature Service.

C. American Society for Testing and Materials (ASTM) A536 – Standard Specification for Ductile Iron Castings.

D. American Water Works Association (AWWA) C104 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.

E. American Water Works Association (AWWA) C105 – Polyethylene Encasement for Ductile-Iron Pipe Systems.

F. American Water Works Association (AWWA) C110 – Ductile-Iron and Gray-Iron Fittings.

G. American Water Works Association (AWWA) C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

H. American Water Works Association (AWWA) C115 – Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.

I. American Water Works Association (AWWA) C150 – Thickness Design of Ductile Iron Pipe.

J. American Water Works Association (AWWA) C151 – Ductile Iron Pipe, Centrifugally Cast.

K. American Water Works Association (AWWA) C153 – Ductile-Iron Compact Fittings.

L. American Water Works Association (AWWA) C600 – Installation of Ductile-Iron Water Mains and Their Appurtenances.

M. American Water Works Association (AWWA) C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.

N. American Water Works Association (AWWA) C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 60 In.

1.04 SUBMITTALS

A. Submit the following items for materials provided by the Contractor:
   1. Manufacturer's certification that materials furnished are in compliance with applicable requirements of referenced standards and this Section.
   2. Drawings and manufacturer's data showing details of pipe and fittings to comply with this Section.
   3. Class of pipe and fittings.
   4. Restrained joint details for Engineer's approval.
   5. List of at least ten projects similar to this Project. Include project name, scope, duration of Project, and references with phone numbers.

B. Provide dimensional drawings, fabrication details, functional description, and properly identified catalog data on pipe and equipment to prove complete compliance with Drawings and Specifications.

1.05 MEASUREMENT AND PAYMENT

A. Measure water main in linear feet, along centerline of pipe.

B. Include costs for material, equipment, and labor for Work included in this Section.

PART 2 PRODUCTS

2.01 DUCTILE IRON PIPE (12-INCH AND SMALLER)

A. Special Thickness Class 52 per AWWA C150.

B. Manufacture pipe in accordance with AWWA C151.

C. Provide asphaltic outside coating per AWWA C151, 1 mil in thickness.

D. Cement Mortar Lining:
   1. Provide pipe with standard thickness cement mortar lining per AWWA C104.
   2. Seal-coat cement mortar lining in accordance with AWWA C104.

2.02 POLYVINYL CHLORIDE PIPE

A. Use Class 235 (DR 18) pipe with ductile iron pipe equivalent outside diameters.

B. Manufacture pipe in accordance with AWWA C900.

C. Use restrained-joint PVC pipe for pipe installed utilizing horizontal directional drilling.

D. Use blue pipe.

2.03 FITTINGS FOR DUCTILE IRON AND POLYVINYL CHLORIDE PIPE

A. Use compact fittings in accordance with AWWA C153, or full size in accordance with AWWA C110.

B. Use ductile iron material for construction in accordance with AWWA C110.

C. Joints
   1. Mechanical in accordance with AWWA C111 with restraint.
      a. T-bolts and hex-head nuts for mechanical joints in accordance with AWWA C111.
         (1) Material: low carbon alloy weathering Cor-Ten steel.
         (2) Coating: Cor-Blue fluorocarbon resin.
         (3) Color: Blue.
         (4) Approved Manufacturers:
            (a) Birmingham Fastener Manufacturing Fluorocarbon Coated T-Head Bolt.
            (b) Or approved equal.

2. Flanged in accordance with AWWA C115, as indicated on plans, with ANSI Class 125 full-faced flange.
    a. Gaskets: of thickness compatible with machining tolerance of flange faces. Minimum thickness: 1/8-inch.
    b. Nuts and bolts: stainless steel in accordance with ASTM A320, Type 304.

D. Pressure Rating:

Size (inches)	Pressure Rating (psi)
3 – 24	350
30 – 48	250
54 – 64	150

E. Provide asphaltic outside coating per AWWA C110, 1 mil in thickness.

F. Cement Mortar Lining:
1. Provide standard thickness cement mortar lining per AWWA C104.
2. Seal-coat cement mortar lining in accordance with AWWA C104.

2.04 JOINTS FOR DUCTILE IRON AND POLYVINYL CHLORIDE PIPE

A. Use push-on joints using an integral bell with an elastomeric or nitrile gasket in accordance with AWWA C111, mechanical in accordance with AWWA C111, or restrained as needed for thrust restraint.

B. Use ductile iron follower glands for mechanical joints.

C. Solvent cement joints are strictly prohibited.

D. T-bolts and hex-head nuts for mechanical joints in accordance with AWWA C111.
1. Material: low carbon alloy weathering Cor-Ten steel.
2. Coating: Cor-Blue fluorocarbon resin.
3. Color: Blue.
4. Approved Manufacturers:
    a. Birmingham Fastener Manufacturing Fluorocarbon Coated T-Head Bolt.
    b. Or approved equal.

E. Provide flanged joints for connections to flanged valves, hydrant valves, and other flanged fittings where shown on plans. Conform to AWWA C115 with ANSI Class 125 full-faced flange.
1. Gaskets: SBR Rubber of thickness compatible with machining tolerances of flange faces. Minimum thickness: 1/8 inch.
2. Nuts and bolts: Conform to ASTM A320, Type 304.

F. Joint bonds: No. 4 AWG-HMWPE stranded copper cable per Section 13 21 00.

2.05 RESTRAINED JOINTS

A. Mechanical Joint
1. Incorporate restraint for all mechanical joints into the design of the follower gland.
2. Use retainer gland designed to impart multiple wedging actions against the pipe, increasing its resistance as pressure increases.
3. Restrained joints to consist of a mechanical joint with retainer gland or manufacturer's proprietary-restrained joint.
4. Conform dimensions to the requirements of AWWA C111 and AWWA C153.
5. Pressure rating:
    a. Minimum of 235 psi for PVC pipe.
    b. Minimum of 350 psi for ductile iron pipe for sizes 16-inch and smaller.
    c. Minimum of 250 psi for ductile iron pipe for sizes 18-inch and larger.

6. Color:
    a. Red for PVC pipe.
    b. Black for ductile iron pipe.
7. Materials for construction:
    a. Body, wedge segments, and break-off bolt assemblies: Grade 65-45-12 ductile iron as specified by ASTM A536.
    b. Coating to be electrostatically applied and heat-cured.
        (1) Approved manufacturers:
            (a) MEGA-BOND by EBAA Iron, Inc.
            (b) CORRSAFE by Sigma.
            (c) Starbond by Star Products.
            (d) Resicoat R2-ES by Tyler Union.
            (e) EZ Shield by SIP Industries.
            (f) Or approved equal.
8. Minimum safety factor of 2.
9. Use ductile iron retainer wedge segments heat treated to a minimum Brinell hardness number of 370.
10. Incorporate twist-off nuts, the same size as hex-head nuts for T-bolts, into the design to ensure proper actuating torque is applied during installation.
11. Approved manufacturers for PVC pipe:
    a. Megalug by EBAA Iron Inc. Series 2000PV.
    b. One-Lok by Sigma Series SLCE.
    c. Stargrip by Star Products Series 4000.
    d. TUFGrip by Tyler Union Series 2000.
    e. EZ Grip by SIP Industries Series EZP.
    f. Or approved equal.
12. Approved manufacturers for ductile iron pipe:
    a. Megalug by EBAA Iron Inc. Series 1000.
    b. One-Lok by Sigma Series SLDE.
    c. Stargrip by Star Products Series 3000.
    d. TUFGrip by Tyler Union Series 1000.
    e. EZ Grip by SIP Industries Series EZD.
    f. Or approved equal.

B. PVC Pipe Joint
1. Provide restraint for in-line PVC pipe through the use of groove and spline or grip ring located in the bell that provides full-circumferential restrained joint.
2. Restraint joints to have a minimum pressure rating of 150 psi.
3. Manufacturers:
    a. Certa-Lok by North American Specialty Products.
    b. Diamond Lok-21 by Diamond Plastics.
    c. Eagle Loc 900 by JM Eagle.
    d. Or approved equal.

C. Ductile Iron Pipe Joint
1. Restraint for in-line ductile iron pipe shall consist of the manufacturer's proprietary-restrained joint.
2. Restraint joints to have a minimum pressure rating of 250 psi.

2.06 POLYETHYLENE PIPE ENCASEMENT MATERIAL (DUCTILE IRON PIPE AND FITTINGS)

A. Polyethylene encasement manufactured in accordance with AWWA C105.

B. Linear low-density polyethylene film.

C. Minimum thickness of be 8 mils.

D. Color: Blue.

E. Physical Properties:
   1. Tensile strength 3600 psi, minimum.
   2. Elongation 800 percent, minimum.
   3. Dielectric strength 800 V/mil, minimum.
   4. Impact resistance 600 g, minimum.
   5. Propagation tear resistance 2550 gf, minimum.

F. Use flat-width tubing of the following sizes:

Pipe Size	Tubing Width
3 inches	14 inches
4 inches	14 inches
6 inches	16 inches
8 inches	20 inches
12 inches	27 inches
16 inches	34 inches
20 inches	41 inches
24 inches	54 inches
30 inches	67 inches
36 inches	81 inches

G. Provide markings containing the following information spaced every 2 feet apart:
   1. Name of manufacturer.
   2. Year of manufacture.
   3. ANSI/AWWA C105-A21.5.
   4. 8 mil linear low-density polyethylene (LLDPE).
   5. Applicable range of nominal pipe diameter.
   6. Warning – Corrosion Protection – Repair Any Damage.

H. Sheet material can be used to wrap irregular-shaped valves and fittings.

I. Use 2-inch-wide, 10-mil-thick pressure-sensitive polyethylene tape to close seams and hold overlaps.

2.07 TRACER SYSTEM

A. Tracer Wire:
   1. Open Cut:
      a. No. 12 AWG Solid Single Copper Conductor
         (1) Insulation: 45 mil, high-density, high molecular weight polyethylene (HDPE) and rated for direct burial at 30 volts.
         (2) Tensile Strength: 150 pounds, minimum.
         (3) Color: Blue.
   2. Directional Drilling/Boring:
      a. No. 12 AWG extra-high-strength copper clad steel conductor (EHS-CCS).
         (1) Insulation: 45 mil, high-density, high molecular weight polyethylene (HDPE) and rated for direct burial at 30 volts.
         (2) EHS-CCS Conductor: 21 percent conductivity for locating purposes with a minimum 1150 pounds break load.
         (3) Origin of copper clad steel manufacture is required and steel core must be manufactured in the United States.
         (4) Color: Blue.
      b. Install tracer wire on pipe installations with a combination of open cut and directional drilling to meet directional drilling requirements.

B. Anode Ground Rod: 3/8-inch minimum diameter, 8 foot minimum length steel rod uniformly coated with metallically bonded electrolytic copper.

C. Ground Rod Clamp: High-strength, corrosion-resistant copper alloy.

D. Wire Splice Connector:
   1. Tracer wire splices shall only be used to connect the anode ground rod to the tracer wire, at tees/crosses and at places where tracer wire has been damaged during construction. All splices must be brought to the attention of inspector and a GPS shot recorded for DMWW records.
   2. Tracer wire splices will not be allowed for:
      a. Splices between the end of a roll of wire and the beginning of a new roll. If wire roll does not contain enough wire to reach next required splice point or a Triview connection terminal, contractor shall start a new wire roll.
      b. Between anode ground rods and Triview connection terminal.
      c. At hydrant tees.
   3. Splices used for tracer wire repair must be approved by Engineer.
      a. Splice Kit: DryConn Direct Bury Lug Aqua (SKU 90220)
      b. Or approved equal.

E. Tracer Wire Connection:
   1. Rhino TriView TracerPed, or approved equal.
      a. Three internal terminals with two shunts.
      b. 5-foot white plastic triangular post.
      c. Removable top cap with lock.
      d. Three 2-7/8-inch by 14-inch custom vinyl decals No. SD-5594K.
      e. Tri-grip anchor.

PART 3 EXECUTION

3.01 HANDLING, STORAGE, AND SHIPPING

A. Handle pipe carefully.

B. Use blocking and hold-downs during shipment to prevent movement or shifting.

C. Pipe with damage to cement mortar lining will be rejected with field-patching not permitted.

D. Do not telescope small pipe inside larger pipe for shipment and storage.

E. Handle pipe materials by use of nylon straps, wide canvas or padded slings, wide-padded forks and skids, or other approved means designed to prevent damage to the polyethylene encasement. Unpadded chains, sharp edges or buckets, wire ropes, narrow forks, hooks, and metal bars are unacceptable.

F. Dropping or rolling of pipe material is not permitted.

G. Do not store PVC pipe in direct sunlight for prolonged periods of time.

H. Protect pipe to prevent dirt entering the pipe.

3.02 GENERAL PIPE INSTALLATION

A. Protect pipe joints from injury while handling and storing.

B. Use no deformed, defective, gouged, or otherwise impaired pipe.

C. Excavate and prepare trench as specified in Section 02 22 00.

D. Install ductile iron pipe in accordance with AWWA C600.

E. Install PVC pipe in accordance with AWWA C605.

F. Prepare trench bottom with sufficient exactness before pipe is installed so that only minor movement of the pipe will be necessary after installation.

G. Clean pipe interior prior to placement in trench.

H. Install pipe to line and grade shown on plans with an allowable tolerance of 6 inches, plus or minus.

I. Maintain uniform bearing along full length of pipe barrel at all times. Blocking the pipe up will not be acceptable. Excavate trench bottoms deeper at location of bell joints to permit body of pipe to rest uniformly supported upon trench bottom. Use bell holes no longer than is necessary for practical installation of the pipe.

J. Clean joint surfaces of dirt and foreign matter using a wire brush before jointing pipe.

K. Lubricate gasket and pipe bell. Provide food grade lubricant meeting manufacturer's recommendations. Use lubricant approved for use with potable water.

L. Make joints in strict accordance with manufacturer's recommendations.

M. Deflect joints within manufacturer's specifications for maximum deflections.

N. Tighten bolts on mechanical joints evenly around pipe by alternating from one side of the pipe to the other.

O. Cut pipe in a neat manner, without damage to pipe or cement mortar lining, if any. Leave a smooth end at right angles to axis of pipe. Bevel cut pipe ends for push-on-type joints in accordance with manufacturer's recommendations.

P. Do no install pipe in water, nor allow water to rise in trench above bottom of pipe.

Q. Place watertight bulkheads on exposed ends of pipe at all times when pipe installation is not actually in progress.

R. Backfill and compact around pipe as outlined in Section 02 22 00.

3.03 INSTALLATION OF POLYETHYLENE PIPE ENCASEMENT MATERIAL

A. Use polyethylene encasement material on buried ductile iron pipe, fittings, rods, and appurtenances in accordance with AWWA C105, Method A.

B. Use polyethylene tubing to encase pipe.

C. Cut tubing 2 feet longer than pipe section. Overlap tubing one (1) foot at each end of pipe.

D. Gather and lap tubing to provide a snug fit.

E. Secure lap at quarter points with polyethylene tape. Secure each end of tube with a complete wrap of polyethylene tape.

F. Use polyethylene encasement to prevent contact between the pipe and bedding material. The polyethylene encasement is not intended to be a completely airtight and watertight enclosure.

G. Repair damaged polyethylene encasement material using polyethylene tape or replace damaged section(s).

H. Pick and move polyethylene-encased pipe with nylon slings; wire rope is not permitted.

3.04 THRUST BLOCKS

A. Provide concrete thrust blocks or collars at changes in alignment, tees, and dead ends.

B. Carry thrust blocks or collars to undisturbed soil that will provide adequate bearing.

C. The bearing area of thrust blocks or collars, in square feet, to be as shown on the plans. Minimum thickness for any thrust block to be 1.5 times outside pipe diameter or 18 inches, whichever is greater.

D. Hold thrust blocks or collars back 3 inches from all bolts, nuts, glands, or other jointing materials. Ensure joints could be remade without disturbing thrust block or collar.

E. Provide bond breaker between thrust block or collar and pipe. Polyethylene encasement material will be considered an acceptable bond breaker.

F. Provide thrust blocks at all connections to existing water mains.

3.05 TRACER SYSTEM INSTALLATION

A. Install tracer wire with buried piping.

B. Duct tape tracer wire to pipe every 5 feet in the 5 or 7 o'clock position to prevent damage to wire during backfill and future construction exposure.

C. Install anode ground rods as follows:
   1. At the starting point and ending point of each direct run of pipe, regardless of the length of the pipe segment.
   2. Where connections are made between new and existing water main, ground rods shall be installed:
      a. Adjacent to tee fittings where a new hydrant is being installed. Tracer wire will terminate at the tee fitting ground rod and new hydrant TriView.
      b. Adjacent to new connection fittings if existing main was installed with tracer wire. Existing tracer wire will be terminated at the fitting ground rod. If an existing main is being altered, the tracer wire shall be altered in kind without the placement of new ground rods, except where existing ground rods have been damaged and must be replaced.
      c. If existing water main was installed without tracer wire, no ground rods or tracer wire shall be installed on the existing main, except as noted in paragraph a.

D. Terminate tracer wire in tracer wire connection next to each fire hydrant or other locations noted in paragraph C.

E. Wire splice connectors can only be used to connect ground rods to tracer wire. Wire splice connectors are not allowed at any other locations unless approved by Engineer. Provide long enough roll of tracer wire to not need the use of wire splice connectors.

F. Allow Engineer to inspect underground splices prior to backfilling.

G. Tracer wire installation is considered incidental to water main installation.

3.06 TESTING AND CHLORINATION

A. Perform hydrostatic and leakage tests in accordance with Section 02 67 40.

B. Disinfect all water mains in accordance with Section 02 67 50.

C. A tracer wire test will be conducted by Owner prior to any pavement or surface restoration. The tracer wire system including terminations at all TriViews, anode ground rods, and splice kits are to be completely installed prior to tracer wire test. Any deficiency found in tracer wire system to be corrected by Contractor at Contractor's expense.

**** END OF SECTION ****

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PART 1 GENERAL

1.01 SUMMARY OF WORK

A. This Section includes valves and hydrants as shown on the plans, complete with accessories.

1.02 RELATED SECTIONS

A. Section 02 22 00 – Excavating, Backfilling, and Compacting for Water Mains.

B. Section 02 60 00 – Protection of Water Supply.

C. Section 02 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.

D. Section 02 67 40 – Pressure Testing

E. Section 02 67 50 – Disinfection

1.03 REFERENCES

A. American National Standards Institute (ANSI) B16.1 – Cast Iron Pipe Flanges and Flanged Fittings.

B. American Society for Testing and Materials (ASTM) A320 – Alloy-Steel and Stainless-Steel Bolting for Low-Temperature Service.

C. American Society for Testing and Materials (ASTM) A536 – Standard Specification for Ductile Iron Castings.

D. American Society for Testing and Materials (ASTM) B584 – Copper Alloy Sand Castings for General Applications.

E. American Water Works Association (AWWA) C105 – Polyethylene Encasement for Ductile-Iron Pipe Systems.

F. American Water Works Association (AWWA) C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

G. American Water Works Association (AWWA) C115 – Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.

H. American Water Works Association (AWWA) C153 – Ductile Iron Compact Fittings.

I. American Water Works Association (AWWA) C502 – Dry-Barrel Fire Hydrants.

J. American Water Works Association (AWWA) C509 – Resilient-Seated Gate Valves for Water Supply Service.

K. American Water Works Association (AWWA) C515 – Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service.

L. American Water Works Association (AWWA) C550 – Protective Interior Coatings for Valves and Hydrants.

M. American Water Works Association (AWWA) C600 – Installation of Ductile-Iron Water Mains and Their Appurtenances.

1.04 SUBMITTALS

A. Submit manufacturer's certification that materials furnished are in compliance with applicable requirements of referenced standards and this Section.

B. Provide dimensional drawings, fabrication details, functional description, and properly identified catalog data on all items to prove complete compliance with Drawings and Specifications.

1.05 MEASUREMENT AND PAYMENT

A. All material, equipment, and labor necessary to comply with this Section incidental to unit price bids on the Proposal.

PART 2 PRODUCTS

2.01 GATE VALVES

A. Provide resilient-seated gate valves manufactured in accordance with AWWA C509 or AWWA C515.
   1. Type of service: buried service handling potable water with a pH range of 9.5 to 9.8.
   2. Minimum pressure rating: 250 psi.
   3. Provide valves with non-rising stem.
   4. Provide 2-inch by 2-inch wrench operating nut that opens valves when turned in clockwise direction (open to the right), unless noted otherwise on Drawings.
   5. Valve gearing for 20-inch to 48-inch valves:
      a. Provide valve with gear box.
      b. Provide vertical valve unless otherwise specified on Drawings.
      c. Use the following gear ratios for the corresponding sizes:

Valve Size (inches)	Gear Ratio
20	3 to 1
24	3 to 1
30	6 to 1
36	6 to 1
42	8 to 1
48	8 to 1

      d. Totally enclosed type, oil-filled, and designed for buried and submerged service.
      e. Materials of construction:
         (1) Gear housing: ductile iron.
         (2) Gears: carbon steel.
         (3) Pinion shaft: 304 stainless steel.
         (4) Design input shaft with a ball bearing and sealed with O-rings.
         (5) Exposed hex nuts and bolts: 304 stainless steel.

B. Materials of Construction:
   1. Body and bonnet: ductile iron.
   2. Gate: cast or ductile iron fully encapsulated with synthetic rubber.
   3. Stem and stem nut: bronze.
   4. O-rings: Buna-N.
   5. Exposed hex bolts and nuts: 304 stainless steel.
   6. Joints:
      a. Mechanical in accordance with AWWA C111.
         (1) Gaskets: Buna-N or nitrile.
         (2) Nuts and bolts:
            (a) All T-bolts and hex-head nuts for mechanical joints in accordance with AWWA C111.
            (b) Material: low carbon alloy weathering Cor-Ten steel.
            (c) Coating: Cor-Blue fluorocarbon resin.
            (d) Color: Blue.
            (e) Approved Manufacturers:
               1) Birmingham Fastener Manufacturing Fluorocarbon Coated T-Head Bolt.
               2) Or approved equal.

b. Flanged in accordance with AWWA C115, as indicated on the plans, with ANSI Class 125 full-faced flange.
   (1) Gaskets: Buna-N or nitrile, of thickness compatible with machining tolerances of flange faces. Minimum thickness: 1/8-inch.
   (2) Nuts and bolts: 304 stainless steel.

C. Design valve to:
   1. Allow replacement of upper O-ring while valve is under pressure in the full-open position.
   2. Not permit metal-to-metal contact between gate and body.
   3. Accommodate full-size tapping machine shell cutter.

D. Horizontal valves are required to have a cleaning system on both sides of the gate consisting of materials that are non-corrosive.

E. Interior and exterior valve coating minimum of 10-mil-thick fusion-bonded epoxy per AWWA C550.

F. Operating valve through 500 cycles at rated pressure must not result in disbondment or degradation of the coating. Certification will be required for manufacturers not listed below.

G. Indicate manufacturer, casting year, size, working pressure, and body material (ductile iron) in valve casting.

H. Manufacturers' Models for 4-inch to 16-inch valves:
   1. Clow Model 2638.
   2. American Flow Control Series 2500.
   3. Mueller 2300 Series.
   4. M & H Style 4067.
   5. EJ Flowmaster.
   6. Approved equal.

I. Manufacturers' Models for 20-inch to 48-inch valves:
   1. Clow Model 2638.
   2. American Flow Control Series 2500.
   3. Mueller 2300 Series.
   4. EJ Flowmaster.
   5. Approved equal.

2.02 HYDRANTS (DES MOINES)

A. Hydrants manufactured in accordance with AWWA C502.

B. Use dry-barrel, breakaway type hydrants designed to break near ground line on impact. The breaking ring consists of a full circumference one piece or split contact retaining ring.

C. Provide flanged connections for head and base to hydrant barrel.

D. Provide 6-inch mechanical joint shoe with harnessing lugs.

E. Provide 4-1/2-inch-minimum-diameter main valve with bronze seat ring. Thread seat ring directly to bronze bushing or drain ring that is securely locked to hydrant shoe.

F. Provide pentagon-shaped operating nut with weather cap. Dimension from point to flat at top of operating nut: 1-3/16-inch.

G. Provide two 2-1/2-inch hose nozzles and one 4-inch pumper nozzle with caps having nut with dimensions identical to operating nut:
   1. Hose nozzle threads
      a. Outside diameter of male thread: 3-1/16 inches
      b. Diameter at root of male thread: 2-7/8 inches
      c. Threads per inch: 7-1/2
      d. Length of nozzle threads: 1 inch
      e. Cut off at top of threads: 1/4 inch
   2. Pumper nozzle threads
      a. Outside diameter of male thread: 4-31/32 inches
      b. Diameter at root of male thread: 4-19/32 inches
      c. Threads per inch: 4
      d. Length of nozzle threads: 1-1/2 inches
      e. Cut off at top of threads: 1/4 inch

H. Provide markings cast-in-bonnet that indicate direction of opening. Hydrants to open clockwise (to the right).

I. Provide anti-thrust washers for ease of operation.

J. Provide grease chamber or oil reservoir, sealed by means of O-rings, for lubrication of operation threads. Provide lubricant suitable for contact with potable water.

K. Painting:
   1. Prepare surfaces to be coated according to SSPC-SP6, commercial blast cleaning.
   2. Coat hydrant in accordance with AWWA C502 and coating manufacturer's instructions.
   3. Tnemec epoxy paint system (Alternative 1)
      a. Coat interior surfaces, other than machined surfaces, with asphaltic coating.
      b. Coat exterior surfaces below grade with two coats of asphaltic coating.
      c. Prime exterior surfaces above grade using an aromatic urethane, zinc-rich system with 2.5 to 3.5 mils dry film thickness. Tnemec Series 90-97.
      d. Paint exterior surfaces above grade using an aliphatic acrylic polyurethane system at 2.5 to 3.5 mils dry film thickness. Tnemec Series 73.
      e. Apply a 2 to 3 mils dry film thickness of high gloss clear coat to exterior surfaces above grade after paint has been allowed to dry thoroughly. Tnemec Series 1079.
      f. Color:
         (1) Asphaltic coating: Black.
         (2) Primer: Reddish-gray.
         (3) Body: Bright Yellow (03SF).
         (4) Bonnet: Safety Green (09SF).
         (5) Caps: Bright Yellow (03SF).
   4. Tnemec epoxy paint system (Alternative 2)
      a. Coat interior surfaces, other than machined surfaces, with asphaltic coating.
      b. Coat exterior surfaces below grade with two coats of asphaltic coating.
      c. Prime exterior surfaces above grade using a polyamide epoxy system, Tnemec Series 20, FC20 or 66, and paint using an aliphatic acrylic polyurethane system, Tnemec Series 75, or approved equal. Provide total dry mil thickness of 5 to 7 mils.
      d. Apply a 2 to 4 mils dry thickness of clear coat to exterior surfaces above grade after paint has been allowed to dry thoroughly.
      e. Color:
         (1) Asphaltic coating: Black.
         (2) Primer: White (AA83).
         (3) Paint: Bright Yellow (SC02).
         (4) Bonnet: Safety Green (SC07).
         (5) Caps: Bright Yellow (SC02).
   5. Approved equal.
      a. System must be approved by DMWW prior to bid opening.

L. Materials of Construction:
   1. Breakaway stem coupling: steel, cast iron, or stainless steel.
   2. Bonnet barrel, shoe, gate, and nozzle caps: cast iron.
   3. Threaded internal components exposed to water, valve seats, and nozzles: bronze.
   4. Cotter pins, drive pins, bolts, and screws exposed to water: stainless steel or brass.
   5. Exterior bolts, nuts, set screws, and other miscellaneous fasteners: stainless steel or bronze. Metal components in contact with water to comply with requirements of ASTM B584 copper alloy UNS No. C89520 or UNS No. C89833. Residual lead levels of the metal not to exceed 0.25 percent by weight as cast or extruded.

M. Manufacturers:
   1. Clow Medallion.
   2. Mueller Centurion.
   3. Approved equal.

2.03 JOINTS FOR VALVES AND HYDRANTS

A. Use mechanical joints in accordance with AWWA C111, or restrained as indicated on plans.

B. Use ductile iron follower glands for mechanical joints.

C. Bolts:
   1. All T-bolts and hex-head nuts for mechanical joints in accordance with AWWA C111.
      a. Material: low carbon alloy weathering Cor-Ten steel.
      b. Coating: Cor-Blue fluorocarbon resin.
      c. Color: Blue.
      d. Approved Manufacturers:
         (1) Birmingham Fastener Manufacturing Fluorocarbon Coated T-Head Bolt.
         (2) Or approved equal.
   2. All bolts and hex nuts for flanged joints of 304 stainless steel.

D. Use flange joints having 1/8-inch rubber ring gaskets for nominal diameters of 24 inches or less and 1/8-inch rubber ring gaskets for nominal diameter greater than 24 inches.

E. Use elastomeric or nitrile gaskets in accordance with AWWA C111.

2.04 RETAINER GLANDS

A. Incorporate restraint for all mechanical joints into design of follower gland.

B. Use a retainer gland design imparting multiple wedging actions against the pipe, increasing its resistance as pressure increases.

C. Restrained joints to consist of a mechanical joint with retainer gland or manufacturer's proprietary-restrained joint.

D. Dimensions conforming to the requirements of AWWA C111 and AWWA C153.

E. Pressure rating:
   1. Minimum of 235 psi for PVC pipe.
   2. Minimum of 350 psi for ductile iron pipe for sizes 16-inch and smaller.
   3. Minimum of 250 psi for ductile iron pipe for sizes 18-inch and larger.

F. Color:
   1. Red for PVC pipe.
   2. Black for ductile iron pipe.

G. Materials for construction:
   1. Body, wedge segments, and break-off bolt assemblies: Grade 65-45-12 ductile iron as specified by ASTM A536.
   2. Coating to be electrostatically applied and heat-cured.

a. Approved manufacturers:
   (1) MEGA-BOND by EBAA Iron, Inc.
   (2) CORRSAFE by Sigma.
   (3) Starbond by Star Products.
   (4) Resicoat R2-ES by Tyler Union.
   (5) EZ Shield by SIP Industries.
   (6) Or approved equal.

H. Minimum factor of safety of 2.

I. Use ductile iron retainer wedge segments heat-treated to a minimum Brinell hardness number of 370.

J. Incorporate twist-off nuts, the same size as hex-head nuts for T-bolts, into the design to ensure proper actuating torque is applied during installation.

K. Approved manufacturers for PVC pipe:
   1. Megalug by EBAA Iron Inc. Series 2000PV.
   2. One-Lok by Sigma Series SLCE.
   3. Stargrip by Star Products Series 4000.
   4. TUFGrip by Tyler Union Series 2000.
   5. EZ Grip by SIP Industries Series EZP.
   6. Or approved equal.

L. Approved manufacturers for ductile iron pipe:
   1. Megalug by EBAA Iron Inc. Series 1000.
   2. One-Lok by Sigma Series SLDE.
   3. Stargrip by Star Products Series 3000.
   4. TUFGrip by Tyler Union Series 1000.
   5. EZ Grip by SIP Industries Series EZD.
   6. Or approved equal.

2.05 VALVE BOXES

A. Provide cast iron screw-type adjustable heavy-duty valve box with cast iron stay-put cover marked "WATER" for each buried valve.

B. Minimum inside diameter of valve boxes of 5-1/8 inches.

C. Weight of valve box assembled, top and bottom sections, without valve box lid as follows:

Extension Height (inches)	Weight (pounds)
27-37	71
33-43	78
39-50	85
36-52	93
39-60	100

D. Tyler No. 6850 29-U Domestic, or approved equal.

E. For an approved equal, provide proof that all parts of proposed valve box can be interchangeable with Tyler No. 6850 29-U Domestic.

F. Install valve boxes upon valve with use of a rubber Valve Box Adapter II as manufactured by Adaptor Inc., or approved equal.

2.06 POLYETHYLENE ENCASEMENT MATERIAL

A. Polyethylene encasement manufactured in accordance with AWWA C105.

B. Linear low-density polyethylene film.

C. Minimum thickness of 8 mils.

D. Color: Blue.

E. Physical Properties:
   1. Tensile strength 3600 psi, minimum.
   2. Elongation 800 percent, minimum.
   3. Dielectric strength 800 V/mil, minimum.
   4. Impact resistance 600 g, minimum.
   5. Propagation tear resistance 2550 gf, minimum.

F. Sheet material can be used to wrap irregular-shaped valves and fittings.

G. Use 2-inch-wide, 10-mil-thick pressure-sensitive polyethylene tape to close seams and hold overlaps.

PART 3 EXECUTION

3.01 HANDLING, STORAGE, AND SHIPPING

A. Handle valves and hydrants carefully.

B. Use blocking and hold-downs during shipment to prevent movement or shifting.

3.02 GENERAL INSTALLATION REQUIREMENTS

A. Protect valves and hydrants from injury while handling and storing.

B. Use no defective, damaged, or otherwise impaired materials.

C. Prepare excavation as outlined in Section 02 22 00.

D. Install valves and hydrants in accordance with AWWA C600.

E. Clean interior of valve or hydrant prior to placement in trench.

F. Install valves and hydrants to line and grade as shown on plans.

G. Install valves and hydrants plumb.

H. Clean joint surfaces of dirt and foreign matter using a wire brush before jointing.

I. Lubricate gasket and bell. Provide food grade lubricant meeting manufacturer's recommendations. Use lubricant approved for use with potable water.

J. Make joints in strict accordance with manufacturer's recommendations.

K. Evenly tighten bolts on mechanical joints or flanged joints around pipe by alternating from one side of pipe to the other. Follow manufacturer’s installation specifications for electrical isolation flanges to prevent damage during bolt torquing.

L. Backfill and compact around hydrants and valves as outlined in Section 02 22 00.

3.03 VALVE INSTALLATION

A. Do not support valves off of piping.

B. Ensure valve box is centered over operating nut.

C. Install rubber Valve Box Adapter II as manufactured by Adapter Inc., or approved equal, inside of valve box centered on valve.

D. If located within pavement, the top of valve boxes shall be installed 1/4 inch below the pavement surface.

3.04 HYDRANT INSTALLATION

A. Anchor auxiliary valve to hydrant tee.

B. Install hydrant with break flange more than 1 inch and less than 7 inches above finished grade.

C. The use of hydrant extensions will not be allowed to set hydrant to appropriate height, unless approved by Engineer. Hydrant extensions, if approved, must be from same manufacture as the fire hydrant.

D. Use restrained joints in hydrant branch.

E. Set hydrant on a solid concrete cinder block not smaller than 8-inch by 16-inch by 4-inch.

F. Provide poured concrete thrust blocks behind hydrant and hydrant tee.

G. Ensure hydrant drain is free-flowing and unobstructed in areas where normal groundwater level is below drain opening.

H. Provide not less than one (1) cubic yard of open-graded granular fill around base of hydrant for drainage.

I. Lubricate and exercise each of the three (3) hydrant caps to prevent seizing. Provide food grade grease lubricant meeting manufacturer's recommendations. Use lubricant approved for use with potable water.

3.05 INSTALLATION OF POLYETHYLENE PIPE ENCASEMENT MATERIAL

A. Use polyethylene encasement material on buried valves and buried portion of hydrants in accordance with AWWA C105.

B. Wrap valves using polyethylene sheet material to prevent contact with bedding. Secure sheet to adjacent pipe and just below valve operation nut using polyethylene tape.

C. Wrap buried portions of hydrants using 24-inch flat-width polyethylene tubing. Secure tubing to hydrant barrel just below grade using polyethylene tape.

D. The polyethylene encasement preventing contact with bedding material is not intended to be an airtight and watertight enclosure.

E. Repair damaged polyethylene encasement material using polyethylene tape, or replace the damaged section.

3.06 THRUST BLOCKS

A. Provide concrete thrust blocks at hydrants and hydrant tees.

B. Carry thrust blocks to undisturbed soil that will provide adequate bearing.

C. The bearing area of thrust blocks, in square feet, as shown on the plans. Minimum thickness for thrust block of 1.5 times outside pipe diameter or 18 inches, whichever is greater.

D. Hold thrust blocks back 3 inches from bolts, nuts, glands, or other jointing materials. Ensure joints could be remade without disturbing thrust block.

E. Provide bond breaker between thrust block and pipe or hydrant. Polyethylene encasement material will be considered an acceptable bond breaker.

3.07 REMOVAL OF ABANDONED FIRE HYDRANTS AND VALVE BOXES

A. Surface restoration items including pavement removal and replacement, seeding, or sodding, needed to remove abandoned fire hydrants or valve boxes to be paid in accordance with appropriate bid item in Contract.

B. All other items related to removal of abandoned fire hydrants and valve boxes including repairs to traffic loops and lawn irrigations systems incidental to Contract.

C. Remove abandoned fire hydrants by disconnecting pipe from fire hydrant at the shoe.

D. Return abandoned fire hydrants to Des Moines Water Works at 408 Fleur Drive, unless Engineer approves their disposal.

E. Backfill and restore all excavations for fire hydrant removals according to Sections 02 22 00 and 02 50 00 of these Specifications.

F. Remove abandoned valve box and entire top section, backfill the lower section and excavation, and restore according to Sections 02 22 00 and 02 50 00 of these Specifications.

**** END OF SECTION ****

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PART 1 GENERAL

1.01 SUMMARY OF WORK

A. Pressure test water mains in accordance with this Section.

1.02 RELATED SECTIONS

A. Section 02 22 80 – Horizontally Directional Drilled Water Main.

B. Section 02 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.

C. Section 02 64 00 – Valves and Hydrants

1.03 REFERENCES

A. American Water Works Association (AWWA) C600 – Installation of Ductile Iron Water Mains and Their Appurtenances.

B. American Water Works Association (AWWA) C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.

1.04 SUBMITTALS (NOT USED)

1.05 MEASUREMENT AND PAYMENT

A. Work under this Section incidental to Contract.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

3.01 PRESSURE TESTING

A. Perform Work in accordance with AWWA C600 and AWWA C605.

B. Test piping at 150 psi or as indicated on plans for 2 hours.

C. Fill and flush new piping with potable water, ensuring that all trapped air is removed.

D. Isolate new piping from the existing system.

E. Pressure test new piping in sections by isolating each section using in-line gate valves. Relieve pressure on non-test side of gate valve.

F. Pressurize new piping to test pressure at lowest point in the isolated system. Do not pressurize to more than 5 psi over test pressure at lowest point in the isolated system.

G. Monitor pressure in line being tested for a period of not less than 2 hours.

H. If at any point during that 2-hour period the pressure drops to 5 psi below test pressure, re-pressurize by pumping water into the line in sufficient quantity to bring pressure back to between test pressure and 5 psi above test pressure. Accurately measure the quantity of water required to re-pressurize the main.

I. At the end of the 2-hour period, if pressure in the line has dropped below test pressure, re-pressurize to test pressure. Accurately measure the quantity of water required to re-pressurize the main.

J. Allowable leakage, in gallons, per hour of testing shall equal (LD(P)½) / 148,000.
   L = length of pipe section being tested in feet
   D = nominal diameter of pipe in inches
   P = average test pressure in psig

K. Leakage equals total quantity of water required to keep line pressurized during the 2-hour test period and re-pressurize line at the end of the test period.

L. If average leakage per hour is less than allowable leakage, the pressure test is acceptable.

M. If average leakage per hour is more than allowable leakage, the pressure test is not acceptable. Locate and make approved repairs as necessary until leakage is within specific allowance.

N. If pressure in the isolated line never drops to test pressure, having started no more than 5 psi above test pressure, the pressure test is acceptable.

O. Repair visible leaks regardless of the quantity of leakage.

**** END OF SECTION ****

PART 1 GENERAL

1.01 SUMMARY OF WORK

A. Disinfect water mains and 2-inch and larger water services in accordance with this Section.

1.02 RELATED SECTIONS

A. Section 02 22 00 – Excavating, Backfilling, and Compacting for Water Mains.

B. Section 02 22 80 – Horizontally Directional Drilled Water Main.

C. Section 02 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.

D. Section 02 64 00 – Valves and Hydrants

E. Section 02 66 00 – Water Service Transfers.

1.03 REFERENCES

A. American Water Works Association (AWWA) B300 – Hypochlorites.

B. American Water Works Association (AWWA) B301 – Liquid Chlorine.

C. American Water Works Association (AWWA) C651 – Disinfecting Water Mains.

1.04 SUBMITTALS (NOT USED)

1.05 MEASUREMENT AND PAYMENT

A. Work under this Section incidental to Contract.

PART 2 PRODUCTS

2.01 CHLORINE

A. Calcium hypochlorite granules conforming to AWWA B300.

B. Liquid chlorine conforming to AWWA B301.

2.02 DE-CHLORINATION CHEMICALS

A. Vita-D-Chlor (Ascorbic Acid) by Integra Chemical Company.

B. Vita-D-Chlor, Neutral (Sodium Ascorbate) by Integra Chemical Company.

C. No-Chlor (Ascorbic Acid) by Measurement Technologies.

D. Approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Water for disinfection will be provided by Owner for two disinfection attempts. If additional attempts are necessary, the Contractor will be billed for water used at the normal rate set for industrial customers.

B. Perform disinfection of piping and appurtenances only after satisfactory pressure testing.

C. Ensure piping to be disinfected is isolated from portion of distribution system that is in service.

D. Review procedures and coordinate disinfection with Owner.

E. Perform Work in accordance with AWWA C651.

F. Bacteriological samples shall be taken and tested by Owner to ensure satisfactory disinfection.

3.02 CHLORINATION OF PIPING

A. Provide equipment and materials necessary to complete chlorination.

B. Use continuous feed method as outlined in AWWA C651.

C. Prior to feeding chlorine, fill and flush new piping to remove trapped air and particulates. Provide equipment and materials necessary to obtain a minimum flushing velocity of 3.0 fps in piping to be disinfected. When flushing velocities of 3.0 fps cannot be obtained, swab pipe until pipe is free of debris. Type of swab and procedures for use shall be approved by Owner prior to its use.

D. Induce flow of potable water through new piping at required flushing velocity. Make provisions for diverting and disposing of flushing water that does not damage surroundings. Repair damage caused by flushing activities.

E. At a point within five pipe diameters of connection to existing distribution system, introduce highly chlorinated water in sufficient quantity to provide at least 25 mg/L free chlorine in the new piping. Provide all metering and feed equipment and temporary chlorination taps. Remove temporary chlorination taps and cap the main once the main passes.

F. Introduce highly chlorinated water continuously until entire section of new piping contains a minimum of 25 mg/L free chlorine. Do not exceed 100 mg/L free chlorine.

G. Isolate newly chlorinated piping for a contact period of at least 24 hours, and not more than 48 hours, taking care not to backflow chlorinated water into existing potable water system.

H. After the contact period, water in new piping must have a residual-free chlorine content of not less than 10 mg/L. If residual is less than 10 mg/L, rechlorinate as outlined above.

3.03 FLUSHING CHLORINATED PIPING

A. After the contact period, flush recently chlorinated piping with potable water.

B. Continue flushing until chlorine residual in new piping is equal to chlorine residual in existing distribution system.

C. Isolate new piping from existing distribution system for a period of not less than 24 hours.

D. Chlorinated water, flushed from new piping, shall be dechlorinated and disposed of so not to cause damage to the environment. Conform to state and federal requirements.

E. De-chlorinate all water from flushing activities and testing before it is released into the ground, stream, or storm sewers. Method to be approved by Owner prior to any flushing activities.

3.04 BACTERIOLOGICAL TESTING

A. Immediately following flushing of pipelines and again at least 24 hours after flushing pipelines, samples will be taken and tested by Owner.

B. The Owner reserves the right to take and test additional samples 48 hours after flushing.

C. Approximately one sample will be taken for each 1,200 feet of new water main.

D. Additional samples may be taken at the discretion of Owner.

E. Samples must show the absence of coliform organisms and other contaminants and meet requirements of the Iowa Department of Natural Resources to be considered acceptable.

F. If any sample is not satisfactory with either sampling, the piping represented by that sample must be flushed and rechlorinated by the Contractor at the discretion of, and as directed by, the Owner.

**** END OF SECTION ****

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CITY OF DES MOINES GENERAL SUPPLEMENTAL SPECIFICATIONS TO THE SUDAS STANDARD SPECIFICATIONS, 2024 EDITION

Effective Date: March 4, 2024

This project will be constructed in accordance with the SUDAS Standard Specifications, 2024 Edition, which were adopted by the City of Des Moines on March 4, 2024, under Roll Call No. 24-0310, as amended by these City of Des Moines General Supplemental Specifications.

The SUDAS Standard Specifications, 2024 Edition, may be viewed at the Iowa SUDAS website at: https://iowasudas.org/manuals/specifications-manual/, or can be purchased online from the Iowa SUDAS website at: https://iowasudas.org/order-the-manuals/.

Said SUDAS Standard Specifications are hereby amended as follows:

SECTION 1010 – DEFINITIONS

1010, 1.03 DEFINITIONS AND TERMS. Add the following new definition:

> **PRIVATE CONSTRUCTION CONTRACT.** A contract awarded by a private agency or individual for construction of a publicly owned or privately-owned improvement, which by agreement of the parties is subject to these specifications.

SECTION 1020 – PROPOSAL REQUIREMENTS AND CONDITIONS

1020, 1.01 QUALIFICATION OF THE BIDDERS: Add the following new E.

> **E. The City of Des Moines may disqualify a Contractor from bidding on future work or from participating as a subcontractor for a period of up to 3 years in accordance with Section 94-198 of the Municipal Code of the City of Des Moines.*

1020, 1.03 QUANTITIES AND UNIT PRICES: Delete B. and replace with the following new B.

> B. When unit prices are requested in the proposal form, the quantities indicated on the proposal form are approximate only, and do not constitute a warranty or guarantee by the Jurisdiction as to the actual quantities involved in the work. Such quantities are to be used for the purpose of comparison of bids and determining the amount of bid security, contract, and performance, payment, and maintenance bond. In the event of discrepancies between unit prices and unit price extensions listed in a bidder's proposal, unit prices shall govern and unit price extensions shall be corrected, as necessary, for agreement with unit prices; except in the case of an obvious, serious, clerical error where the Engineer is able to determine the bidder's intent from the proposal; in which case, the Jurisdiction may waive irregularities that are in best interest of the Jurisdiction, as long as the integrity of the bid process can be maintained. The Jurisdiction expressly reserves the right to increase or decrease the quantities during construction as outlined in Section 1040, 1.06 - Increase or Decrease of Work, and to make reasonable changes in design, provided such changes do not materially change the intent of the contract. The amount of work to be paid for shall be based upon the actual quantities performed.

***This highlighted language and Section 94-198 of the Municipal Code of the City of Des Moines are not the current law of the State of Iowa and not applicable to the City's current bidding process.*

1020, 1.09 PREPARATION OF THE PROPOSAL: Delete D. and replace with the following new D:

D. When unit prices are requested, they shall be submitted on each and every item of work included for which bids are requested. The format for unit prices will be in dollars and whole cents only. In the case of discrepancy, the unit price shall govern; except in the case of an obvious, serious, clerical error where the Engineer is able to determine the bidder's intent from the proposal; in which case, the Jurisdiction may waive irregularities that are in best interest of the Jurisdiction, as long as the integrity of the bid process can be maintained.

1020, 1.12 SUBMISSION OF THE PROPOSAL, IDENTITY OF BIDDER, AND BID SECURITY: Delete A. and replace with the following new A.:

A. The proposal shall be sealed in an envelope, properly identified as the proposal with the project title and the name and address of the bidder, and deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see its proposal is delivered to the Jurisdiction prior to the time for opening bids, along with the appropriate bid security sealed inside of the bid proposal envelope, or in a separate envelope identified as bid security and attached to the outside of the bid proposal envelope. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered. If the Jurisdiction provides envelopes for proposals and bid security, bidders shall be required to utilize such envelopes in the submission of their bids.

1020, 1.15 LIMITATION ON WITHDRAWAL OF PROPOSALS AFTER OPENING OF PROPOSALS:

Add the following new C:

C. After bids are opened, if the low bidder claims that it has made a serious error in the preparation of its bid, and can support such a claim with evidence satisfactory to the Jurisdiction, said bidder shall be allowed to withdraw its bid and its bid security shall be returned; ***provided however, as a condition for return of its bid security, said bidder shall be required to agree that it will not be allowed to again bid on the project, either as a prime bidder or as a subcontractor, if the project, or a substantial portion of the project, is rebid within six months of the first bid opening.** Under no circumstances should said bidder be permitted to alter or adjust its bid, as this would undermine the entire system of competitive bidding and be an open invitation to abuse.

SECTION 1040 – SCOPE OF WORK

1040, 1.05 PLANS: Delete the 2nd paragraph and replace with the following:

Electronic support files will not be provided prior to letting and may be provided to the low bidder and are for information only. Should there be a discrepancy between an electronic support file and a contract document, the contract documents shall govern. No guarantee is made that the data systems used by the Engineer will be directly compatible with the systems the Contractor uses.

1040, 1.07 CHANGE ORDERS, B. Written Orders: Add the following to the end of the section:

Formal approval by the Jurisdiction shall be defined as follows:

The authority of the Des Moines City Manager and the Engineer to approve change orders shall be limited to those change orders which will cost $100,000 or less. Change orders for work to cost more than $100,000 shall be approved by the City Council prior to the payment of the work provided for under the change order.

***This highlighted language is not the current law of the State of Iowa and not applicable to the City's current bidding process.*

1040, 1.09 CHANGED SITE CONDITIONS, A. Latent or Subsurface Conditions: Delete 1.and 2. in their entirety and replace with the following 1. and 2.; and add the following new 3.

1. If the Contractor encounters latent or subsurface conditions differing materially from those indicated in the contract documents which the Contractor could not have discovered by a reasonable site investigation and examination of the type customarily undertaken by prudent and competent contractors, and if these changed conditions are considered by the Contractor as a basis for compensation in addition to the contract price, the Contractor shall within three working days after discovery thereof notify the Engineer of its claim by written notice as sent set forth herein. Before disturbing the site at which the latent or subsurface condition is alleged to exist, the Contractor shall give the Engineer the opportunity to inspect the same.

   a. For claims greater than $50,000 the Contractor shall notify the Engineer by written notice either (i) personally delivered, (ii) sent by certified mail, return receipt requested, or (iii) delivered by a nationally recognized prepaid overnight courier service (receipt requested), to the address below:

      City of Des Moines
      Engineering Department
      400 Robert D. Ray Drive
      Des Moines, IA 50309-1891
      Attention: Steven Naber, P.E., City Engineer

      Under no circumstance will an email, text message, verbal communication or any other informal communication, be considered acceptable or satisfactory written notice required by this section. The written notice shall:

      1) Expressly state that it is a request for a contract change under Section 1040, 1.09;
      2) Expressly identify the latent or subsurface conditions that the Contractor alleges differ materially from those indicated in the contract documents which the Contractor could not have discovered by a reasonable site investigation and examination of the type customarily undertaken by prudent and competent contractors;
      3) Expressly state the reason the Contractor believes extra compensation is due;
      4) Identify work that Contractor alleges will be impacted.

   b. For claims less than $50,000 the Contractor shall notify the Project Engineer by written notice sent as set forth above or sent by email providing the same detail as identified in a.1) through 4) above. Under no circumstances will a text message, verbal communication or any other informal communication be considered acceptable or satisfactory written notice required by this section.

2. After inspection by the Engineer, the Jurisdiction may, in its discretion, authorize the Contractor to proceed with or abandon the work. The Contractor shall resume construction operations pending a decision regarding its claim by the Jurisdiction. Failure of the Contractor to give written notice within three working days of discovering the conditions and to give the Engineer full opportunity to inspect the condition before disturbing the site shall be deemed a waiver by the Contractor of all claims for extra compensation arising out of the alleged condition.

3. Latent or subsurface conditions that do not materially differ from those shown on the plans shall not form the basis for additional compensation. No additional compensation or extension of time shall be provided for conditions that do not materially differ, regardless of the nature of the condition encountered.

1040, 1.10 DISPUTED CLAIMS FOR EXTRA COMPENSATION: Delete 1.10 in its entirety and replace with the following:

A. Basis of Claim for Extra Compensation:

1. In any case where the Contractor believes extra compensation is due for work or material beyond the scope of the Work under the contract and not ordered by the Engineer as Extra Work as defined in Section 1010, 1.03, the Contractor shall provide written notice to the Engineer, as set forth herein, of its intention to make claim for such extra compensation within thirty (30) days of discovering the circumstances regarding the claim and before beginning the work on which the claim is based (hereinafter referred to as a "Claim").

    a. For claims greater than $50,000 the Contractor shall notify the Engineer by written notice either (i) personally delivered, (ii) sent by certified mail, return receipt requested, or (iii) delivered by a nationally recognized prepaid overnight courier service (receipt requested) to the address below:

        City of Des Moines
        Engineering Department
        400 Robert D. Ray Drive
        Des Moines, IA 50309-1891
        Attention: Steven Naber, P.E., City Engineer

        Under no circumstance will an email, text message, verbal communication or any other informal communication, be considered acceptable or satisfactory written notice required by this section. The written notice shall:

        1) Expressly state that it is a request for a contract change under Section 1040, 1.10;
        2) Expressly state the reason the Contractor believes extra compensation is due;
        3) Identify the underlying work or material that Contractor claims is beyond the scope of the Work under the contract and not ordered by the Engineer as Extra Work as defined in Section 1010, 1.03;
        4) Identify any work that will be impacted.

    b. For claims less than $50,000 the Contractor shall notify the Project Engineer by written notice sent as set forth above or sent by email providing the same detail as identified in a.1) through 4) above. Under no circumstances will a text message, verbal communication or any other informal communication be considered acceptable or satisfactory written notice required by this section.

    The Contractor shall not proceed with that work until the Contractor and the Jurisdiction have executed a change order with respect to the Claim. The Contractor shall have no right to submit a Claim for any matter which is exclusively reserved to authority of the Engineer under the Contract Documents.

2. The Jurisdiction shall not be responsible for damages attributable to the performance, nonperformance, or delay, of any other contractor, governmental agency, utility agency, firm, corporation, or individual authorized to do work on the project, except if such damages result from negligence on the part of the Jurisdiction, its Engineer, or any of its officers or employees.

3. For any Claim, if such written notification is not given, or if after such written notification is given the Engineer is not allowed facilities for keeping strict account of actual costs as defined for force-account construction, the Contractor thereby agrees to waive the Claim for extra compensation for such work. Such written notice by the Contractor, and the fact the Engineer has kept account of the cost as aforesaid, shall not be construed as establishing the validity of the Claim.

4. The Claim, when filed, shall be in writing and in sufficient detail to permit auditing and an evaluation by the Jurisdiction. The Claim shall be supported by such documentary evidence as the Contractor has available and shall be verified by affidavit of the Contractor or other person having knowledge of the facts.

B. Presentation and Consideration of Claim: If the Contractor wishes an opportunity to present its Claim in person, the Claim shall be accompanied by a written request to do so. Where the Contractor asks an opportunity to present its Claim in person, the Jurisdiction, within thirty (30) calendar days of the filing of the Claim, shall fix a time and place for a meeting between the Contractor and the Jurisdiction or its designated representatives or representative. The Jurisdiction shall, within a reasonable time after the filing of the Claim or the meeting above referred to, whichever is later, rule upon the validity of the Claim and notify the Contractor, in writing, of its ruling together with the reasons therefore. In case the Claim is found to be just, in whole or in part, it shall be allowed and paid to the extent so found.

C. Request for Claim Review: In the event a Contractor's Claim as outlined in the above procedure in Sections 1040, 1.10(A) and (B) has been disallowed, in whole or in part, the Contractor may, within thirty (30) calendar days from the date the ruling of the Jurisdiction is mailed, make a written request to the Jurisdiction that its Claim or Claims be submitted to a board of review. The written request shall be either (i) personally delivered, (ii) sent by certified mail, return receipt requested, or (iii) delivered by a nationally recognized prepaid overnight courier service (receipt requested) addressed as follows:

City of Des Moines
Engineering Department
400 Robert D. Ray Drive
Des Moines, IA 50309-1891
Attention: Steven Naber, P.E., City Engineer

The Jurisdiction shall decide if the matter is subject to further review and shall, within thirty (30) calendar days of the receipt of the request for review, grant or deny the request for review. The Jurisdiction's decision shall be final. In the event the Contractor fails to make a timely written demand for review of its Claim as provided by this Section 1040, 1.10(C), the decision of the Jurisdiction shall be deemed to be final and the Contractor shall have no right to pursue arbitration or litigation of its Claim.

D. Board of Review:

1. The Board shall have jurisdiction to pass upon questions involving compensation to the Contractor for work actually performed or materials furnished and upon claims for extra compensation that have not been allowed by the Jurisdiction. The Board's jurisdiction shall not extend to matters exclusively reserved to the Engineer, to a determination of quality of workmanship or materials furnished, or to an interpretation of the intent of the Plans and Specifications except as to matters of compensation. Jurisdiction of the Board shall not extend to setting aside or modifying the terms or requirements of the contract.

2. Following the timely written demand for review of the Claim and the decision of the Jurisdiction to grant the request, a board of review shall be appointed to review the Claim. The board of review shall consist of three (3) members as follows: the Engineer, or designated representative; and two persons to be appointed by the Engineer (hereinafter the "Board").

3. The Board shall set a date for the Contactor to present its Claim for review within sixty (60) days of the date the Jurisdiction issued its decision granting the Contractor's request for review. The presentation before the Board shall not be in accordance with the Iowa rules of civil procedure and the Contractor shall not have the right to conduct discovery or compel the

testimony of witnesses as part of the presentation. The Contractor shall submit three (3) copies of a written Claim summary and all documents it considers to be relevant to its Claim at least fourteen (14) days prior to the date set for the presentation before the Board. The presentation before the Board is intended to be an informal process to allow the Contractor to further explain its Claim and why it believes it is entitled to additional compensation. The Board reserves the right to impose such rules as it deems reasonably necessary to allow for a fair and efficient presentation.

4. Following the presentation before the Board, the Board shall render a written decision regarding the Claim within twenty (20) days of the presentation. In the event the Board renders a decision in favor of the Contractor for some or all of the Claim, the Contractor and the Jurisdiction shall promptly proceed in good faith to prepare a change order consistent with the decision of the Board. If the Board denies the Claim, in part or in full, the Contractor's sole and exclusive remedy is to demand final resolution of the Claim that has been denied subject to the procedure provided below.

E. Final Resolution by Binding Arbitration or Litigation: For any Claim denied by the Board, the Jurisdiction shall have the sole and exclusive right to determine whether final resolution of the Claim shall be through Binding Arbitration or litigation The Contractor shall not have the right to pursue final resolution of any Claim that the Contractor did not submit to the Board. The Contractor must make a written demand for final resolution of the Claim upon the Jurisdiction within thirty (30) days of the date when the Board rendered its decision or it will be deemed to have waived this right and the decision of the Board will be final. The written demand shall be either (i) personally delivered, (ii) sent by certified mail, return receipt requested, or (iii) delivered by a nationally recognized prepaid overnight courier service (receipt requested) addressed as follows:

City of Des Moines
Engineering Department
400 Robert D. Ray Drive
Des Moines, IA 50309-1891
Attention: Steven Naber, P.E., City Engineer

The Jurisdiction shall notify the Contractor within thirty (30) days of the date of receiving the Contractor's written demand for final resolution of the Claim, whether the Jurisdiction will elect to use binding arbitration or litigation to reach a final resolution of the Claim. The decision to pursue binding arbitration or litigation, shall be the sole and exclusive decision of the Jurisdiction. The decision of the Jurisdiction on whether to pursue binding arbitration or litigation is final.

1. Arbitration.

   (a) If the Jurisdiction elects to use binding arbitration for final resolution of the Claim, the sole and exclusive remedy for final resolution of the Claim shall be binding arbitration (the "Arbitration"). The Arbitration shall be submitted to a single arbitrator as is mutually agreed upon by the Contractor and Jurisdiction. If the Contractor and Jurisdiction cannot agree upon a single arbitrator within twenty-one (21) days of the date of the Jurisdiction's notification to the Contractor of the Jurisdiction's decision to pursue binding arbitration , the Arbitration shall be submitted to a three (3) member panel appointed as follows: the Contractor shall appoint one arbitrator; the Jurisdiction shall appoint one arbitrator; and the third arbitrator shall be chosen by the first two appointed arbitrators (for the sake of convenience, the arbitrator, or arbitrators as the case may be, shall be referred to hereinafter as the "Arbitrator"). The parties agree to work toward appointment of a three (3) member Arbitration panel within twenty-one (21) days after not being able to agree on a single arbitrator. The Arbitration shall be conducted in general accord with the Construction Industry Arbitration Rules of the

American Arbitration Association then in effect. The parties reserve the right to alter and amend the rules for the Arbitration as they may mutually agree in writing.

(b) The Arbitrator shall have jurisdiction to pass upon questions involving compensation to the Contractor for work actually performed or materials furnished and upon claims for extra compensation that have not been allowed by the Jurisdiction. The Arbitrator's jurisdiction shall not extend to matters exclusively reserved to the Engineer, to a determination of quality of workmanship or materials furnished, or to an interpretation of the intent of the Plans and Specifications, except as to matters of compensation. Jurisdiction of the Arbitrator shall not extend to setting aside or modifying the terms or requirements of the contract.

(c) Subject to agreement of the parties and the Arbitrator, the parties shall work in good faith to schedule the Arbitration and allow for the decision of the Arbitrator within two hundred forty (240) days after appointment of the Arbitrator.

(d) The Arbitrator shall render a written decision within twenty (20) days after the Claim has been fully submitted. For Arbitrations before more than one arbitrator, the decision of a majority of the panel shall govern. The Arbitrator's decision shall provide a basis for the findings and legal conclusions and shall determine how the cost of the proceedings shall be borne by the parties.

(e) The decision of the Arbitrator shall be binding and final. There shall be no further appeal or judicial review, except under the limited circumstances as allowed by Iowa law.

2. Litigation.

(a) If the Jurisdiction elects not to use arbitration as the means to reach final resolution of the claim, then the sole and exclusive remedy for final resolution of the Claim shall be litigation which must be brought in Iowa District Court in and for the County where the Jurisdiction is located or in the United Stated District Court in and for the District where the Jurisdiction is located.

(b) To the fullest extent permitted by law, Contractor and Jurisdiction hereto waive any right each may have to a trial by jury in respect of litigation directly or indirectly arising out of or in connection with this Agreement.

SECTION 1050 – CONTROL OF WORK

1050, 1.10 PROTECTION OF LINE AND GRADE STAKES: Add the following new D.

D. The Jurisdiction shall provide all construction survey staking on projects funded by the Jurisdiction unless otherwise indicated on the plans or in the Contract Documents. On Private Construction Contracts, the Owner, in accordance with the Private Construction Contract, shall hire a Licensed Surveyor for all survey work.

SECTION 1060 – CONTROL OF MATERIALS

1060, 1.03 SAMPLES AND TESTING: Add the following new D.

D. All on-site inspection and testing, as well as testing of materials, will be provided by the Jurisdiction unless otherwise indicated on the plans or by special provisions.

SECTION 1070 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

1070, 1.03 PERMITS AND LICENSES: Delete and replace with the following:

The Contractor shall procure and pay for all necessary permits and licenses for the construction of the work and for temporary excavations, obstructions, enclosures, and street openings arising from the construction and completion of the work described in the Contract Documents. The Contractor shall be responsible for all violations of the law for any cause in connection with the construction of the work or caused by the obstruction of roads, streets, highways or sidewalks, and shall give all requisite notices to the Jurisdiction or other public authorities in connection therewith.

1070, 2.02 CONVENIENCE AND SAFETY: E. Project Area or Work Site Safety: Add the following new 6.

6. The City of Des Moines, Engineering Department, Master Construction Safety Packet is available in the Forms and Documents section at the Engineering page on the City of Des Moines website at: www.dsm.city/masterconstructionsafetypacket and is also available upon request from the Engineering Department. The Engineering Department will make available a copy of the City of Des Moines Master Construction Safety Plan to the Contractor when the contract is awarded. Said Safety Plan is for the Contractor's information only and it is the Contractor's sole responsibility to provide, or make available, this safety information to all its Subcontractors.

1070, 1.12, CONSENT TO JURISDICTION OF IOWA DISTRICT COURT OR FEDERAL DISTRICT COURT: Delete 1.12 in its entirety and replace with the following new 1.12:

1070, 1.12 DISPUTE RESOLUTION AND CONSENT TO JURISDICTION OF IOWA DISTRICT COURT OR FEDERAL DISTRICT COURT IN IOWA

A. The Contractor agrees any claims, disputes, causes of action that accrue to it, or which by subrogation or assignment accrue to its sureties or insurers, arising out of or connected with this contract, and that the Jurisdiction has determined in writing is not subject to Section 1040, 1.10, shall be resolved by arbitration or litigation as elected by the Jurisdiction. As to any such causes of action, Contractor shall provide written notice to Jurisdiction requesting that Jurisdiction make its election as to whether the dispute shall be settled by arbitration or litigation. The written notice shall be either (i) personally delivered, (ii) sent by certified mail, return receipt requested, or (iii) delivered by a nationally recognized prepaid overnight courier service (receipt requested) addressed as follows:

City of Des Moines
Engineering Department
400 Robert D. Ray Drive
Des Moines, IA 50309-1891
Attention: Steven Naber, P.E., City Engineer

Jurisdiction shall notify Contractor in writing as to its election within thirty (30) days of receipt of Contractor's written notice requesting a determination by Jurisdiction.

1. Arbitration

(a) If the Jurisdiction elects to use binding arbitration for final resolution, the sole and exclusive remedy for final resolution of the dispute shall be binding arbitration (the "Arbitration"). The Arbitration shall be submitted to a single arbitrator as is mutually agreed upon by the Contractor and Jurisdiction. If the Contractor and Jurisdiction cannot agree upon a single arbitrator within twenty-one (21) days of the date of the Jurisdiction's notification to the Contractor of the Jurisdiction's decision to pursue binding arbitration, the Arbitration shall be submitted to a three (3) member panel

appointed as follows: the Contractor shall appoint one arbitrator; the Jurisdiction shall appoint one arbitrator; and the third arbitrator shall be chosen by the first two appointed arbitrators (for the sake of convenience, the arbitrator, or arbitrators as the case may be, shall be referred to hereinafter as the "Arbitrator"). The parties agree to work toward appointment of a three (3) member Arbitration panel within twenty-one (21) days after not being able to agree on a single arbitrator. The Arbitration shall be conducted in general accord with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect. The parties reserve the right to alter and amend the rules for the Arbitration as they may mutually agree in writing.

(b) Jurisdiction of the Arbitrator shall not extend to setting aside or modifying the terms or requirements of the contract.

(c) Subject to agreement of the parties and the Arbitrator, the parties shall work in good faith to schedule the Arbitration and allow for the decision of the Arbitrator within two hundred forty (240) days after appointment of the Arbitrator.

(d) The Arbitrator shall render a written decision within twenty (20) days after the matter has been fully submitted. For Arbitrations before more than one arbitrator, the decision of a majority of the panel shall govern. The Arbitrator's decision shall provide a basis for the findings and legal conclusions and shall determine how the cost of the proceedings shall be borne by the parties.

(e) The decision of the Arbitrator shall be binding and final. There shall be no further appeal or judicial review, except under the limited circumstances as allowed by Iowa law.

2. Litigation.

(a) If the Jurisdiction elects not to use arbitration as the means to reach final resolution of the claim or fails to notify Contractor in writing within thirty (30) days of its election, then the sole and exclusive remedy for final resolution of the Claim shall be litigation which must be brought in Iowa District Court in and for the County where the Jurisdiction is located or in the United Stated District Court in and for the District where the Jurisdiction is located.

(b) To the fullest extent permitted by law, Contractor and Jurisdiction hereto waive any right each may have to a trial by jury in respect of litigation directly or indirectly arising out of or in connection with this Agreement.

B. Contractor further consents that it will require its subrogees and assigns to enter into an agreement to comply with the terms of Section, 1.12, and consent to the jurisdiction of either the Iowa District Court in and for the County where the Jurisdiction is located or the United States District Court in and for the District where the Jurisdiction is located, as to any causes of action brought against it arising out of this contract or any work performed under it by Contractor or its subcontractors, and further agrees, on behalf of itself, its subrogees and assigns, to waive any and all objections to the jurisdiction of said court as to any such cause of action. Contractor shall make such consent a condition of the retention of subrogees and assigns.

1070, 2.10 DUST CONTROL: Add the following paragraph:

The Contractor shall be responsible to remove any project-related construction materials deposited on a public street as well as related dust control measures. The Contractor shall employ all means necessary to prevent tracking soil, or loss of material, onto public streets; including but not limited to, rocking private access roads and removing excess material from equipment before leaving the construction site.

The Contractor shall promptly remove any material deposited on a public street utilizing mechanical scraping and street sweeping, or other means as required by the Jurisdictional Engineer.

1070, 3.02 INSURANCE REQUIREMENTS, A.: Delete A and replace them with the following A.

A. The contractor shall not purchase liability insurance in the name of the jurisdiction unless such purchase is allowed by special provision.

1070, 3.02 INSURANCE REQUIREMENTS, C. 2. Commercial General Liability Insurance: Revise the following limits on the Commercial General Liability Insurance:

- The Each Occurrence Limit shall be changed from $1,000,000 to $2,000,000.
- The Personal and Advertising Injury Limit, under Commercial General Liability, changed from $1,000,000 to $2,000,000.
- All other limits shall remain unchanged.

1070, 3.02 INSURANCE REQUIREMENTS, C. 3. Automobile Liability Insurance: Revise the following limits on the Automobile Liability Insurance:

- Minimum combined single limit per accident shall be changed from $1,000,000 to $2,000,000.

1070, 3.02 INSURANCE REQUIREMENTS, C.: Add the following sentence at the end of 1, 2, 3, and 5: "Waiver of Subrogation in favor of Jurisdiction is required."

1070, 3.02 INSURANCE REQUIREMENTS, C., 6. Additional Insured Endorsements: Replace "Except for Workers Compensation, the insurance specified shall:", with "Except for Workers Compensation and Railroad Protective Liability Insurance, the insurance specified shall:".

1070, 3.02 INSURANCE REQUIREMENTS, C: Add the following new 8.

8. WAIVER OF SUBROGATION: To the fullest extent permitted by law, Contractor hereby releases the Jurisdiction, including their respective elected and appointed officials, agents, employees and volunteers and others working on their behalf from and against any and all liability or responsibility to the Contractor or anyone claiming through or under the Contractor by way of subrogation or otherwise, for any loss arising out of liability or occupational injury without regard to the fault of the Jurisdiction or the type of loss involved. This provision shall be applicable and in full force and effect only with respect to loss or damage occurring during the time of this Agreement. The Contractor's policies of insurance shall contain a clause or endorsement to the effect that such releases shall not adversely affect or impair such policies or prejudice the right of the Contractor to recover thereunder.

1070, 3.03 CONTRACTOR'S INDEMNITY – CONTRACTUAL LIABILITY INSURANCE: Delete B.; and replace with the following B.

B. Except to the extent caused by or resulting from the negligent act or omission of the Jurisdiction or the Jurisdiction's employees, consultants, agents or other for whom the Jurisdiction is responsible, to the fullest extent permitted by law, the Contractor shall defend, indemnify, and hold harmless the Jurisdiction and its officers, agents, employees, and consultants from and against all claims, damages, losses, and expenses, including but not limited to, attorney's fees, arising out of or resulting from the performance or prosecution of the work by the Contractor, its subcontractors, agents, or employees; or arising from any neglect, default, or mismanagement or omissions by the Contractor, its subcontractors or consultants, suppliers, third parties, or the agents, officers, or employees of any of them in the performance of any duties imposed by the contract or by law; provided any such claim, damage, loss, or expense:

1. is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including economic damages and the loss of use resulting therefrom, and

2. is caused in whole or in part by any act or omission of the Contractor, its subcontractors or consultants, suppliers, third parties, or the agents, officers, or employees of any of them, or anyone for whose acts any of them may be liable.

   Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity that would otherwise exist as to any party or person described in this subsection.

1070, 3.04 CONTRACTORS INSURANCE FOR OTHER LOSSES; WAIVER OF SUBROGATION, B.: Delete B. and replace with the following B.

B. Contractor shall cause each of its subcontractors, consultants, suppliers, third parties, or the agents of any of them, to carry insurance sufficient to cover all loss to such materials, tools, motor vehicles, and equipment. All insurance carried by the Contractor, or its subcontractors, consultants, suppliers, third parties or the agents of any of them, covering risk of loss or damage to materials, tools, motor vehicles, and equipment used in the performance of the Work, shall provide a waiver of subrogation against the Jurisdiction, as specified in Section 1070, 3.02 Insurance Requirements, C.8. To the extent that any subcontractors, consultants, suppliers, third parties or the agents of any of them, do not provide such coverage, any uninsured loss shall be the sole responsibility of the Contractor.

1070, 3.05 PROPERTY INSURANCE: Delete A, D, and M; and replace them with the following A, D, and M.

A. Property Insurance Required: The Contractor shall purchase and maintain property insurance, being either Builder's Risk Insurance or an Installation Floater, for the period of the contract until final acceptance of the work by the Jurisdiction, on all construction contracts where a building, electrical, mechanical, or plumbing permit is required by the permitting entity.

   1. Builder's Risk Insurance by Contractor: On contracts for construction of new buildings or on contracts when Builder's Risk Insurance is applicable to the contract by definition, the Contractor shall purchase and maintain Builder's Risk Insurance for the duration of the contract; unless the Jurisdiction states by special provision that the Jurisdiction shall purchase and maintain the Builder's Risk Insurance. This property insurance, Builder's Risk Insurance, provided by the Contractor shall be in the amount of the initial bid amount, or in an amount equal to the estimated value of actual building construction, whichever is less, as well as applicable modifications thereto for the entire work at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the contract documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final acceptance of the work by the Jurisdiction. The insurance shall include interests of the Jurisdiction, the Contractor, subcontractors, and sub-subcontractors in the work. If the Contractor's property insurance covering the work has any deductible, the Contractor shall be responsible to pay the cost associated with the deductible. Flood and Earthquake Insurance shall be required as part of the Builder's Risk Policy, and the minimum required policy limits shall be not less than 10% of the full amount of the contract. If Boiler and Machinery Insurance is required by the contract documents or by law, the Contractor shall purchase the Boiler and Machinery Insurance if the Contractor is required to purchase the Builder's Risk Insurance. If Boiler and Machinery Insurance coverage is included in the Contractor's Builders Risk Insurance policy, it may be used to satisfy the Boiler and Machinery Insurance requirement to the extent such coverage specifically covers such objects during installation, testing, and until final acceptance by the Jurisdiction.

   2. Builder's Risk Insurance by the Jurisdiction: When stated in the special provisions, the

Jurisdiction shall purchase and maintain property insurance, a.k.a. Builder's Risk Insurance in the amount of the initial bid amount, or in an amount equal to the estimated value of actual building construction, whichever is less, as well as applicable modifications thereto for the entire work at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the contract documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final acceptance of the work by the Jurisdiction. The insurance shall include interests of the Jurisdiction, the Contractor, subcontractors, and sub-subcontractors in the work. The Jurisdiction will determine an appropriate deductible for the property insurance covering the work, however, the Contractor will be responsible for paying a deductible of up to $5,000 for each occurrence. Flood and Earthquake Insurance shall be required as part of the Builder's Risk Policy, and the minimum required policy limits shall be not less than 10% of the full amount of the contract. If Boiler and Machinery Insurance is required by the contract documents or by law, the Jurisdiction shall purchase the Boiler and Machinery Insurance if the Jurisdiction is required to purchase the Builder's Risk Insurance. If Boiler and Machinery Insurance coverage is included in the Jurisdiction's Builders Risk Insurance policy, it may be used to satisfy the Boiler and Machinery Insurance requirement to the extent such coverage specifically covers such objects during installation, testing, and until final acceptance by the Jurisdiction.

3. Installation Floater: On the remainder of these contracts where Builder's Risk Insurance is not applicable to a contract by definition and an Installation Floater is applicable by definition, the Contractor shall purchase and maintain an Installation Floater for the duration of the contract. This Installation Floater shall cover all materials, fixtures, equipment, and supplies provided for the job. Such insurance shall be on an "*all risk*" form in an amount equal to the maximum value of such materials, equipment, or supplies covered on the job site, off-premises at any temporary storage location, or in transit, and shall include coverage for hoisting and rigging. The Installation Floater shall be maintained until final acceptance of the work by the Jurisdiction. If the Contractor's Installation Floater covering the equipment and work has any deductible, the Contractor shall be responsible to pay the cost associated with the deductible. If Boiler and Machinery Insurance is required by the contract or by law, the Contractor shall purchase the Boiler and Machinery Insurance; the Installation Floater may be used to satisfy this requirement to the extent the Boiler and Machinery Insurance coverage specifically covers such objects during installation, testing, and until final acceptance by the Jurisdiction.

D. Boiler and Machinery Insurance: When required by the contract documents or by law, Boiler and Machinery Insurance shall specifically cover such insured objects during installation, testing, and until final acceptance by the Jurisdiction; this insurance shall include interest of the Jurisdiction, Contractor, subcontractors, and sub-subcontractors in the work, and the Jurisdiction and Contractor shall be named insureds. A Builders Risk Insurance policy or an Installation Floater, when also required by the contract documents or by law, may satisfy this requirement as indicated in 1070, 3.05 A.1, 2. and 3. above. If Boiler and Machinery Insurance is required by the contract documents or by law, the Contractor shall purchase the Boiler and Machinery Insurance. However, if the contract, requires the Jurisdiction to purchase the Builder's Risk Insurance, the Jurisdiction shall also purchase the Boiler and Machinery Insurance.

M. Installation Floater: See Section 1070, 3.05, A.3 above.

1070, 3.06 ENDORSEMENT NAMING JURISDICTION AS AN ADDITIONAL INSURED / CANCELLATION AND MATERIAL CHANGE/ GOVERNMENTAL IMMUNITIES ENDORSEMENT: Under C. delete the first full paragraph regarding the Cancelation and Material Change Endorsement language and replace it with the following:

Thirty (30) days Advance Written Notice of Cancellation, ten (10) days Written Notification of Cancellation due to non-payment of premium and forty-five (45) days Advance Written Notification of Non-Renewal shall be sent to the Jurisdiction at the office and attention of the Certificate Holder. This endorsement supersedes the standard cancellation statement on the Certificate of Insurance to which this endorsement is attached.

1070, 3.06 ENDORSEMENT NAMING JURISDICTION AS AN ADDITIONAL INSURED / CANCELLATION AND MATERIAL CHANGE/ GOVERNMENTAL IMMUNITIES ENDORSEMENT: Replace first sentence under E. with the following: If allowed, as specified in Section 1070, 3.02 Insurance Requirements A., all liability policies purchased in the Jurisdiction's name shall include a Governmental Immunities Endorsement, pursuant to Iowa Code Section 670.4, which endorsement shall include the following provisions:

1070, 3.07 PROOF OF INSURANCE: Add the following sentence at the end of A: "Mail Certificate of Insurance to: Engineering Department, City of Des Moines, City Hall, 400 Robert D. Ray Drive, Des Moines, Iowa 50309."

SECTION 1080 – PROSECUTION AND PROGRESS

1080, 1.03 WORK PROGRESS AND SCHEDULE, B.: Delete B. and replace with the following new B:

B. At the preconstruction conference, furnish the Engineer with a preliminary schedule. At least five (5) calendar days prior to starting work, provide the Engineer with three copies of a satisfactory construction progress schedule.

1. The schedule must include, at a minimum, the following items:
    a. A chronologically sequenced bar chart showing the proposed starting dates and durations, including the estimated number of weather delay days, for each item of work.
    b. Clearly show the controlling item of work for each day of the schedule, and the intended rate of production for each item of work.
    c. Include project staging, project required milestones, and project suspensions that are three (3) working days or longer.

2. Base the progress schedule on an adequate daily working hour schedule, with sufficient materials, equipment, and labor being furnished to ensure completion of the contract within the contract period. Commence and prosecute the work according to the accepted progress schedule, with forces and equipment adequate to complete the controlling operations on schedule.

3. The Engineer will use the progress schedule to identify controlling operations and as a check on the rate of progress. The Engineer will jointly review the schedule with the Contractor at least every two (2) weeks to determine if progress is satisfactory. The Engineer may also request the Contractor to revise the schedule for any of the following reasons:
    a. The project completion or intermediate completion targets are delayed 10 working days or more.
    b. The Engineer determines that the progress of the work differs significantly from the current schedule such that it is unlikely the project will be completed within the contract period.
    c. A contract change order requires a revision of the Contractor's work sequence or the method of performing the work.

4. Prepare and submit revised progress schedules to the Engineer within five (5) business days after the request.

5. The Engineer's acceptance of the Contractor's progress schedules does not waive any contract requirements.

6. Progress payments may be withheld until a satisfactory schedule has been submitted and accepted by the Engineer.

7. The cost of the schedule is included in the cost of mobilization. No direct payments will be made for furnishing construction progress schedules or revisions.

1080, 1.03 WORK PROGRESS AND SCHEDULE: Add the following new D:

D. No person shall operate or permit the operation of any tools or equipment in construction, drilling or demolition work or in preventive maintenance work for public service utilities between the hours of 10:00 p.m. and 7:00 a.m. without the written permission of the Engineer.

1080, 1.09 EXTENSION OF TIME, B. – Request for Extension of Time: Add the following sentence before the last sentence in the first paragraph: "The request for an extension of time is the sole and exclusive remedy of the Contractor for the events listed below.

SECTION 1090 – MEASUREMENT AND PAYMENT

1090, 1.02 SCOPE OF PAYMENT, Add the following new D. and E.

D. If the Contractor fails to notify the Engineer or the Engineer's representative prior to commencing work on various stages of work on the project, the work completed without notifying the City may not be compensated or accepted. At the Engineer's discretion the Contractor may be required to remove the work.

E. The following subsection 1 applies when there are no specific state or federal labor standards, statutes, regulations or rules, such as Davis Bacon and related Acts, contained in the Contract Documents to which Contractor is required to comply:

1. The City may request Contractor to provide verifiable payroll records of the Contractor and its subcontractors to the Engineer, which ***shall not*** include the full social security number of the employees. The Contractor will notify each subcontractor of this provision.

1090, 1.04 PAYMENT FOR CHANGE ORDERS, C.: Replace with the following:

C. The percentage markup to be allowed to the Contractor for extra work performed by a subcontractor shall include all overhead, profit, bond, and all subcontractor markups for changes in work and shall be in accordance with the following:

1. 10% of the first $50,000 with a $100 minimum.
2. 5% of the portion over $50,000.

To include the markup on the change order, the Contractor shall, at the request of the Engineer, furnish evidence satisfactory to the Engineer of the cost (rate or rates) paid for

such bond, insurance, and tax. This may include, at the request of the Engineer, a bond rider for the performance bond.

1090, 1.05 PROGRESS PAYMENTS, B. Retainage: Delete B. in its entirety and replace with the following B.

B. Retainage: The Jurisdiction shall retain from each monthly progress payment 3% of the amount determined to be due according to the estimate of the Engineer. Early release of retained funds may be requested by the Contractor according to Iowa Code Section 573.28.

SECTION 2010 – EARTHWORK, SUBGRADE, AND SUBBASE

2010, 3.06 SUBGRADE PREPARATION, A. Uniform Composition: 1. Subgrade Compaction in Fill Sections: Add the following new e.

e. Proof roll subgrade as specified in Section 3.06, B. to locate soft or yielding areas prior to placement of top six-inch lift.

2010, 3.06 SUBGRADE PREPARATION, A. Uniform Composition: 2. Subgrade Compaction in Cut Sections: Add the following new d.

d. Prior to scarify, mix, and re-compact the bottom six inches of subgrade (paragraph 2.b above), proof roll subgrade as specified in Section 3.06, B to locate soft or yielding areas.

2010, 3.07 SUBGRADE TREATMENT, A. Lime, Cement, Fly Ash, or Asphalt: Add the following new 3.

3. The Contractor shall comply with the following conditions when incorporating the subgrade treatments.

   a. The Contractor shall not begin stabilization work if the following weather conditions are to happen within 24 hours after stabilization:

      Temperature expected to drop below 40°F within the first 24 hours of incorporation unless approved by the Engineer.
      Rain.
      Wind speeds of 15 mph or greater unless approved by the Engineer prior to stabilization work.

   b. The subgrade treatment shall not be incorporated into frozen subgrade conditions.

   c. The deviation from target range will not exceed 0.5% ± the approved mix design rate.

   d. Contractor shall use a reclaimer machine with computerized water proportioning system that measures and applies the water directly into the mixing chamber when the machine is in motion. The treatment chemicals will be distributed via computerized vane feeder on the subgrade prior to mixing to minimize loss of treatment chemicals as dust. Dumping or blowing of treatment chemicals onto the subgrade will not be allowed.

   e. During the compaction operation, no section shall be left undisturbed for longer than 30 minutes during compaction operations.

SECTION 3010 – TRENCH EXCAVATION AND BACKFILL

3010, 3.02 ROCK OR UNSTABLE SOILS IN TRENCH BOTTOM: Delete B. and replace with the following new B.

B. The Engineer will review the contractor's request for the need for over-excavation and trench foundation stabilization and authorize the work prior to installation of pipes and structures.

3010, 3.05 PIPE BEDDING AND BACKFILL, D. Primary and Secondary Backfill: 3. Suitable Backfill Material: Add the following new d.

d. Unless otherwise shown or specified in the Contract, compaction of backfill material shall be by mechanical pneumatic or vibratory compaction equipment appropriate to the existing conditions that will not result in damage to adjacent ground, existing improvements or the Work.

3010, 3.05 PIPE BEDDING AND BACKFILL, E. Final Trench Backfill: 3. Class I and Class II Backfill Material: Delete a. and replace with the following new a.

a. Compact to at least 65% relative density within right-of-way or under any paved surface or within two feet thereof.

3010, 3.05 PIPE BEDDING AND BACKFILL, E. Final Trench Backfill: 4. Class III and Class IVA Backfill Material: Delete a. and replace with the following new a.

a. Compact to at least 95% of Standard Proctor Density within right-of-way or under any paved surface or within two feet thereof.

SECTION 4010 – SANITARY SEWERS

4010, 3.06 SANITARY SEWER SERVICE STUBS, C: Add the following new 7:

7. Mark the location of all sanitary sewer service stubs at the time of installation by a two-inch wide detectable marking tape installed at a depth of 18 inches to 24 inches below finished grade, directly over the service stub, for its entire length and brought up to the surface at the end of the service stub adjacent to the post marking the stub location. The tape shall be green in color and marked "Sanitary Sewer Service Stub Buried Below".

4010, 3.10 SANITARY SEWER CLEANOUT: Delete in its entirety and replace with the following:

Cleanouts are not allowed on sanitary sewer mains in the City of Des Moines. Figure 4010.203 shall apply to services only.

SECTION 4020 – STORM SEWERS

4020, 2.01 STORM SEWERS, Parts A-L: Reinforced Concrete Pipe or Polypropylene Pipe shall be required for storm sewer construction in the Right-Of-Way or Public Easement areas. Minimum size of storm sewer pipe in the Right-Of-Way and Public Easement areas shall be 15-inch minimum diameter.

SECTION 4030 – PIPE CULVERTS

4030, 2.01 Pipe Culverts, Parts A-D: Reinforced Concrete Pipe shall be required for pipe culvert construction in the Right-Of-Way or Public Easement areas. Minimum size of pipe culverts in the Right-Of-Way and Public Easement areas shall be 15-inch minimum diameter.

SECTION 4040 – SUBDRAINS AND FOOTING DRAIN COLLECTORS

4040, 2.01 FOOTING DRAIN COLLECTORS: Use material for pipe and fittings complying with the current Adopted Edition of the Uniform Plumbing Code (UPC). In addition to the materials identified in the UPC, the pipe shall comply with ASTM D 3034, SDR 23.5 pipe will be allowed.

4040, 2.02 TYPE 1 SUBDRAINS (LONGITUDINAL SUBDRAIN), C. Corrugated Polyethylene Tubing and Fittings (Corrugated PE): Delete Type C and Type CP. Only Type S or Type SP are allowed in the City of Des Moines.

4040, 2.03 TYPE 2 SUBDRAINS (COMBINATION SUBDRAIN/FOOTING DRAIN COLLECTOR), B.3. HDPE Pipe: Delete Type CP. Only Type SP is allowed in the City of Des Moines.

4040, 2.09 FOOTING DRAIN SERVICE STUBS - Add this new 2.09 and the following note: Use material for pipe and fittings complying with the current Adopted Edition of the Uniform Plumbing Code (UPC). In addition to the materials identified in the UPC, the use of SDR 23.5 pipe will be allowed.

4040, 3.02 FOOTING DRAIN COLLECTORS, C: Add the following new 3:

3. Type B cleanouts should be used for footing drain collectors less than 5 feet in depth in the City of Des Moines. Footing drain collectors greater than 5 feet deep, a Type A cleanout shall be used.

4040, 3.03 FOOTING DRAIN SERVICE STUBS: Add the following new D and E.

D. Mark the location of all footing drain service stubs at the time of installation by a two-inch wide detectable marking tape installed at a depth of 18 inches to 24 inches below finished grade, directly over the service stub, for its entire length and brought up to the surface at the end of the service stub adjacent to the post marking the stub location. The tape shall be green in color and marked "Footing Drain Service Stub Buried Below".
E. ABS, PVC and SDR 23.5 pipe shall be installed with a minimum bedding of 4" below and up all side with 3/8" clean smooth gravel or a bedding product approved by the Engineer.

4040, FIGURE 4040.232, SUBDRAIN CLEANOUTS: Add the following new Note 7 to Figure 4040.232.

7. Type B cleanouts should be used for footing drain collectors or combination subdrain/footing drain collectors less than 5 feet in depth in the City of Des Moines. Footing drain collectors greater than 5 feet deep, a Type A cleanout shall be used.

SECTION 4060 – CLEANING, INSPECTION, AND TESTING OF SEWERS

4060, 3.02 VIDEO INSPECTION, A. General: Delete 1. and replace with the following new 1.

1. Conduct video inspection of all new and rehabilitated sanitary sewers, storm sewers, pipe culverts, and footing drain collectors after all backfill and compaction operations are completed, but prior to paving, unless otherwise specified in the contract documents. Any defects or cracks found in pipe after paving shall be addressed by Cured In Place Pipe lining from the upstream structure to downstream structure at the Contractor's expense unless other repair method is required and approved by the Engineer.

SECTION 6010 – STRUCTURES FOR SANITARY AND STORM SEWERS

6010, PARTS 1,2,3, and Figures: All square or rectangular shaped intakes and manholes shall be cast-in-place. Circular precast intakes and manholes are allowed in the City of Des Moines. Precast intakes and rectangular storm sewer manholes may be allowed when all of the following conditions are met or approved by the Engineer:

1. Construction is new and not a replacement of an existing structure.
2. Pipe diameter is 24" or less.
3. Minimum 75º separation is provided between pipes, and between pipe and face of structure.
4. Precast portion is a dead end structure, cross-run structure or directional change structure.
5. Pipe opening does not encroach within 2 inches of corner post.

6010, 2.03, B. REINFORCEMENT: Add the following second sentence: All reinforcement for cast-in-place structures shall be epoxy coated.

6010, 2.09 MANHOLE OR INTAKE ADJUSTMENT RINGS (Grade Rings): Add the following new C.

C. Manhole adjustment rings are not required to have pre-formed or pre-drilled holes for the anchor bolts.

6010, 2.10 CASTINGS (Ring, Cover, Grate, and Extensions), E. Casting Types: 1. - Manholes: Delete footnote 2to Table 6010.03: Manhole Casting Types and replace it with the following new footnote 2.

[2]Castings shall include design shown in this General Supplemental for lids on Type E, F, and G storm sewer castings shown for Figure 6101.602. The casting design is shown in the figure titled Storm Sewer Lid For the City of Des Moines.

6010, 2.13 STEPS: Delete entire Section as manhole steps are not allowed in the City of Des Moines.

6010, 2.15 ANCHOR BOLTS AND WASHERS, B. Diameter: Delete B. and replace it with the following B.: Provide bolts and washers 1/8 inch smaller than hole or slot in the casting frame but not less than 7/8-inch diameter.

6010, 3.01 GENERAL REQUIREMENTS FOR INSTALLATION OF MANHOLES AND INTAKES, J. Castings: Delete J. and replace with the following J.: Install the type of casting specified in the contract documents and adjust to proper grade. Where a manhole or intake is to be in a paved area, adjust the casting to match the slope of the finished surface. When castings with a bolt down cover (Type C or D) are specified, attach casting frame to the structure with four anchor bolts.

6010, 3.03 ADDITIONAL REQUIREMENTS FOR PRECAST CONCRETE STRUCTURES: Add the following new F.:

F. Field Modification of Precast Structures: Significant modifications to precast structures to adjust elevations to field conditions will not be allowed. Significant modifications include, but are not limited to, excessive saw cutting of precast structures. Any field modifications to the precast structure shall be approved by the Engineer, or the Engineer's representative, or the precast structure will not be accepted.

SECTION 7010 – PORTLAND CEMENT CONCRETE PAVEMENT

7010, 1.08 MEASUREMENT AND PAYMENT, E. Curb and Gutter, 3. Includes: Delete 3 and replace with the following new 3:

3. ***Includes:*** Unit price includes, but is not limited to, final subgrade/subbase preparation, bars and reinforcement, joints and sealing, surface curing and pavement protection, and boxouts for fixtures. Pavement which is integral to curb and gutter will not be paid separately. This includes boxouts for intakes.

7010, 1.08 MEASUREMENT AND PAYMENT, Add the following new N.:

N. Cold Weather Protection: When any type of additional protection described in 7010.3.04.A is necessary, additional payment will be made as extra work at the rate of $2.00 per square yard of concrete surface protected. Payment will be limited to protection within the contract period. Protection necessary after November 15 will be paid only when the Engineer authorizes the work.

7010, 2.01 MATERIALS, B. Supplementary Cementitious Materials (SCM):, 1 Fly Ash, Add the following new a:

a. Fly ash will not be allowed between October 15 and April 1 unless authorized by the Engineer.

7010, 3.01 EQUIPMENT, A. Batching and Mixing Equipment, 2. Batching, Add the following new d.:

d. Volumetric batching for Portland Cement Concrete is allowed for all underground thrust blocks and collars but not structures. Volumetric batching will not be allowed for any type of pavement unless specified in the plans and specifications. Contractor will need to provide concrete testing associated with their volumetric batching and procedure for quality control.

7010, 3.01 EQUIPMENT, C. Concrete Placement Equipment, 7. Concrete Saws, Add the following new 1:

1. Saw cutting operations shall be dustless in accordance with OSHA regulations.

7010, 3.02 PAVEMENT CONSTRUCTION, E. Bar and Reinforcement Placement: Add the following new 5:

5. PCC pavement slabs with manhole castings, with or without boxouts, shall have reinforcement similar to PV-103 around the castings.

7010, 3.03 CURB AND GUTTER CONSTRUCTION: Add the following new C:

C. PCC curb and gutter sections adjacent to HMA pavements shall be constructed and allow to reach maturity or a compressive strength of 3000 PSI prior to the installation of the HMA pavement.

7010, 3.07 QUALITY CONTROL, D. Pavement Thickness: Add the following as the first sentences under 1: Coring of pavement will not be required by the City of Des Moines if depth checks of the plastic thickness of the pavement are within one-half inch of the design thickness. If the variance exceeds one-half inch this section shall apply.

7010, 3.07 QUALITY CONTROL, E. Defects or Deficiencies: Delete E. and replace with the following new E.:

E. Defects or Deficiencies: Remove and replace or repair pavement containing excessive cracks, fractures, spalls or other defects at no additional cost to the City, including deficient 28 day test cylinder minimum average compressive strengths that don't comply with Section 7010, 3.07, F. The method of replacement or repair will be determined by the Engineer.

7010, 3.07 QUALITY CONTROL: Add the following new F., Concrete Compression Tests:

F. Concrete Compression Tests: When the concrete volume placed on a single day exceeds 20 cubic yards, comply with the following test requirements. When deficiencies are encountered, comply with Section 7010, 3.07, E.

1. Prepare at least three 4" x 8" test cylinders per day.

2. If the concrete volume placed on a single day exceeds 200 cubic yards, prepare three 4" x 8" test cylinders for each 200 cubic yards placed.

3. Provide one 7 and two 28 calendar day tests according to ASTM C 39. Minimum compressive strength is 3,000 psi at 7 days and 4,000 psi at 28 days.

7010, FIGURE 7010.101, JOINTS: On Sheet 2 of 8 under 'C' Joint in Curb add the following: The entire curb shall be sealed with Joint Sealant Material.

7010, FIGURE 7010.101, JOINTS: On Sheet 3 of 8 delete Note 11 and replace with the following Note 11.

11. Sawing and sealing of the joint is required. See Detail D-2. On Sheet 3 of 8 Joint Types KT-1, KT-2, and KT-3 shall not be used.

7010, FIGURE 7010.901, PCC PAVEMENT JOINTING: Add Note 6 with the following:

6. All new roadway pavements shall be a minimum width of 27 feet back to back with parking on one side and 33 feet with parking on two sides.

SECTION 7020 –ASPHALT PAVEMENT

7020, 3.01 ASPHALT PAVEMENT, Add the following new H, HMA Pavement.:

H. HMA Pavement: The Hot Mix Asphalt pavement surface course shall be constructed without a seam unless specifically noted in the plans. Contractor shall determine the method to provide seamless paving. If tandem pavers are used an adequate number of personnel shall be available to operate all pavers simultaneously.

7020, FIGURE 7020.901, HMA PAVEMENT: Modify detail for HMA and Gutter Section with the following:

The elevation of the HMA pavement shall be constructed to ¼" above the gutter section.

7020, FIGURE 7020.901, HMA PAVEMENT: Add Note 3 with the following:

3. All new roadway pavements shall be a minimum width of 27 feet back-to-back with parking on one side and 33 feet with parking on two sides.

SECTION 7021 –ASPHALT OVERLAYS

7021, 3.01 ASPHALT OVERLAY, Add the following new C.:

C. Seamless Paving Requirements:

The Hot Mix Asphalt pavement surface course shall be constructed without a seam unless specifically noted in the plans. Contractor shall determine the method to provide seamless paving. If tandem pavers are used an adequate number of personnel shall be available to operate all pavers simultaneously.

SECTION 7030 – SIDEWALKS, SHARED USE PATHS, AND DRIVEWAYS

7030, 1.08 MEASUREMENT AND PAYMENT, Add new J. following:

J. Cold Weather Protection: When any type of additional protection described in 7010.3.04.A is necessary, additional payment will be made as extra work at the rate of $1.00 per square yard of surface protected. Payment will be limited to protection within the contract period. Protection necessary after November 15 will be paid only when the Engineer authorizes the work.

7030, 2.07 DETECTABLE WARNINGS: Add the following sentence at the end: Only cast iron detectable warnings are allowed in the City of Des Moines.

7030, 3.04 PCC SIDEWALKS, SHARED USE PATHS, AND DRIVEWAYS, A. Form Setting: Add the following new 6:

6. The turning space for a sidewalk or shared use path shall be formed separately from the adjoining ramps and sidewalk or shared use path.

7030, 3.04 PCC SIDEWALKS, SHARED USE PATHS, AND DRIVEWAYS, B. Concrete Pavement Placement, 1. Shared Use Path: Add the following sentence at the end: "When the Portland Cement Concrete is delivered to the project on the prepared subgrade or subbase, the loads shall be limited to 5 tons for single axle vehicles or 10 tons for tandem axle or larger vehicles."

Add the following new 4:

4. Volumetric batching for Portland Cement Concrete will not be allowed unless authorized by the Engineer.

7030, 3.04 PCC, SIDEWALKS, SHARED USE PATHS, AND DRIVEWAYS, B. Concrete Pavement Placement, 2. Sidewalk: Add the following new g:

g. The turning space for a sidewalk or shared use path shall be placed separately from the adjoining ramps and sidewalk or shared use path.

7030, 3.04 PCC SIDEWALKS, SHARED USE PATHS, AND DRIVEWAYS, F. Jointing: 4. Isolation Joints: Delete b. and replace it with the following new b.

b. For a sidewalk constructed with a driveway, install a ½" expansion joint on the property side of the sidewalk and a ½" expansion joint on the street side of the sidewalk.

7030, 3.05 HMA SHARED USE PATHS AND DRIVEWAYS: Add the following second sentence: When Hot Mix Asphalt is delivered to the project on the prepared subgrade or subbase, the loads shall be limited to 5 tons for single axle vehicles or 10 tons for tandem axle or larger vehicles.

7030, 3.07 DETECTIBLE WARNING INSTALLATION: Delete and replace with the following:

Set detectable warning panels in fresh concrete according to the manufacturer's recommendations and Figure 7030.210. The location of *detectable warning surfaces* shall comply with the Public Right-of-Way Accessibility Guidelines, Chapter 3: Technical Requirements, R305.2, Detectable Warning Surfaces. Where a concrete border is required for proper installation of a *detectable warning surface*, a concrete border not exceeding 2 inches (51 mm) shall be permitted on all sides of the *detectable warning surface* except between the *detectable warning surface* and the edge of pavement where a setback is already permitted.

7030, FIGURE 7030.101, CONCRETE DRIVEWAY, TYPE A: Delete the references to "E Joint" on the property side of the sidewalk and "C or E Joint" on the street side of the sidewalk and replace with "install a ½" expansion joint on the property side of the sidewalk and a ½" expansion joint on the street side of the sidewalk". Delete 7 and replace with the following 7; "Install a "B" joint at the back of curb."

7030, FIGURE 7030.102, CONCRETE DRIVEWAY, TYPE B: Delete the references to "E Joint" on the property side of the sidewalk and "C or E Joint" on the street side of the sidewalk and replace with "install a ½" expansion joint on the property side of the sidewalk and a ½" expansion joint on the street side of the sidewalk".

7030, FIGURE 7030.201, CLASSES OF SIDEWALKS: The detail for CLASS A SIDEWALK shall be revised to delete the "4" min." thickness dimension of the sidewalk and replace with "5" min.".

7030, FIGURE 7030.202, CURB DETAILS FOR CLASS A SIDEWALK: On Detail 3 delete the note "Sealed 'E' joint" and replace it with the following note "Sealed 'B' joint". On Detail 1, 2, and 3 delete the "4 min." thickness dimension of the sidewalk and replace with "5" min.". On Detail 1 delete the "See Figure 7010.101, Detail E" joint at the back of curb and replace with "No Keyway joint, install #4 Bar 24-inches long at 30-inches on center".

SECTION 7040 – PAVEMENT REPLACEMENT

7040, 3.11 CORE HOLE CUTTING AND REPLACEMENT, A. Cutting Core: Delete 1. and replace it with the following new 1.

1. Place a temporary mark on the pavement core and adjacent pavement if the core is to be reinstalled. Maximum diameter is 8 inches.

7040, 3.11 CORE HOLE CUTTING AND REPLACEMENT, B. Backfill: Delete B. and replace it with the following new B.

B. **Backfill:** Place backfill using 50 psi CLSM or flowable mortar concrete to the elevation required in Figure 7040.107-Revised.

7040, 3.11 CORE HOLE CUTTING AND REPLACEMENT, C. Pavement Core Replacement: Delete C. and replace it with the following new C.

C. **Pavement Core Replacement:** Replace pavement core with M-4 concrete regardless of existing pavement type to the elevation required as shown Figure 7040.107-Revised.

SECTION 8020 – PAVEMENT MARKINGS

8020, 3.02 CONSTRUCTION, H. Removal of Pavement Markings, 2 Process: Delete d and replace it with the following new d.

d. Removal of pavement markings shall be performed by high pressure water blasting only.

SECTION 8030 – TEMPORARY TRAFFIC CONTROL

8030, Add new 3.04 – Traffic Control Deficiency Deduction

Traffic Control Deficiency Deduction. For unacceptable work that impacts the environment or public safety, a deduction will be applied to monies due or that might become due to the Contractor. When the Engineer is notified, or determines a traffic control deficiency exists, he/she will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be

from ½ hour to 12 hours based upon the urgency of the situation and nature of the deficiency as determined by the Engineer.

A traffic control deficiency may be any lack of repair, maintenance, incorrect set up or tear down timing or placement of traffic control devices, failure to mount temporary traffic control devices on temporary stands, or non-compliance with the traffic control plan. A traffic control deficiency may also be also applied to situations where corrective action is not an option such as the use of non-certified flaggers for short term operations; working with lane closures beyond the time allowed in the contract; or failure to perform required contract obligations such as traffic control surveillance.

If a Contractor fails to correct a traffic control deficiency within the specified time, a daily monetary deduction from the pay item for Traffic Control will be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with the notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be $2,500. For those deficiencies where corrective action was not an option, this monetary deduction will be immediate. If the Engineer determines the traffic control deficiency is minor a monetary deduction of $250 from the pay item for traffic control for each occurrence a sign is installed or staged incorrectly.

SECTION 9010 – SEEDING

9010, 3.02 – AREA OF SEEDING: Add A. and B.

A. Mobilize within 72 hours of a written order with sufficient labor, equipment, and materials to seeding work as ordered or approved by Engineer. Complete work within 7 calendar days of a written order.

B. Failure to mobilize and complete work within such time period, will result in a deduction of $750.00 per calendar day from payment due under the contract, except when Engineer extends such time period.

SECTION 9020 – SODDING

9020, 3.03 – SOD INSTALLATION: Delete A. and replace it with the following new A.

A. Do not install sod between the dates of June 1 and August 31, unless authorized by the Engineer.

B. Mobilize within 72 hours of a written order with sufficient labor, equipment, and materials to sod installation as ordered or approved by Engineer. Complete work within 7 calendar days of a written order.

C. Failure to mobilize and complete work within such time period, will result in a deduction of $750.00 per calendar day from payment due under the contract, except when Engineer extends such time period.

SECTION 9040 – EROSION AND SEDIMENT CONTROL

9040, 1.03 – SUBMITTALS: Add the following sentences: The Jurisdiction will not approve the contractor's Stormwater Pollution Prevention Plan (SWPPP) or revisions to the SWPPP; instead, the Jurisdiction will only review and comment on the SWPPP and any revisions. The contractor shall submit to the Engineer a copy of the Iowa Department of Natural Resources authorization prior to the Jurisdiction's issuance of the Notice to Proceed for the work.

9040, 1.08 – MEASUREMENT FOR PAYMENT, A. Stormwater Pollution Prevention Plan (SWPPP): Delete A. in its entirety and replace with the following A.

A. **Stormwater Pollution Prevention**: Item will be paid for as a lump sum for the project based on the following formula: 30% of the bid amount after review of the SWPPP by the Engineer and filing a Notice of Intent by the contractor, an additional 20% of the bid amount when 25% of the total original contract amount is earned, an additional 20% of the bid amount when 50% of the total original contract amount is earned, an additional 20% of the bid amount when 75% of the total original contract amount is earned, and the remaining 10% of the bid amount upon filing the Notice of Discontinuation by the contractor. Item shall include the following activities and work:

1. **Stormwater Pollution Prevention Plan (SWPPP) Preparation:** Item includes reviewing and preparation of any modifications necessary to the general SWPPP provided by the Jurisdiction based on the Contractor's proposed scheduling and construction methods, filing a Notice of Intent for coverage of the project under the Iowa DNR NPDES General Permit No. 2, and payment of associated NPDES permit fees. The Jurisdiction will publish the Public Notice of Storm Water Discharge and provide an affidavit of publication to the contractor.

2. **Management:** Item includes all work required to comply with the administrative provisions of the Iowa DNR NPDES General Permit No. 2; including record keeping, documentation, updating the SWPPP, filing the Notice of Discontinuation, etc. Item also includes weekly inspections required to satisfy the provisions of General Permit No. 2, unless otherwise stated in the contract documents.

3. **Inspection:** Item includes inspection of the disturbed areas, and erosion and sediment control measures performed by the contractor, at least once every seven (7) calendar days until the disturbed areas have been stabilized with a perennial vegetative cover of sufficient density to preclude erosion.

4. **Additional Erosion and Sediment Control Measures:** Item includes the cost of erosion and sediment control measures included in the contractor's modifications to the general SWPPP provided by the Jurisdiction that are either not included as bid items on the proposal or exceed 20% of the proposal unit quantity for the measure, as well as replacement of these measures if needed. The contractor will be paid at the unit bid price for additional erosion and sediment control measures constructed that are included in the contractor's modifications to the general SWPPP provided by the Jurisdiction when the quantity of these additional measures is less than or equal to 20% of the contract quantity for the measure.

9040, 1.08 – MEASUREMENT FOR PAYMENT, Erosion Control Deficiency Deduction (SWPPP): Add the following new W. in its entirety.

W. Erosion Control Deficiency Deduction. When the Engineer is notified, or determines the erosion control deficiency exists, he/she will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will vary based upon the urgency of the situation and nature of the deficiency as determined by the Engineer. The Contractor shall mobilize with sufficient labor, equipment, and materials to address the erosion control issues as ordered by the Engineer.

An erosion control deficiency may be any lack of repair, maintenance, or non-compliance with the erosion control plan, including disregard of concrete washout requirements, or other disregard of the NPDES permit. An erosion control deficiency may also be also applied to situations where corrective action is not an option.

If a Contractor fails to correct an erosion control deficiency within the specified time, a daily monetary will be imposed for each calendar day or fraction thereof the deficiency exists. The

calendar day(s) will begin with the notification to the Contractor and end with the Engineer's acceptance of the correction. Failure to mobilize and complete work within such time period, will result in a deduction of $750.00 per calendar day from payment due under the contract, except when Engineer extends such time period. For those deficiencies where corrective action was not an option, this monetary deduction will be immediate.

9040, 3.01 – SWPPP PREPARATION: Delete in its entirety and replace with the following.

A. Review and prepare any modifications necessary to the general SWPPP provided by the Jurisdiction based on the Contractor's proposed scheduling and construction methods. Prepare a Stormwater Pollution Prevention Plan (SWPPP) according to the requirements of the Iowa DNR NPDES General Permit No. 2.

B. Have the SWPPP prepared by an individual experienced in erosion and sediment control.

C. Ensure that controls utilized in the SWPPP conform to the type and quantity of erosion and sediment controls shown in the contract documents. See 9040,1.08, 4 above for measurement for payment of any erosion and sediment control measure used that is not shown in the contract documents or exceeds 20% of the contract quantity for the measure.

D. Submit the completed SWPPP to the Engineer for review and comment prior to filing the Notice of Intent.

E. The Jurisdiction will publish the Public Notice of Storm Water Discharge, as required by the NPDES General Permit No. 2 and provide an affidavit of publication to the contractor.

F. File the Notice of Intent and fee, as required by the NPDES General Permit No. 2.

G. Prior to beginning grading, excavation, or clearing and grubbing operations, all erosion and sediment control measures identified in the SWPPP shall be installed or constructed.

9040, 3.02 – SWPPP MANAGEMENT: Delete C. in its entirety and replace with the following new C.

C. Submit all SWPPP revisions to the Engineer for review and comment.

SECTION 9060 – CHAIN LINK FENCE

9060, 3.01 – CHAIN LINK FENCE INSTALLATION, Delete A and replace with the following new A:

A. General: Construct fence at the location and height specified in the contract documents. All fence posts, including but not limited to, terminal, corner, angle, pull, gate posts, and line posts, shall be set in concrete and shall be set plumb in a vertical position. Signs identifying company names shall not be allowed on the fence installation.

SECTION 9080 – CONCRETE STEPS, HANDRAIL, AND SAFETY RAIL

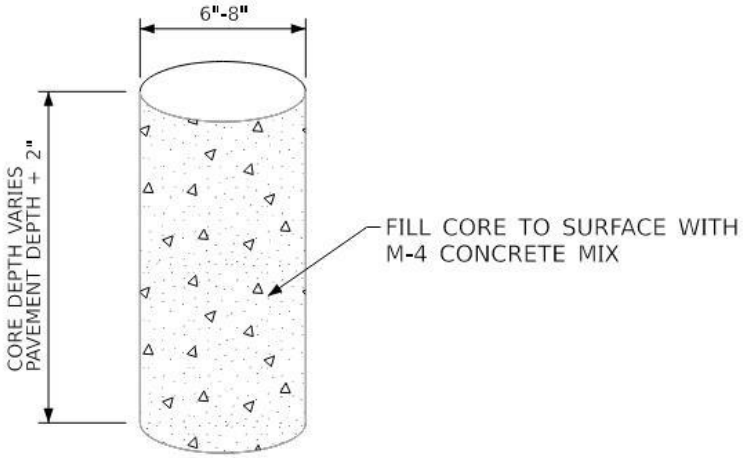
9080, 2.01 – STEPS, B. Reinforcing Steel: Delete B. in its entirety and replace with the following B.:

B. Comply with Iowa DOT Section 4151 for epoxy coated reinforcement. Comply with ACI-318 for dowel bar substitutes. All reinforcement shall be epoxy coated.

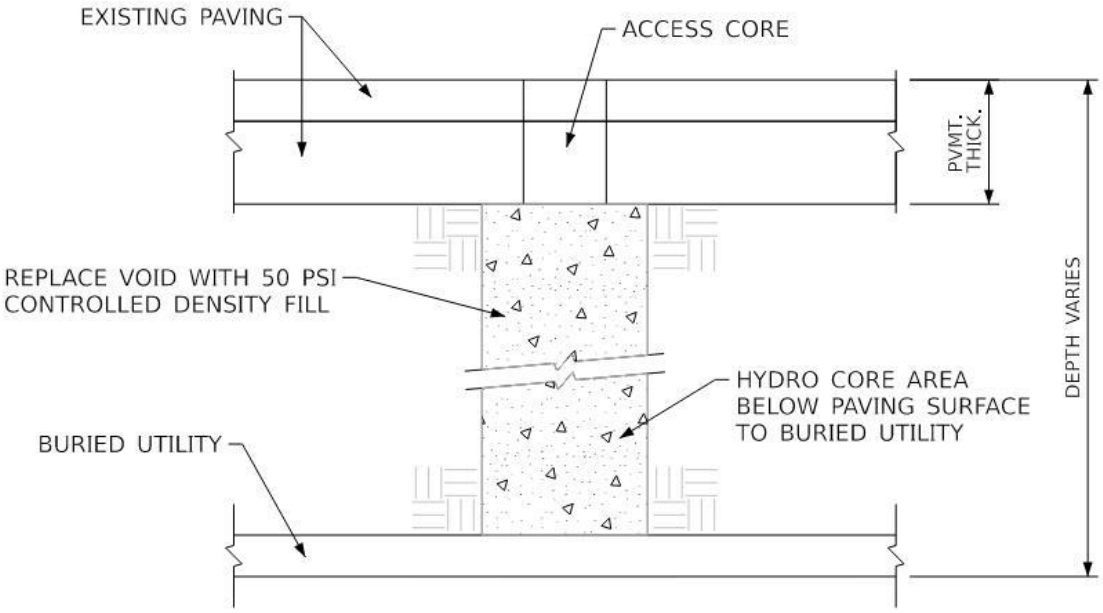
LID SHALL BE USED FOR TYPE E, TYPE F, AND TYPE G APPLICATIONS AS REFRENCED BY SUDAS FIGURE 6010.602.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT

TITLE: STORM SEWER LID FOR THE CITY OF DES MOINES, IOWA



REPLACEMENT CORE



SPECIFICATION FOR THE CONSTRUCTION OF
PAVEMENT CORE RESTORATION

ENGINEERING DEPARTMENT
CITY OF DES MOINES

FIGURE 7040.107-REVISED

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SUPPLEMENTAL SPECIFICATION
FOR
TREE PROTECTION
Effective Date: March 24, 2017

This project will be constructed in accordance with the SUDAS Standard Specifications as referenced in the contract documents and as further revised by this Supplemental Specification.

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Installation of Tree Protection Measures

B. Damage to Protected Trees

C. Inspection and Documentation

1.02 DEFINITION OF TERMS AND ABBREVIATIONS

Work Zone Protected Tree
A tree of any size that is located within the project's work zone and is to remain in place at the completion of the project.

Border Protected Tree
A tree of any size that is located outside the project work zone, but has branches extending over the work area, or whose trunk is located within 10' of the edge of the work area.

Tree Protection Limit
The area around a tree, as defined in the Tree Protection Plan, in which no construction activity or materials storage is allowed. If the tree protection limit is not defined in the Tree Protection Plan, it shall be considered to be equal to the Critical Root Radius.

dbh: Diameter at breast height
The diameter of a tree trunk in inches measured at a height of 4.5 feet above the natural ground level.

CRR: Critical Root Radius
Expressed in feet equal to the dbh in inches. (The CRR of a tree with a 12" dbh is 12') This is the desired distance from the tree trunk at which fencing is installed and no construction activity is allowed.

1.03 DESCRIPTION OF WORK

A. The Contractor shall not damage any trees and shrubs which are not part of the removal plan, regardless of whether installation of tree protection measures is required or not. The contract documents shall designate individual trees and/or areas of the project that require installation of tree protection measures as defined in this supplemental specification. The Engineer may add, delete or revise the areas that require tree protection at any time prior to or during the project construction period. This Section includes the deduction of payment to the Contractor for damage to a tree or unauthorized removal of a tree.

B. The Contractor shall install all tree protection measures before the commencement of any construction activities. Construction activity includes but is not limited to, driving on the site in any vehicle, grading, excavation, import and storage of materials.

1.04 MEASUREMENT AND PAYMENT

A. The Tree Protection Plan shall be included in the contract documents and management of the plan shall be incidental to the contract.

B. Tree Protection Fence: Tree protection fence shall be measured along the fence at the bottom of the mesh fabric. The Contractor shall be paid the contract unit price per linear foot of tree protection fence installed. The height of tree protection fencing shall be identified in the contract documents. This payment shall be full compensation for furnishing all materials, equipment, and labor to perform installation, maintenance, and removal of fencing. If other types of fence, such as silt fence for border trees, is installed and functions as tree protection fence, measurement and payment will not be made for this fence as tree protection fence.

C. Tree Trunk Protection: The Contractor shall be paid the contract unit price per each for tree trunk protection installed. This payment shall be full compensation for furnishing all materials, equipment, and labor to perform installation, maintenance, and removal of trunk protection.

D. For each occurrence of tree protection fencing not installed as per the approved Tree Protection Plan or not properly maintained as described in Section 3.02A, and for each occurrence of intrusion into the Tree Protection Zone, $600 per day shall be deducted from the amount due the Contractor:

The condition of any tree damaged by the Contractor will be evaluated by the City Forester. The Contractor shall be required to repair damage to the tree as directed by the City Forester. This could include, but not be limited to trimming and pruning of the branches and roots in accordance with the current edition of the American National Standards Institute (ANSI) A300 Standards for Tree Care Operations, Part 1, Pruning. In addition to repairing the damage, a price adjustment of $300 for a tree 6-inch or less in diameter, $500 for a 6 to 12-inch or less diameter tree; and $750 for a tree greater than 12-inches in diameter. The price adjustments are per tree damaged by the Contractor.

E. When the City Forester determines the damaged tree needs to be removed, the Contractor shall remove the tree and stump, and restore the sod area. Repair and removal of damaged trees shall be completed at no cost to the City. The Contractor shall also compensate the City for the replacement cost of any damaged tree that is removed, per the City Forester's assessment. The Contractor shall also be liable to the owner of any tree located on private property that must be removed due to damage, for the full value of the tree. Documentation of such payment shall be provided to the City.

PART 2 – PRODUCTS

2.01 ORANGE MESH TREE PROTECTION FENCE

A. Fabric shall meet the following material requirements:

1. Height of 72" ($\pm$2 inches) or height of 48" ($\pm$2 inches) as specified in the bid item.
2. Remain flexible down to 0º F and constructed of orange plastic mesh containing ultraviolet stabilizers to prevent degradation.
3. Minimum tensile strength of 250 pounds per foot in the longitudinal direction and 150 pounds per foot in the vertical direction.
4. Maximum aperture opening of a nominal 4.5 square inches.
5. Maximum porosity of 55% for the safety fence surface area.
6. Available in rolls of at least 50 feet in length to minimize fence joints for an individual fence location**.**

B. Fence posts shall meet the following requirements:

1. Use T-section steel posts, 8' length for 6' high fence, or 6' length for 4' high fence.
2. Equip posts with lugs or other approved means to prevent the fence fabric from moving vertically.
3. Use posts that weigh no less than 1.3 pounds per foot, exclusive of anchor plate.
4. Provide each post with a steel anchor plat of adequate size, firmly attached.
5. Install at an 8' maximum spacing for 6' high fence, or 6' maximum spacing for 4' high fence, or as required to prevent fence fabric from sagging.

2.02 TREE TRUNK PROTECTION

A. When tree construction operations are required in close proximity to a tree, defined as any activity within the Critical Root Radius, the Contractor shall install tree trunk protection.

1. Wrap the tree trunk with dimensional lumber either 2” x 4, 6, 8, or 10 (actual thickness is 1.5”). Depending upon the trunk diameter, the tree length, and size of tree, dimensional lumber shall be approximately 8’ long, but necessary length will depend on the existing tree and associated construction activity.

2. Secure the lumber against the trunk with Metal, plastic, or polyester bands, a minimum 3/8” width**,** at a minimum or two locations to securely hold the protective dimensional lumber against the trunk of the tree. The bands shall be secured with a tensioner under slight pressure to ensure their long term positioning for the duration of the contract. The bands shall be stapled to the wooden uprights at several points around the circumference so they don’t slide down. If trees are protected for more than one year, an inspection is required to determine if the tree has begun pushing outward on the protection. If the bands are too tight they shall be replaced with new bands under the appropriate tension.

PART 3 – EXECUTION

3.01 TREE PROTECTION PLAN

A. The Contractor shall use the Tree Protection Plan in the contract documents or submit an alternate to the installation of tree protection, such as the installation of silt fencing along border trees, if such alternates provide acceptable tree protection. The Engineer shall have the sole authority for acceptance or rejection of alternates. Alternate plans may also take into consideration preliminary brush removal. No mechanical grading or vegetation removal may take place within 6’ of a tree trunk without approval of the Engineer and the City Forester.

3.02 INSTALLATION AND MAINTENANCE OF TREE PROTECTION MEASURES

A. After approval of the Tree Protection Plan by the Engineer, and prior to starting construction work, the Contractor shall install the tree protection fencing or other approved measures in accordance with the Tree Protection Plan. Install fence posts according to 2.01.A or as required to prevent sagging. Securely attach the fence so it is in a vertical position without sagging. Locate and place the fence supports so they are not a safety hazard. Clearly mark with paint the trees to be removed in accordance with the Tree Protection Plan. No construction activity shall commence until the tree protection fencing measures and the trees marked for removal have been reviewed on site by the Engineer or construction observer. Phasing of the installation of tree protection measures will only be allowed if shown on the approved Tree Protection Plan. Repair or replace any tree protection fence that is damaged, not in a vertical position or no longer providing the intended protection.

B. When specified by the contract, the Contractor shall construct tree trunk protection around each tree specified. These methods will be required in specific situations to protect a tree trunk.

3.03 DAMAGES TO TREES

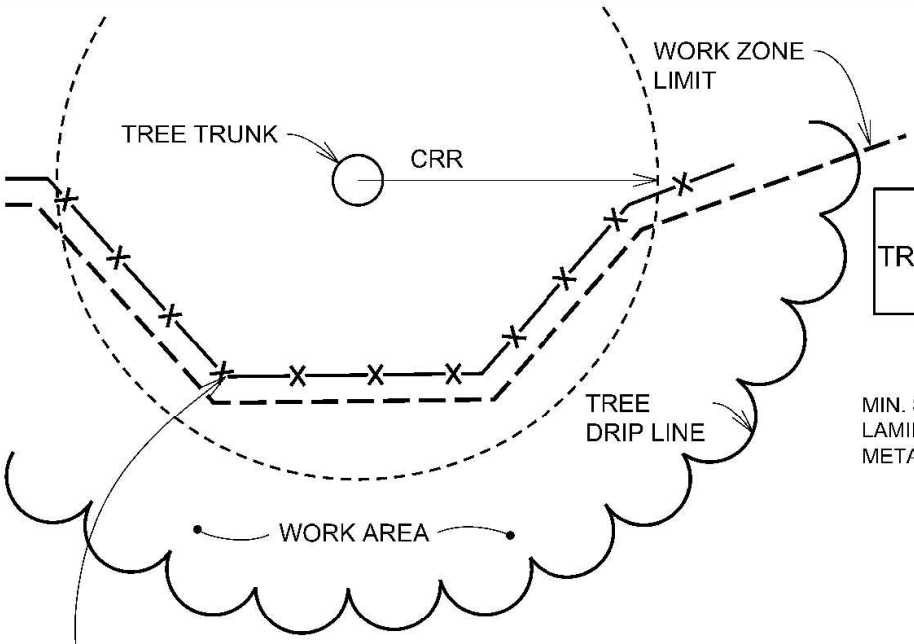
A. Contractor shall notify the city of any damage to trees not designated for removal, including border protected trees. Damages include but are not limited to:

1. Scratched or gouged bark.
2. Broken branches.
3. Compaction of soil within the specified tree protection limits.
4. Storage of materials within a tree's critical root radius.
5. Operation of equipment within the specified tree protection limits.
6. Parking of vehicles or equipment within a tree's critical root radius.
7. Spilling of harmful substances around or within a tree's critical root radius.

3.04 INSPECTION AND DOCUMENTATION

A. The Contractor shall periodically inspect the tree protection fencing, repair any deficiencies, and update the Tree Protection Plan. All updates shall be submitted to the Engineer for approval. A copy of the current Tree Protection Plan shall be available on the construction site.

B. If any tree not designated for removal is damaged or removed, the Contractor shall notify the construction observer or Engineer with 48 hours.



BLACK LETTERS ON ORANGE BACKGROUND

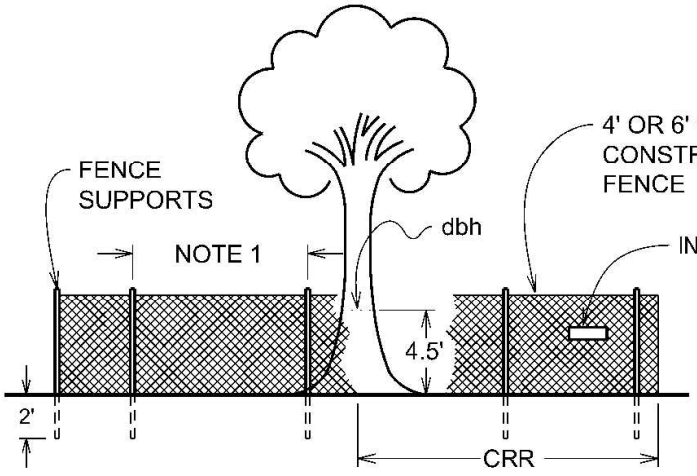
KEEP OUT
TREE PROTECTION ZONE
UP TO $600 PENALTY

SIGN DETAIL

MIN. SIGN DIMENSIONS:
LAMINATED CARDBOARD - 11" x 17"
METAL - 12" x 18"

dbh= DIAMETER AT BREAST HEIGHT, THE DIAMETER OF TREE TRUNK IN INCHES AT HEIGHT OF 4.5' ABOVE NATURAL GROUND.

CRR= CRITICAL ROOT RADIUS IS THE DISTANCE IN FEET EQUAL TO THE dbh IN INCHES. THIS IS THE DESIRED DISTANCE FROM THE TREE TRUNK AT WHICH FENCING IS INSTALLED.



INSTALL SIGNS AS FOLLOWS:

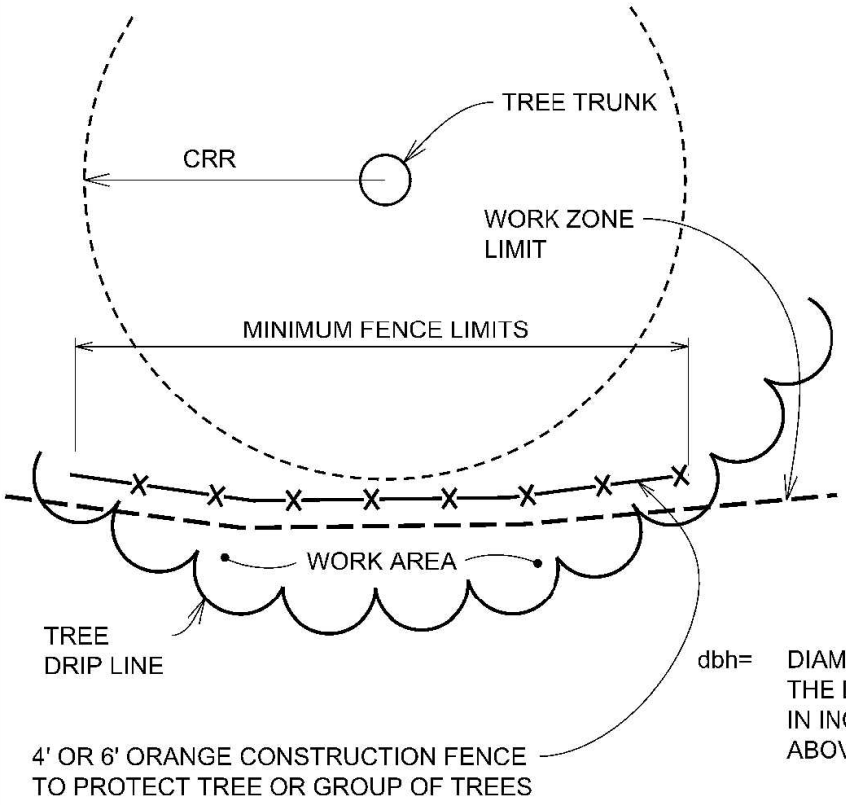
FOR INDIVIDUAL TREE PROTECTION LOCATIONS: INSTALL AT LEAST TWO SIGNS AT EACH LOCATION AND AT A MAXIMUM SPACING OF 16' ON CENTER.

FOR LINEAR TREE PROTECTION LOCATIONS: INSTALL A SIGN AT EACH END OF THE TREE PROTECTION FENCE AND AT A MAXIMUM SPACING OF 50' ON CENTER.

NOTE 1: SPACING AS REQUIRED TO PREVENT SAGGING, 8' MAXIMUM

TYPICAL TREE PROTECTION FENCING - WORK ZONE AREA

FIGURE TP-1



BLACK LETTERS ON ORANGE BACKGROUND

KEEP OUT
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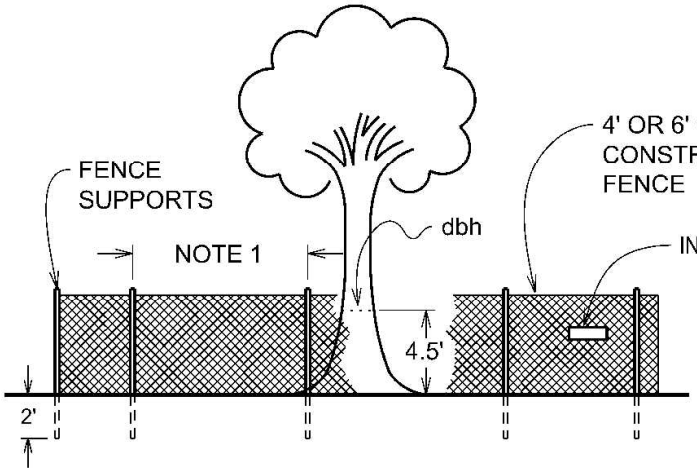

INSTALL SIGNS AS FOLLOWS:

FOR INDIVIDUAL TREE PROTECTION LOCATIONS: INSTALL AT LEAST TWO SIGNS AT EACH LOCATION AND AT A MAXIMUM SPACING OF 16' ON CENTER.

FOR LINEAR TREE PROTECTION LOCATIONS: INSTALL A SIGN AT EACH END OF THE TREE PROTECTION FENCE AND AT A MAXIMUM SPACING OF 50' ON CENTER.

NOTE 1: SPACING AS REQUIRED TO PREVENT SAGGING, 8' MAXIMUM

TYPICAL TREE PROTECTION FENCING - BORDER AREA

FIGURE TP-2

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SUPPLEMENTAL SPECIFICATION
FOR
TRAFFIC SIGNAGE

Effective Date: September 20, 2021
Updated: October 6, 2022

This project will be constructed in accordance with the SUDAS Standard Specifications as referenced in the contract documents and as further revised by this Supplemental Specification.

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Traffic Signs and Sign Posts

1.02 DESCRIPTION OF WORK

Includes the requirements for the removal and installation of traffic control signs and sign posts.

1.03 SUBMITTALS

Comply with Division 1 – General Provisions and Covenants as well as the following:

A. Submit a list of sign sheeting materials, post materials, and associated hardware proposed for use on the project.

B. Submit all proposed sign layouts prior to manufacturing.

1.04 SUBSTITUTIONS

Comply with Division 1 – General Provisions and Covenants.

1.05 DELIVERY, STORAGE, AND HANDLING

Comply with Division 1 – General Provisions and Covenants.

1.06 SCHEDULING AND CONFLICTS

Comply with Division 1 – General Provisions and Covenants.

1.07 SPECIAL REQUIREMENTS

None.

1.08 MEASUREMENT AND PAYMENT

A. Remove and Reinstall Sign, as per plan:

1. **Measurement:** Each sign removed and reinstalled will be counted.

2. **Payment:** Payment will be at the unit price for each sign removed and reinstalled.

3. **Includes:** Unit price includes, but is not limited to, all material, equipment, and labor required to remove and reinstall existing sign and sign post.

B. Removal of Sign and Sign Post:

1. **Measurement:** Each sign and sign post removed will be counted.

2. **Payment:** Payment will be at the unit price for each sign and sign post removed.

3. **Includes:** Unit price includes, but is not limited to, all materials, equipment, and labor required to remove and salvage existing sign and sign post.

C. Type A Signs, Sheet Aluminum:

1. **Measurement:** Measurement will be in square feet of sheet aluminum signage installed.

2. **Payment:** Payment will be at the unit price per square feet of sheet aluminum signage installed.

3. **Includes:** Unit price includes, but is not limited to all materials, hardware, equipment, and labor required to manufacture and install traffic control signage per plans.

D. Sign Post, Round, Steel Post:

1. **Measurement:** Measurement will be in linear feet of round, steel sign post installed.

2. **Payment:** Payment will be at the unit price per linear feet of round, steel sign post installed.

3. **Includes:** Unit price includes, but is not limited to all materials, hardware, equipment, and labor required to install round, steel sign post per plans.

E. Sign Post, Perforated Square, Steel Tube Post:

1. **Measurement:** Measurement will be in linear feet of perforated, square steel tube post installed.

2. **Payment:** Payment will be at the unit price per linear feet of perforated, square steel tube post installed.

3. **Includes:** Unit price includes, but is not limited to materials, hardware, equipment, and labor required to install perforated, square steel tube post per plans.

F. Meter Post, Round, Steel Post:

1. **Measurement:** Measurement will be in linear feet of round, steel sign post installed.

2. **Payment:** Payment will be at the unit price per linear feet of round, steel sign post installed.

3. **Includes:** Unit price includes, but is not limited to all materials, hardware, equipment, and labor required to install round, steel sign post per plans.

PART 2 – PRODUCTS

2.01 SIGN MATERIALS

A. General:

All sign blanks shall be aluminum alloy 6061-T6 conversion coated with Alodine 1200. 5052-H38 alloy is an acceptable alternative.

1. All blanks shall be 0.080 inches thick will the following exceptions:
   a. If either the length or width dimension of a sign is 36 inches or greater, the blank shall be 0.125 inches thick.
   b. Eighteen inch street name signs shall be 0.125 inches thick.

2. Blanks shall be finished free of any surface or edge burrs, cut marks, or other irregularities.

3. Standard signs shall be pre-drilled with standard hardware holes (0.375 inch diameter) and have no burrs or excess material retained in or around the hole. Holes placement and radii shall conform to the Standard Highway Signs Manual, current edition.

4. A diagram showing the location of holes for specialty signs will be provided prior to catalog cut submittal.

5. 18 inch and 24 inch street name signs shall not be pre-drilled. 8 inch and 12 inch signs shall be drilled as shown below in the Street Name Sign Hole Punch Detail.

Sign faces shall be firmly attached to the aluminum sign blanks, with no air bubbles, wrinkles, creases, tears or other surface blemishes. The faces shall be neatly trimmed to match the edge of the sign blank.

B. Sheeting Requirements:

All traffic control signs shall be made of ASTM D4956 Type XI (3M Diamond Grade DG3 or equal) reflective sheeting with a ten year performance warranty with the following exceptions:

1. Pedestrian pushbutton and parking prohibition signs (including no parking, loading zone, handicap, etc.) shall be made of ASTM D4956 Type I (3M Engineer Grade Prismatic or equal) reflective sheeting with a seven year performance warranty.

2. Construction signs shall be made of ASTM D4956 Type IV (3M High Intensity Prismatic or equal) reflective sheeting with a ten year performance warranty.

3. Material for specialty signs will be specified at the time of order.

All warning signs shall be made with fluorescent yellow sheeting unless otherwise specified. All pedestrian, bicycle and school crossing signs shall be fluorescent yellow-green sheeting unless otherwise specified.

C. Street Name Signs:

1. All street name signs shall be single-sided

2. The length of the street name sign shall be in 6 inch increments and will vary based on the legend.

3. Lettering shall be white and the background shall be blue or green transparent, acrylic film with pressure sensitive adhesive for application over reflective sheeting ("EC" film). The background color will be specified at the time of order.

4. Lettering shall be Series B as outlined in the Standard Highway Signs Manual.

5. All 18 inch and 12 inch signs shall have a white border as shown in the attached detail.

6. Letter size and spacing shall conform to the MUTCD and the attached details. In cases where descending lower-case letters (g, j, p, q, and y) cannot be accommodated on the specified blank, the City will work with the manufacturer to modify the letter size or blank size.

7. A shop drawing showing the sign legend, sign length, letter heights and spacing shall be submitted for one 18 inch, 12 inch and 8 inch street name sign prior to making the sign.

8. 18 inch and 12 inch street name signs shall be made of ASTM D4956 Type XI (3M Diamond Grade or equal) reflective sheeting with a ten year performance warranty. Eight (8) inch street name signs shall be made of ASTM D4956 Type IV (3M High Intensity Prismatic or equal) reflective sheeting with a ten year performance warranty.

2.02 POST MATERIALS

A. Round, Steel Post: Steel posts shall be 2 inch round galvanized post, Schedule 40.

B. Perforated Square Tube Post: posts shall be 1 ¾ inch square, 14-gauge galvanized steel, perforated post.

PART 3 – EXECUTION

3.01 SIGN INSTALLATION

A. Mounting Height: The mounting height of the sign shall be seven feet to bottom of sign measured from top of grade. When multiple signs are located on one pole/post, the height to the bottom of the lowest sign must seven feet. Gap between signs must be one inch.

B. Lateral Offset: Signs posts shall be located so the minimum distance from the face of curb to the near edge of the sign is two feet. Lateral distance may be adjusted for utility conflicts. Sign shall not overhang the curb.

3.02 SIGN MOUNTING HARDWARE

A. Sign Installed on Square Posts: When signs are installed on square perforated posts, the following hardware shall be used as shown in the installation detail:

1. 5/16 inch zinc-plated, Grade A bolt, 2 ½ inches long.
2. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
3. 5/16 inch nylon washer with one inch outside diameter.
4. 5/16 inch zinc-plated nut.

B. Sign Installed on Round Posts: When signs are installed on round posts, the following hardware shall be used as shown in the installation detail:

1. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
2. 5/16 inch nylon washer with one inch outside diameter.
3. 5/16 inch zinc-plated nut.
4. Aluminum interlocking brackets for 2 3/8 inch OD posts with 1 ½ inch long zinc-plated, Grade A bolts, 5/16 inch diameter.

C. Sign Installed on Wood Utility Pole: When signs are installed on wood utility poles the following hardware shall be used as shown in the installation detail:

1. 5/16 inch zinc-plated, Grade A lag bolt, 2 ½ inches long.
2. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
3. 5/16 inch nylon washer with one inch outside diameter.

The use of banding on wood poles is not allowed.

D. Sign Installed on Steel Streetlight Poles – Side of Pole Mounted: When signs are side-of-pole mounted on steel streetlight poles the following hardware shall be used as shown in the installation detail:

1. Type 201 stainless banding, 5/8 inch wide and 0.030 inches thick.
2. Type 201 stainless steel buckles, 5/8 inch wide.
3. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
4. 5/16 inch nylon washer with one inch outside diameter.
5. Single bolt flared leg stainless steel bracket.
6. 5/16 inch hex head 18-8 stainless steel bolt, 5/8 inch long, fully threaded.

E. Sign Installed on Traffic Signal/Sign Mast Arm: When signs are installed on traffic signal or sign mast arm poles, the following hardware shall be used:

1. An articulated serrated bracket assembly that includes top, middle, and bottom sign mounting brackets and provides a rigid-mount for the traffic sign.
2. All necessary hardware for a complete installation on a mast arm shall be included.
3. The mounting assembly shall be of a cable type.
4. Approval of other bracket supports shall be based on specifications and/or test data about their physical properties and performance properties.

All pedestrian pushbutton signs shall be mounted to the signal pole using stainless steel bolts. Bolts shall be 5/16 inch flanged with plastic washer. Holes shall be drilled and tapped.

F. Street Name Sign Installation on Posts: When signs are post mounted signs should be mounted back-to-back as appropriate. The following hardware shall be used as shown in the installation detail:

1. 5/16 inch zinc-plated, Grade A bolt, 2 ½ inches long
2. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD)
3. 5/16 inch nylon washer with one inch outside diameter
4. 5/16 inch zinc-plated nut
5. 1/2 inch I.D. x 1-9/16 inch long CPVC Plastic Spacer

3.03 POST ASSEMBLIES AND INSTALLATION

A. General: Posts shall be of a length to meet the bury requirements identified in the plan details and to extend to the top of the highest mounted sign.

B. Median Installation: When sign posts are installed within concrete medians the following post and anchors shall be used and installed per the detail shown in the construction plans:

1. 1 ¾ inch square, 14 gauge galvanized steel, perforated post.
2. 2 inch square, 12 gauge galvanized steel, perforated breakaway anchor – 36 inch long.
3. 2 ¼ inch square, 12 gauge galvanized steel, perforated breakaway anchor – 36 inch long.

C. Concrete Installation – Embedded: When round posts are embedded in concrete the following post and Speed-E-Roc grout shall be used per the detail shown in the construction plans:

1. 2 inch round galvanized post, Schedule 40.
2. Grout.

D. Concrete Installation – Plate-mounted: Where posts are installed on bridge decks or in concrete areas where embedment is not possible, a 6 inch square, 3/8 inch thick steel plate shall be continuously welded to the bottom of the pole.

E. Grass Installation: When sign posts are installed within grass the following post and anchors shall be used and installed per the detail shown in the construction plans:

1. 1 ¾ inch square, 14 gauge galvanized steel, perforated post.
2. 2 inch square, 12 gauge galvanized steel, perforated breakaway anchor – 36 inch long.

Where round posts are specified for grass installation, a two inch round galvanized, schedule 40 post shall be used. An eight inch triangular gusset made of 14 gauge carbon steel shall be welded to the bottom of the pole per the detail shown in the construction plans.

12 INCH STREET NAME SIGN DETAILS

Named Street Name Sign with Border and Descending Stroke

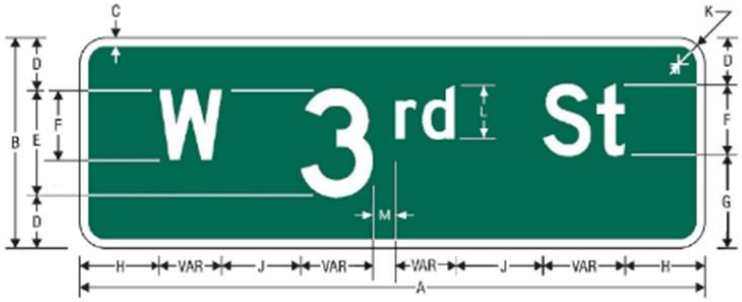
A	B	C	D	E	F	G	H	J	K	L
Varies in 6" increments	12	0.5	3.5	6 B	4 B	5.5	3.5 (MIN)	3	1.5	2.5

Colors:	Legend, Border	White, 3M Diamond Grade (DG3) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

Named Street Name Sign with Border

A	B	C	D	E	F	G	H	J	K
Varies in 6" increments	12	0.5	3	6 B	4 B	5	3.5 (MIN)	3	1.5

Colors:	Legend, Border	White, 3M Diamond Grade (DG3) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film



Numbered Street Name Sign with Border

A	B	C	D	E	F	G	H	J	K	L	M
Varies in 6" increments	12	0.5	3	6 B	4 B	5	3.5 (MIN)	3	1.5	3	1
Varies in 6" increments	18	0.75	3	12 B	6 B	9	4.75 (MIN)	4	1.875	5	2

Colors:	Legend, Border	White, 3M Diamond Grade (DG3) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

8 INCH STREET NAME SIGN DETAILS

Named Street Name Sign without Border and Descending Stroke

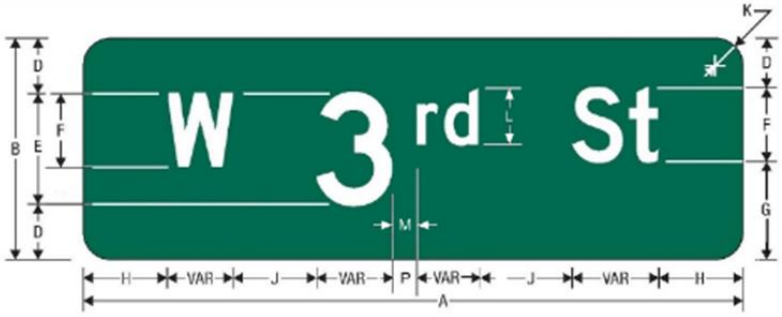
A	B	D	E	F	G	H	J	K	L
Varies in 6" Increments	8	2.5	4 B	3 B	3.5	2 (MIN)	2.5	1	1.5

Colors:	Legend, Border	White, 3M High Intensity Prismatic (HIP) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

Named Street Name Sign without Border

A	B	D	E	F	G	H	J	K
Varies in 6" increments	8	2	4 B	3 B	3	2 (MIN)	2.5	1

Colors:	Legend, Border	White, 3M High Intensity Prismatic (HIP) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

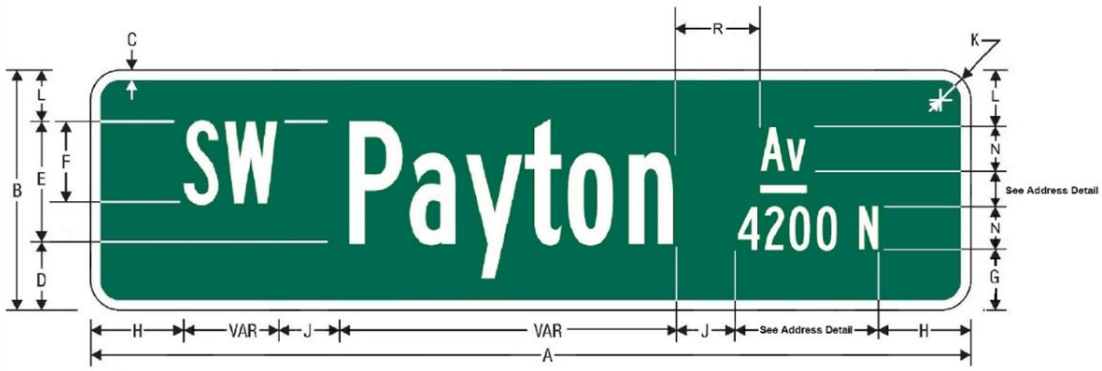


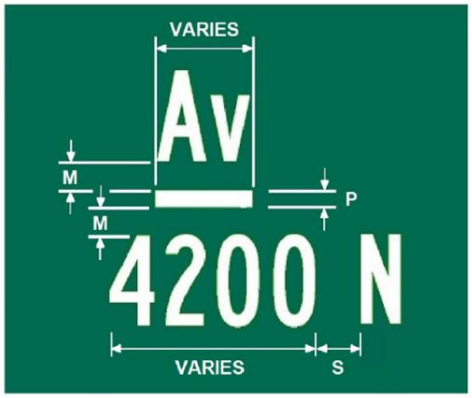
Numbered Street Name Sign without Border

A	B	D	E	F	G	H	J	K	L	M
Varies in 6" increments	8	2	4 B	3 B	3	2 (MIN)	2.5	1	2	0.75

Colors:	Legend, 3order	White, 3M High Intensity Prismatic (HIP) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

OVERHEAD STREET NAME SIGN DETAILS



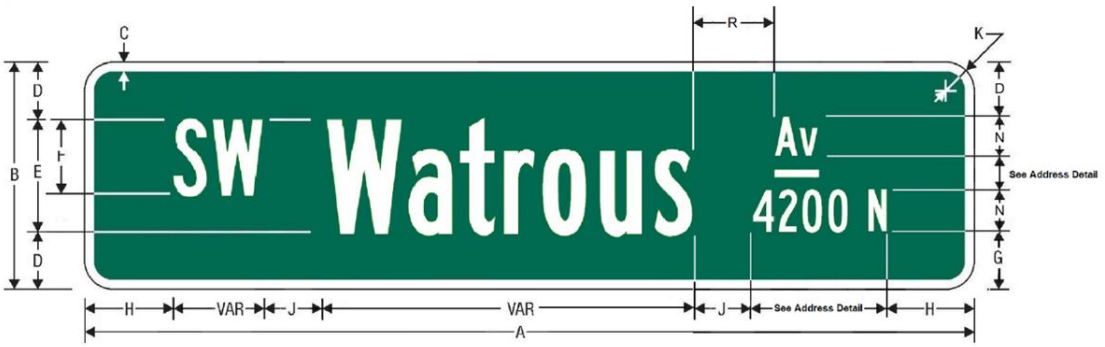


Address Detail

Overhead Street Name Sign with Block Address and Descending Stroke

A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
Varies in 6" increments	24	1	7	12 B	6 B	7.75	5 (MIN)	4	2.25	5	1.25	4 B	0.75	6	2

Colors:	Legend, Border	White, 3M Diamond Grade (DG3) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

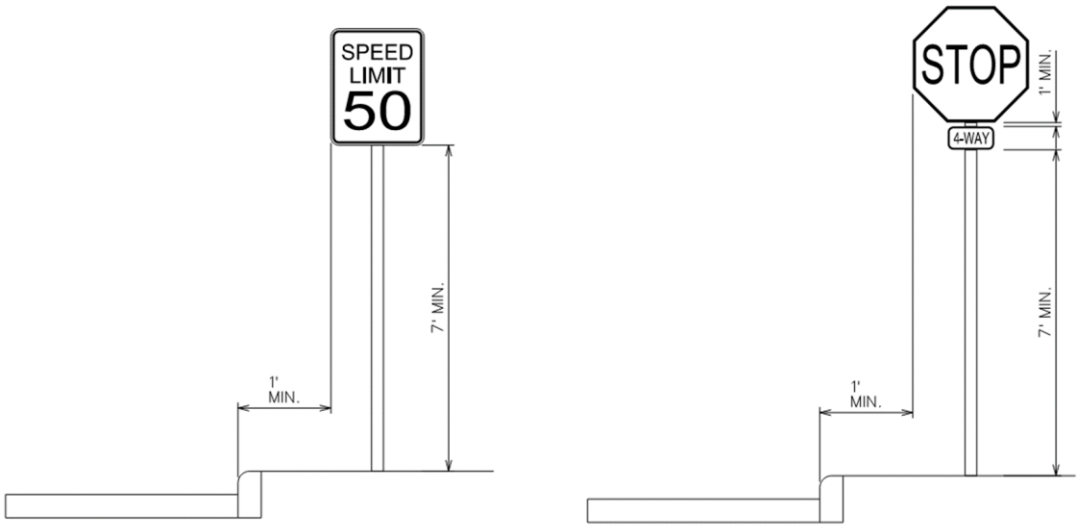


Overhead Street Name Sign with Block Address

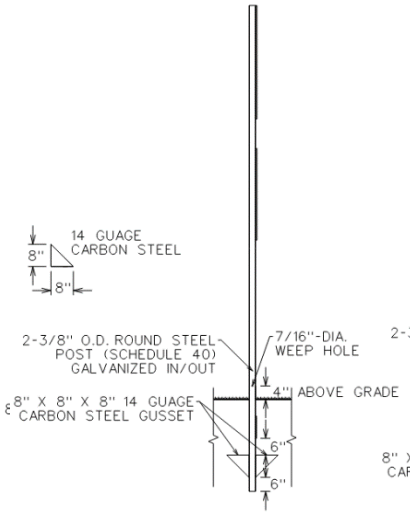
A	B	C	D	E	F	G	H	J	K	M	N	P	R	S
Varies in 6" increments	18	0.75	3	12 B	6 B	3.75	5 (MIN)	4	1.875	1.25	4 B	0.75	6	2

Colors:	Legend, Border	White, 3M Diamond Grade (DG3) Sheeting
	Backgound	Green, 3M ElectroCut Film
	Background (Alternate)	Blue or other specified, 3M ElectroCut Film

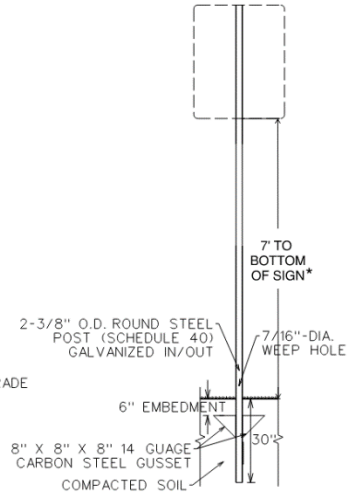
SIGN INSTALLATION DETAILS



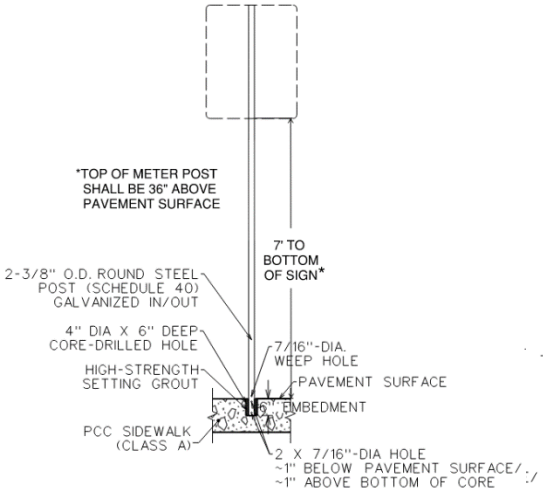
TYPICAL SIGN INSTALLATION



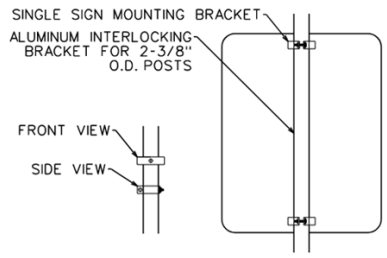
SIGN POST INSTALLATION, GRASS AREA (2" ROUND STEEL POST)



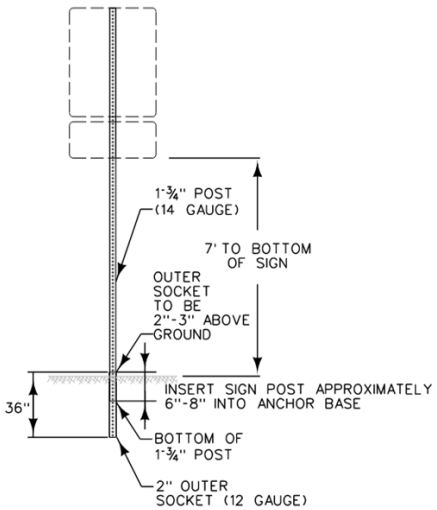
SIGN POST INSTALLATION, GRASS AREA (2" ROUND STEEL POST)



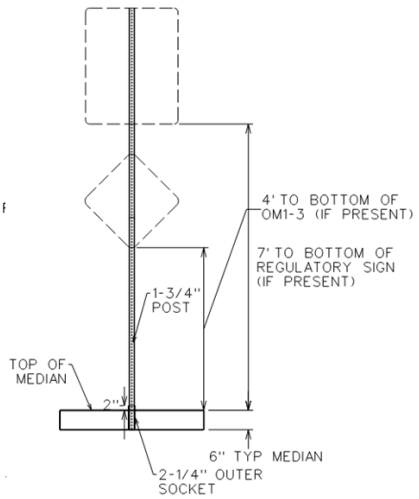
SIGN POST / METER POST INSTALLATION* CLASS A SIDEWALK (2" ROUND STEEL POST)



ROUND POST MOUNTED SIGNS

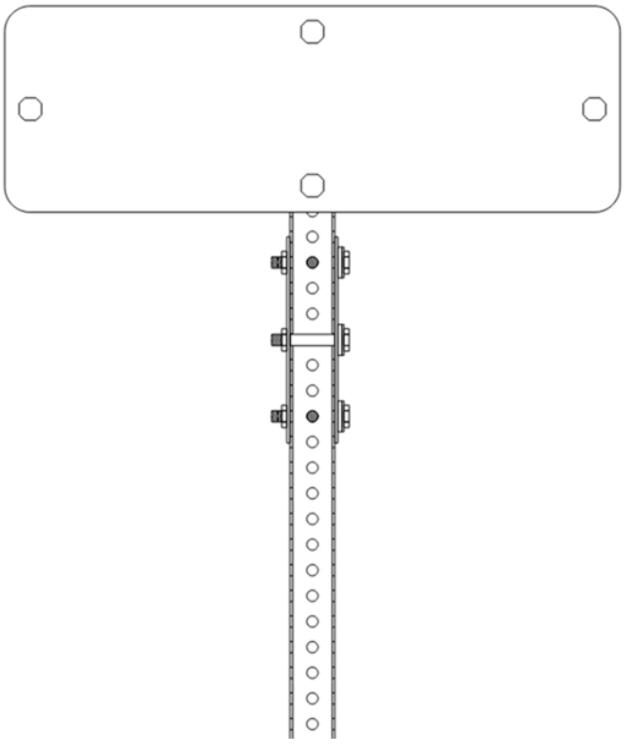


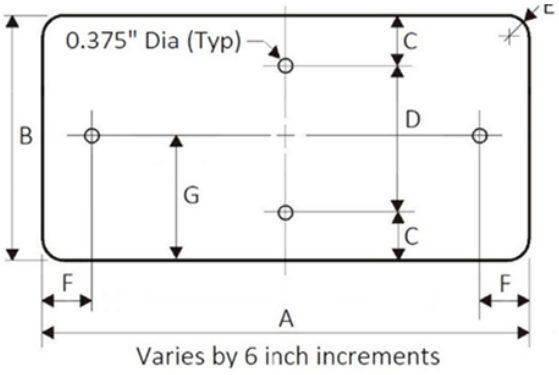
SIGN POST INSTALLATION GRASS AREAS (SQUARE PERFORATED POST)



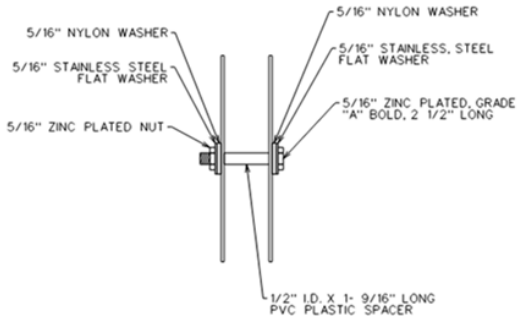
SIGN POST INSTALLATION, RAISED PCC MEDIAN SQUARE PERFORATED POST

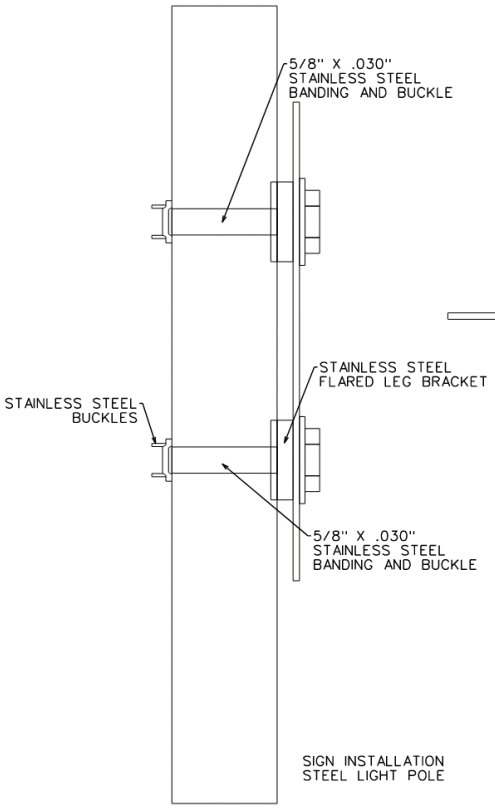
SIGN DETAILS

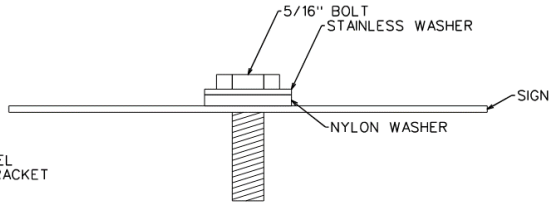


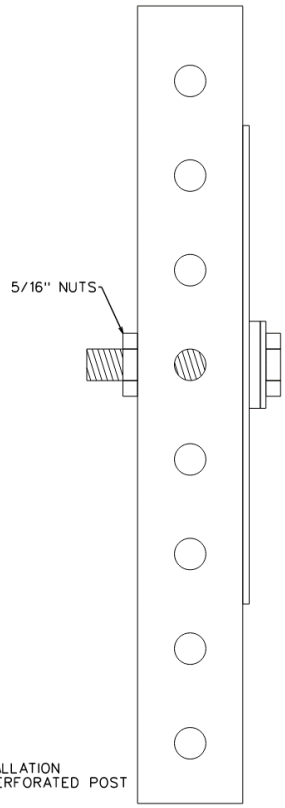


Street Name Sign Hole Punch Detail						
A	B	C	D	E	F	G
Varies by 6" increments (Min 24")	8	1	6	0.75	1	4
Varies by 6" increments (Min 30")	12	1.5	9	1.5	1.5	6









NOTE: ALL FASTENERS TO BE STAINLESS STEEL